National Disability Services

Curtin University
Not-for-profit Initiative

Costing & Pricing Learning Program

FOR DISABILITY SERVICES

A Comprehensive Learning Resource

National Disability Services

Curtin Not-for-profit Initiative

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Introduction

This study guide has been developed as a basis for a suite of self-study and guided training materials designed to support the development of financial management skills in small and medium disability service organisations. The focus on small and medium disability service organisations is important since these organisations constitute the majority of the Disability Services Sector and, arguably, have the least resources available to be applied to the challenges of a changing funding environment.

Of course, there is no universally accepted definition of "small to medium" in the Sector and, even if there was such a definition, not all small to medium disability service organisations will require the same level of support or skills development. Some will need all of the materials and some will pick and choose what they require. We also expect that large organisations will access the materials and pick and choose elements that they might find useful.

As such, these materials are primarily targeted at:

- Small and medium disability services providers with a turnover of up to about $12 million. Since this is an arbitrary turnover figure, it is suggested that organisations do not dwell on whether they fall into this category but, rather, that they consider whether or not the materials are of value to them;

- Disability service organisations that provide more than one "product";

- People with minimal financial experience to people with advanced skills in this area. As indicated above, these materials are designed for people to dip in and out of them in order to take from them what they need. Therefore, they have been designed to meet the needs of a wide audience; and

- Trainers and training materials developers. This study guide together with the full suite of materials are available for free access by all parties, including commercial trainers and consultants. The materials are subject to copyright and must be presented in the format in which they are offered. Additionally, the format of the materials themselves cannot be altered including in relation to the logos and livery.

The materials are focused on costing and pricing. That is, the accounting practice of determining what the cost of each service is that your organisation delivers and how much should be charged for its delivery.

While costing and pricing is a standard process regardless of the funding arrangements in place, we recognise that not everyone wants or needs to become expert in this field but, rather, that they want and need a working knowledge that is:

- Robust and gives sufficient capacity to people to allow for organisations to adapt to change as it occurs;

- Comprehensive so that people are able to examine and understand the cycle of costing and pricing and implement it in their organisation;

- Industry specific so that the examples, demonstrations and ideas are recognisable for those in the disability service sector and can relate to the content;

- Considers the needs of each level of governance within the organisation from volunteer board members to operational staff; and

- That raises the capacity of the Sector and enhances financial management under the existing, prospective and future funding arrangements.

The practice of costing and pricing is examined in light of Individualised Funding and Person Centred Care: models which have been the focus of Australian governments in recent times and which are likely to be the dominant funding model for the foreseeable future. Of course, the National Disability Insurance Scheme (NDIS) is central to such models and is the most important example of both the person-centred funding policies and of the challenges faced by disability service providers. Therefore, the NDIS features predominantly throughout this guide.

However, since the NDIS is still being implemented and will continue to be modified and updated, it is important to have a wider view of costing and pricing. Costing and pricing does not change and so the building of capacity in undertaking this process is essential to ensure participants have the skills to adapt to a changing model of service delivery and funding. This will facilitate understanding of costing and pricing as a business function necessary to ensuring sustainability as opposed to in the context of any one funding model.

There are a number of elements to the suite of materials including:

(1) This Study Guide

(2) Webinars

(3) Seminar Materials

(4) The National Costing and Pricing Framework for Disability Services (the National Framework)

These elements are co-designed, integrated for navigation purposes and are available from both the project website and the Curtin Not-for-profit Initiative website. That way participants can access what they want, when they want it.

There are also cross links within this guide to the *National Framework*, webinars and seminar materials to any related materials in the other elements. They will appear like this:

The first (orange here) numbers relate to the seminar number and page of the seminar materials, the second (purple here) of the webinars and the third (grey here) to the pages of the National Framework. The colours change depending on the materials but the abbreviation and order is alwaya the same.

This Study Guide

This Study Guide utilises a number of case studies to illustrate what costing and pricing might look like in 'real life' disability service provision.

The principal case (outlined in detail in the next section) concerns a fictional disability service organisation called Neraba Community Group (NCG). This case is used to explore a number of different aspects of costing and pricing practice from the perspective of a typical disability services organisation with a typical, city-based service profile and geographic presence.

The case does not present all eventualities. Instead, a number of other cases are introduced in order to demonstrate particular issues and how they might be dealt with in a costing and pricing context. One such example is the costing and pricing risk associated with remote service delivery.

The National Disability Insurance Scheme

In 2012, the federal government announced its intention to establish the NDIS which is planned to be a no-fault insurance scheme to ensure that people with a disability and their carers receive full access to the support they need. In 2013, the National Disability Insurance Agency (NDIA) was established to administer the NDIS and throughout the period 2013 to 2014 the NDIA developed and rolled out guidance to providers including details of how the funding would flow. This detail is changing frequently as a number of trial sites established around Australia test the original thinking with regard to how the model might operate and as experience builds.

The key element of the NDIS is the removal of traditional funding arrangements in favour of Individualised Funding, which is commensurate with the broader objectives of most government policy in this area in Australia. This has four major consequences for providers:

1. **It removes certainty of demand**: Instead of being funded to 'operate at a size', providers will operate in an environment in which individually funded participants can pick and choose between providers and services (based on the goals that have been agreed in their support plan). This forces providers to form a view on what the demand for their individual service offerings might be, what the mix of services might be, and to develop an understanding of what each individual service offering costs as well as what should be charged for each (the price).

2. **It forces organisations to identify precisely what services they offer:** Under previous funding arrangements, providers were able to be less specific as to what a service type consisted of and what was not included. The new arrangements mean that providers must be clear as to what is in and what is out from the participants' perspective but also in terms of what NDIS will fund. This does not mean that only NDIS-funded services should be provided but it does mean that alternate funding sources need to be identified in order to support activities and services that do not attract funding from the NDIS.

3. **It impacts providers' working capital**: Instead of providers receiving their annual income quarterly in advance with considerable certainty as to amount, they will issue an invoice once the service has been provided and so they will receive cash in arrears. This may be more of an issue for the smaller providers in the short term as they may not have working capital reserves sufficient to fund operations while awaiting payment. For most, the issue is around the removal of certainty in funding. Providers will need to manage the risk

associated with the fact that they will have no surety that they will have sufficient participant services activity to cover their costs. Further, changes in government fiscal policy may also see delays in payments which should be planned for. Further, even if participants and service types marry up with the provider's expectations and needs, the provider still needs to ensure the services are provided in a timely fashion so that all costs are recovered in a timely manner.

4. **It impacts the relationship with their local funder and, potentially, participants:** The NDIS is a market-style resource rationing system operated by the National Disability Insurance Agency (NDIA) and which operates nationally from its base in Geelong, Victoria. Local managers and Local Area Co-ordinators are envisaged to be an important part of the NDIA arrangements. However, policy is likely to be highly centralised nationally and direct input may be functionally difficult. The prescribed service types and support plans may limit the capacity for flexibility and timings related to new participant recruitment may also introduced difficulties for providers as well as costs. The primary relationship with participants (especially for those that are new to the scheme) will be initially held by the NDIA (the planner). Participant expectations and timing of activation of support plans will need to be managed by providers with additional costs at that level. Although establishment fees are available in certain circumstances, additional working capital will be needed not just for delivering services but also for managing the recruitment process, the administrative complexity and the governance arrangements.

The removal of traditional forms of working capital may force providers to secure access to enough cash (e.g. by borrowing against equity in property assets, or divesting property assets) to pay their operating costs until invoices are paid. Therefore, providers also need to develop the capability to forecast, manage and report cash flows in order to maintain a constant watch on solvency.

As a result, the set of materials accompanying this study guide include topics that go beyond costing and pricing such as those related to financial management and collaboration.

NDIS Funding Arrangements – Some Higher Level Practical Considerations

The NDIS is intended to act as a market-style funding rationing system. Therefore, in very simple terms, the funding arrangement theoretically includes the following steps:

1. Participant is assessed by NDIA and receives a support plan and budget.

2. The participant assesses any number of organisations that are able to provide the supports included in the support plan for price, flexibility and other personal preferences.

3. Each provider wishing to respond to the prospective participant's interest will prepare a quote.

4. The participant chooses one or more providers to deliver the agreed supports documented in the plan.

5. The provider develops a Service Agreement with the Participant noting the specifics of what they will deliver, how, when, and the cost.

6. The chosen organisation(s) provides services as identified in the support plan.

7. The provider makes a claim (invoices) against the NDIA at regular intervals for supports delivered against the support plan.

8. The NDIA pay the provider the prescribed price for each support according to the NDIS price list.

It is important to note that, as emphasised above, these arrangements are likely to change from time to time. Once again, it is critical that providers understand costing and pricing beyond the NDIS in order to ensure they are able to respond to change as it occurs.

The NDIA has issued a price list for most states and territories. The defining feature of the price list is the extent to which it seeks to be a comprehensive list of the disability services and products that any individual with a disability would require. It is structured in four levels as follows:

Level 1 (which the NDIA call the 'Support Purpose'): distinguished between three types of Support - Purposes: (1) Core, (2) Capacity Building, and (3) Capital.

Level 2 (which NDIA call 'Outcome Domain'): comprises 8 descriptors. The NDIS Price List provided a full definition of each domain.

Level 3 (which the NDIA calls 'Category'): comprises 14 descriptors which provided greater granularity.

Level 4 (which NDIA called 'Support Item'): comprised 110 unique line items, each with its own price. At this level, the granularity was very fine (e.g. "Assistance in living arrangements for single person — complex needs, not suitable for shared living"). The majority of Support Items were described in one or two short sentences. Each Support Item was also characterised in the following terms:

- **Part Number (#):** The Part Number referred to the Disability Services National Minimum Data Set code, or ISO 9999 in the case of assistive technology.
- **UOM (Unit of Measure):** Identified how the prices on the list were broken down. For example, the price may have been identified as per hour, per day or per year.
- **Maximum price.**
- **Quote required:** Where Support Items cost $500 or less, a verbal or published price is sufficient. For some Support Items a quote is required. These are identified within the published price list. Most common services requiring a quote include:
  - Supported Accommodation
  - Early Childhood Intervention Services
  - Multidisciplinary Programs
  - Customised Assistive Technology
  - Home Modifications

A critical task for every provider in transitioning to any new funding arrangement is to correctly map their services to the description of services provided under a funding model. This is necessary for the NDIS as well and so providers must map their services to the 'Support Items' in the NDIS price list. By "mapping" we mean identifying which of your organisation's services equate to each of the items on the NDIS price list.

In pricing down to very specific units (110 Support Items), the NDIS leaves providers with little choice about how granular their costing needs to be in order to get the NDIA's custom—the costing unit has to be either a Support Item or a bundle of specified Support Items. However, the NDIA does now take a "best fit" approach in order to support the negotiation process.

If a provider defined a bundle of Support Items as a costing unit and only costed down to that level then the implication for the provider's mode of service delivery was that no participant would be offered any of the bundled Support Items individually. This risks leading some participants to agree to receive and pay for Support Items they would not have otherwise purchased had they had the option. In a competitive market this also risks leading to the loss of participants who are able to get a package more closely aligned to what they want by using another provider. So the decisions relating to how a provider should bundle Support Items into costing units is non-trivial.

A further issue here is what to do about service items that are not on the list. Carer support and training, for example, has very few, but very specific, Support Items associated with these costs. Providers need to be very aware of the services being purchased via the support plan and expect to manage expectations that may arise for some clients. This may especially be the case for existing clients transitioning into the new arrangements or as a result of poor communications from planners.

Introduction to the Principal Case

The hypothetical case study of Neraba Community Group Ltd (NCG) is intended to be as close to a real life generic example of a disability services organisation as possible. Given the diversity of the disability sector, the NCG case study seeks to encompass a broad range of operational activities; some of which may or may not be relevant to your particular organisation. Additionally, a number of services or conditions in which services are provided (such as remote service delivery) are discussed elsewhere in the Study Guide via specific, individual cases.

The NCG case study offers users a practical overview of the key elements required in the consideration of costing and pricing. Specifically, the case study will highlight the following:

- NCG company structure and status
- Funding sources and programs
- Commercial operations and activities
- Staffing profile and organisation chart
- Transport services
- Properties held
- Central office/head office
- Two years of historical financial records (profit and loss and balance sheet) and a budget

Services

Neraba Community Group (NCG) is a Not-for-profit disability services organisation formed in 1970 which today provides a range of services to 350 people with intellectual and physical disabilities, from 14 sites across metropolitan Brisbane and in two regional centres in Queensland. These services include:

- Accommodation support (60 people) — 12 group homes
- Respite services (100 people) — 1 respite facility
- Employment – other (50 people) — community based
- Community support (30 families) — home and community based
- Therapy services (65 families) — home and centre based
- Community access (80 families) — home and community based
- Employment – Australian Disability Enterprise (55 supported employees) — 1 business services facility

NCG has 173 staff (permanent and casual), 50 volunteers and an annual operating budget of $11 million. Services are delivered in Brisbane, Townsville and Cairns. Seventy per cent of services are delivered in Brisbane and 30% in regional Queensland.

NCG is a mission-centric organisation which seeks to make a difference to the lives of people with disability, supporting them to lead the lives of their choice within their communities.

Like most other providers in the sector, NCG has eked out an existence since inception by closely managing discretionary spending and squeezing its staff and facilities (and occasionally impacting the services received by participants) to continue to operate within tight budget constraints. Funding levels and how that funding could be spent was largely set by the funder and insolvency was not an issue largely because funding was provided quarterly in advance. Traditionally, cash management has received little consideration.

Pricing was not an issue because NCG has always been a price-taker (with the government counter-party to service contracts and dictating the rates). Participants were allocated by the funding agency and so demand for services and service take up has also not been a traditional concern. Because of the funding arrangements and the stability of the sector, little or no attention has been paid to:

(1) The cost of each service type;

(2) The number of each service type able to be delivered in an annual operating year;

(3) The timing of that service delivery;

(4) The funding received for each service (Price); or

(5) The gap between funding received for each service and the cost of the delivery of that service.

With the advent of Person Centred Care and Individualised Funding models generally and the NDIS particularly, NCG has identified that it must now consider these issues in order to be able to calculate the gap between what it costs to deliver each service and what the NDIA will pay for the service. Figure 1 below highlights this issue.

Figure 1: The Target Price Gap

Target Price		Achieved Price		Target Price Gap
Price required in order to ensure sustainability (Result of Costing & Pricing Process)	**Less**	Price actually provided by funder (e.g. Price offered by NDIA for services rendered)	**Equals**	The difference between the Target Price and the Achieved Price (Excess of cost and markup or selling at less than cost)

Once the Price Gap is calculated for each service it provides, NCG is able to identify any potential problems and develop strategies that may reduce their effect—including changing its service mix and geographical locations.

In other words, while we may already know that the Achieved Price is likely to be less than the Targeted Price, we must calculate each element in the model above in order to identify the extent

of any problems and to work to close the gap. Importantly, closing the gap will likely occur through efficiencies, service mix changes, commercial or other activities including fund raising, and advocacy for increased funding. However, the gap may also mean that organisations may need to undertake drastic action in relation to some activities—ceasing some or focusing on expanding them.

Incorporation and Taxation Status

NCG is an incorporated body and registered under the Corporations Act (2001) as a public company limited by guarantee.

The Australian Taxation Office has also endorsed NCG as a charitable institution with deductible gift recipient status (DGR) and NCG is recognised under the Income Tax Assessment Act (1997) as a recognised Public Benevolent Institution (PBI).

As a PBI, NCG is endorsed to access the following charity tax concessions:

- Income Tax exemption
- Fringe Benefits Tax exemption
- GST concessions

NCG is a registered charity under the state's Charitable Collections legislation and is able to solicit donations and undertake collections from the public.

Historical Funding Achieved – State Government Sourced

The details of each program, its funding source and number of participants seen is listed below:

Program 1	Accommodation Support Funding: $4.0 million	
	Service	*Number of participants*
	8 Five bedroom facilities — Metro	40
	4 Five bedroom facilities — Country	20

Program 2	Respite services Funding: $600,000	
	Service	*Number of participants per annum*
	1 Five bedroom facility — Metro (Adults)	100

Program 3	Employment — Other Funding: $600,000	
	Service	*Number of participants*
	Community based — metro	34
	Community based — country	16

Program 4	Community support Funding: $550,000	
	Service	*Number of participants*
	Intensive Home /Community support	30

Program 5	Therapy services Funding: $500,000	
	Service	*Number of participants*
	Metro services	65

Program 6	Community access Funding: $400,000	
	Service	*Number of participants*
	South West Region — Country	40
	Great Southern Region — Country	40

Historical Funding Achieved — Federal Government Sources

Program 7	Employment – Australian Disability Enterprise (ADE) Funding: $660,000	
	Service	*Supported employees*
	1 ADE Facility — Metro	55

Supported Commercial Operations

These operations are partly commercial and partly supported via funding in order to ensure sustainability. The principal purpose of these activities are to extend life choices for people with disability. NCG's Australian Disability Enterprise (ADE) is supported by $660,000 of Federal Government Funding for its 55 supported employees (Program 7 above). The ADE's commercial operations are in two key areas:

1. A manufacturing business which manufactures a wide range of metal products for the building and construction industry; and

2. A specialty industrial packaging business which provides packaging and assembly for the manufacturing and retail sectors.

The sales revenue for FY13 and FY14 was $0.6m and $0.8m respectively.

Staffing Profile

NCG has 173 staff (permanent and casual) and 50 volunteers profiled in table 3 below.

Table 1: Staffing profile

Area	Staff headcount	Permanent/ Casual	Total FTE
Corporate Services			
CEO	1	P	1.00
Executive Assistant	1	P	1.00
Receptionist	1	P	1.00
Personal Assistants	3	P	3.00
Executive Manager Operations	1	P	1.00
Executive Manager Finance	1	P	1.00
Executive Manager HR and Development	1	P	1.00
Property Manager	1	P	1.00
Purchasing Officer	1	P	1.00
IT Support Officer	1	P	1.00
Coordinator Marketing/PR and Fundraising	1	P	1.00
Management Accountant	1	P	1.00
Accounts Payable Clerk	1	P	1.00
Accounts Receivable Clerk	1	P	1.00
Accounts Assistant	1	P	1.00
Clerical Officer	1	P	1.00
Payroll Officer	1	P	1.00
Manager Employee Relations, Training and Support	1	P	1.00
Employee Relations Officer	1	P	1.00
Training Officer	1	P	1.00
Recruitment and volunteers officer	1	P	1.00
Manager Quality, Safety and Risk	1	P	1.00
Health, Safety and Risk Officer	1	P	1.00
Program 1: Accommodation support			
Manager Accommodation	1	P	1.00
Team Leaders	3	P	3.00
Support Workers	60	P	34.00
Support Workers	30	C	20.00
Program 2: Respite			
Manager Respite and Family Support [a]	1	P	0.60
Team Leader [b]	1	P	0.60
Support Workers	7	P	6.00
Support Workers	2	C	2.00
Program 3: Employment – Other			
Manager Community and Therapy Services [c]	1	P	0.33
Team Leader [d]	2	P	1.50
Support Workers	12	P	8.00
Support Workers	4	C	2.00
Program 4: Community support			
Manager Respite and Family Support [a]	1	P	0.40
Team Leader [b]	1	P	0.40
Support Workers	10	P	8.00
Support Workers	3	C	2.00
Program 5: Therapy services			
Manager Community and Therapy Services [c]	1	P	0.33
Senior Therapist	1	P	1.00
Therapists	2	P	2.00
Program 6: Community access			

Area	Staff headcount	Permanent/ Casual	Total FTE
Manager Community and Therapy Services [c]	1	P	0.33
Team Leader [d]	1	P	0.50
Support Workers	3	P	3.00
Support Worker	1	C	1.00
Program 7: Employment – Australian Disability Enterprise			
Manager Business Services	1	P	1.00
Employee Support Officers	2	P	2.00
Production Coordinator	1	P	1.00

This data may be summarised as follows:

Area	Staff headcount	Total FTE
Corporate services	25	25
Operations	148	102
Total (excluding volunteers)	**173**	**127**
Volunteers	50	
Total (including volunteers)	**223**	

Transport Services

NCG operates a transport fleet of 14 Toyota Tarago seven-seat vans and 27 four-seat sedans. The total fleet comprises 41 vehicles.

Each residential accommodation and respite facility (Program 1 and Program 2) has one van. In addition, the Business Services facility also has one van funded through fundraising.

There is one sedan per five ATE/PSO participants and one sedan per five IFS participants. In addition, one sedan is available per twenty therapy participants. In the case of HACC, there is one sedan per geographic location. There are also sedans allocated to the CEO, Executive Manager Operations, Manager Accommodation, Manager Respite and Family Support, Manager Community and Therapy Services and Manager Business Services.

The vehicles are funded as follows:

- Capital Grant – State Government $45,000 per van. There are 12 vans funded by state government.
- Capital Grant – State Government $25,000 per sedan. There are 25 sedans funded by state government.
- Capital Grant HACC $16,000 per sedan. There are 2 sedans funded by HACC. HACC retains ownership of the vehicles they fund.
- Fundraising — NCG has received a van through fundraising for its Business services facility.
- The state lottery institution has provided funding for vehicle modifications to all 27 vans in the fleet.

Operating costs for vehicles are covered partially on a 'user pays' basis, with each participant transported in a fleet vehicle being charged $5.00 per day (one round trip). The state government and HACC operating grants also offset some of the vehicle operating costs. Where participants have been deemed eligible by Centrelink for the mobility allowance, they are charged 100% of that allowance for transport.

Supported employees attending the workplace are transported by family or NCG's accommodation service vans if they reside within NCG residential services. For those employees who reside with other organisations, they are transported to the NCG workplace by their accommodation provider.

Properties Held

The properties within NCG's property portfolio fall into three categories:

- Freehold — owned by NCG
- Leasehold — joint venture with the State Government
- Crown Grant — where the property has been given to NCG by the Crown for specific purposes

In all properties listed below, the land and buildings are included together in the ownership classification. For those properties which are joint ventures with the State Government, NCG is responsible for all maintenance.

Table 2: Properties held

Region	Name of property	Ownership	Current valuation
Program 1: Accommodation support			
Metro	Group Home 1	Freehold	$480,000
	Group Home 2	Freehold	$520,000
	Group Home 3	Freehold	$430,000
	Group Home 4	Leasehold — JV with State Gov't	$600,000
	Group Home 5	Crown Grant	$500,000
	Group Home 6	Crown Grant	$520,000
	Group Home 7	Leasehold — JV with State Gov't	$590,000
	Group Home 8	Freehold	$480,000
Country	Group Home 9	Leasehold — JV with State Gov't	$600,000
	Group Home 10	Leasehold — JV with State Gov't	$580,000
	Group Home 11	Freehold	$430,000
	Group Home 12	Freehold	$450,000
Program 2: Respite			
Metro	Respite House 1	Leasehold — JV with State Gov't	$780,000
Program 7: Employment – Australian Disability Enterprise			
Metro	ADE Facility 1	Freehold	$1,200,000

Programs 3, 4, 5 and 6 are all delivered within the family home or community. In the case of program 5, services are also delivered at Central Office/Head Office in designated therapy rooms.

Central Office / Head Office

NCG's central office or head office is located in central Brisbane and has a current valuation of $3m. The following information highlights the key details about the central office:

- The central office has been built and is fully owned by NCG
- There is 400 square metres of office space
- It houses a total of 31 staff — 25 corporate services staff; three out of four managers (the Manager Business Services is located on site at the ADE facility) and three therapy staff.
- There is also capacity for team leaders to use the central office for hot-desking (6 additional desks)
- Total capacity is for 37 staff
- There are two therapy rooms for therapy services delivery

All other staff are located within the residential, respite or ADE facilities.

Commercial Activities

Commercial activities have been in two key areas:

- Fundraising — NCG has three fundraising activities:
  - Bequests — Total bequests for FY 2012/13 and FY 13/14 were $1.2m and $1.6m respectively.
  - Mail Appeals —Net income from mail appeals was $120,000 in FY 12/13 and $150,000 in FY 13/14
  - Annual Charity Fundraiser Ball —Net income from the Annual Charity Ball was $90,000 in FY 12/13 and $120,000 in FY 13/14.
- Fees and charges

NCG charges fees for a number of its services. The fees are billed and collected by the Accounts Receivable section of the Finance department at NCG. Generally all fees are billed once a month in arrears. There are approximately 400 participants billed each month. Fees can be paid via cash, cheque, direct debit or credit card.

The specific fees billed are as follows.

Program 1: Accommodation support (full board)
Approximately 60 participants are billed monthly in arrears via automatic invoicing. Rate is 75% of pension and rent assistance. Currently this is $35.64 per night.
Program 2: Respite (day/overnight respite)
Approximately 100 participants are billed monthly at the rate of $18.70 (under 16 years), $30.68 (16-20 years) or $35.64 (over 20 years) per night.
Program 3: Employment – Other
Approximately 50 people are billed monthly in arrears at the rate of $6.95 per day for community based care.
Program 4: Community support
Approximately 30 families are billed monthly in arrears at $32.00 per hour.
Program 5: Therapy services
Approximately 65 participants are billed monthly in arrears at $13.70 per week.
Program 6: Community access
Information is taken electronically from the participant data base to enable fees to be billed monthly in arrears according to a scale of fees where an assessment of ability to pay has been carried out. Fees vary from $1.50 per hour for Centre based care to $8.75/$10.50/$23.75 per unit of service. Approximately 80 participants are billed each month.

Financial Records: Profit and Loss and Balance Sheet 2013, 2014; Budget 2015

In undertaking its costing and pricing process, NCG will base its data examination on the 2013 and 2014 financial reports (that is, the years ending 30th June 2013 and 30th June 2014 – FY13 and FY14) and it will develop its budget for the year ending 30th June 2015 in order to forecast its expected activity levels, costs and Targeted Price. Therefore, the starting point is the historical records.

Other Information

The following information is provided to offer readers more detail on the operational and financial aspects of NCG. These include some assumptions made as part of the case study.

Participants

Fees and charges

NCG's residential accommodation participants are charged 75% of their pension and rent allowance as explained in the following scenario.

Suppose the pension and rent allowance is $100. Then $75 dollars is allocated as follows:

- $50 goes towards board and lodging (e.g. food and utilities costs).
- $25 (i.e. 25% of the pension) goes towards rent and repairs and maintenance. NCG has a housing reserve account and this reserve is effectively the repairs and maintenance fund. In addition, about $5 per person per fortnight comes out of this reserve as peppercorn rent to pay the Department of Housing and Works (only for those residents occupying a house that is a leasehold owned by the State Government). NCG is responsible for the small repairs and maintenance of the State Government owned premises, with the Department responsible for the larger repairs and maintenance (where the integrity of the house is threatened).
- Mobility allowance — each participant requires assessment to be deemed eligible for the mobility allowance from Centrelink. In this case study there are 30% of participants in Programs 1,2,3 who are eligible for the mobility allowance and pay this to NCG.

Staffing classifications

NCG's residential accommodation and residential respite services have residential support workers who are classified as Level 1, Level 2 or Level 3 residential support workers under their industrial agreement.

NCG's Employment and Therapy services have community support workers

NCG's Therapy services have therapists who deliver therapy services

NCG's Community access services have workers classified under their industrial agreement

NCG's Business Services has employee support officers for its supported employees and a production coordinator for the commercial operation.

Staffing allocations

Managers and Team Leaders in programs 2,3,4,5 and 6 are allocated as FTE across various programs as per the matching referenced in Table 1.

1. Element I: Starting Off

1.1 An Overview of Activity Based Costing

NCGs Executive Manager Finance, Jessie Street, is a qualified accountant with many years' diverse experience across both commerce and the not-for-profit sector. She and NCGs CEO, Mia Wallace, had recently discussed financial management at NCG in the context of the 2015-2018 Strategic Plan. Most disturbingly, the external environment (the imminent shift from block funding to Individualised Funding and Person Centred Care) was changing rapidly and NCG had to respond as a matter of urgency. Costing and pricing had moved from obscurity to a position front and centre. The appropriate response, Jessie and Mia agreed, was to develop a robust costing and pricing capability in NCG with a view to developing the information necessary to ensuring a strategic response to the changing funding environment that would help the staff and board make decisions regarding NCG's need to continue to pursue its mission on a sustainable basis.

Jessie took the opportunity to adopt sector best practice and in researching this quickly came across various 'NDIS Readiness' materials published by National Disability Services (NDS) including the National Framework) which she decided to adopt as her principal source of guidance. From the Framework, she extracted the following primary definitions:

Costing	The act of allocating and ascribing costs against activities and programs.
Pricing	The process whereby an organisation establishes the price it wishes to charge for the delivery of an activity. This price should be based on the comprehensive cost of a unit of measure and include a Mark Up. The formula is usually described as: Target Price = Comprehensive Cost + Mark Up
Mark Up	An amount added to unit of measure cost to arrive at the unit price. It is usually expressed as a percentage and should reflect a policy decision taken at board level. Components include: (1) base Mark Up which is the minimum Mark Up required to ensure sustainability and achieve the strategic plan; (2) an estimate of the cost of capital invested in the NFP to allow it to operate; and (3) risk Mark Up which is intended to reflect risk associated with a particular program or service. Programs can have different Mark Ups. However, all Mark Ups used should be considered in the light of the activity levels and profit required for sustainability. The Mark Up is different to the contribution margin as the former equates to a reward for risk and effort while the latter is simply a description of the amount of the income from the sale of a service left over after variable costs have been met.
Contribution margin	The difference between unit of measure price and unit of measure variable cost, the denominator in the formula for the breakeven point. It is called the contribution margin because it is that portion of the unit of measure price that contributes to the recovery of fixed costs and profit after deducting the unit of measure variable cost. For example, if the unit of measure price is $100 and unit of measure variable cost is $34, then the contribution margin is $66.
Unit Price	The fee actually paid by a participant for a service. It is usually established by the funding agency. For instance, under the NDIS, the NDIA will set this price.

Why is Activity Based Costing Most Appropriate?

There were obviously many concepts within those definitions (e.g., 'ascription', 'allocation', 'costs') but Jessie confirmed her agreement with the top-level concepts and moved on to consider how she had executed costing and pricing in other organisations before NCG. In the majority of cases she had used activity based costing (ABC) at some level of sophistication. In establishing why that was the case, and whether ABC might be appropriate for NCG, she referred back to textbook management accounting:

> "Job-costing systems assign costs to distinct units of a product or service. Process-costing systems assign costs to masses of identical or similar units and calculate unit costs on an average basis for a period. These two costing systems represent opposite ends of a continuum. The costing systems of many companies combine some elements of both job costing and process costing." (Horngren, Datar, Rajan, Wynder, Maguire, & Tan, 2014).

This was consistent with Jessie's previous work history — she had always worked in organisations which fell in the middle ground between one service (for which process costing is appropriate) and customised services (for which job costing is appropriate). Jessie drilled down further on ABC:

> "Activity-based costing (ABC) refines a costing system by identifying individual activities as the fundamental cost objects. An activity is an event, task or unit of work with a specified purpose— for example, designing outputs, setting up machines, operating machines and distributing outputs. More informally, activities are verbs; they represent things that an organisation does. Consistent with their more strategic focus, ABC systems identify activities throughout the value chain. ABC systems first calculate the costs of individual activities and then assign activity costs to cost objects, such as outputs (products, services) or customers on the basis of the mix of activities needed for each of them." (Horngren, Datar, Rajan, Wynder, Maguire, & Tan, 2014)

> "Not all organisations benefit from ABC and ABM [activity-based management]. While other issues may apply in deciding on whether or not to use ABC and ABM, the two most important criteria are: (1) overheads form a substantial proportion of total costs; and (2) there is significant diversity of operations and/or outputs." (Horngren, Datar, Rajan, Wynder, Maguire, & Tan, 2014)

Jessie felt comfortable she had a firm understanding of ABC and the other costing methods available. She also felt that while NCG arguably only barely met the 'substantial' and 'significant' tests of whether to apply ABC, there was no real alternative to adopting ABC at some level of sophistication because NCG needed to know its costs by service and its services were not homogeneous.

She applied the concepts to a typical NCG participant plan to prove the efficacy:

Figure 2: Example Participant Plan

Neraba Community Group

Client Plan

Client: XXXX

Year: 2015

Ref	Service description	Qty	Unit	Rate	Price
A	Individual based activities in a centre	1,560	Hour	42.85	66,846.00
B	Assistance with self-care activities	260	Hour	38.15	9,919.00
C	Individual life and personal skills development	260	Hour	45.35	11,791.00
D	Attend NBL game	10	Each	37.50	375.00
E	Attend ABL game	5	Each	42.50	212.50
F	Travel	2,500	Km	0.70	1,750.00
					90,893.50

The information in the participant plan was easy to interpret from an ABC perspective — each service was an activity and the relevant driver of each activity was shown as the unit (an hour of time, a kilometre of travel, an attendance at a basketball game). Jessie noted that not each service would be subjected to ABC — for instance, the game tickets were merely third party costs and could simply be passed on to participants or absorbed. The other services were certainly services which would be individually costed to absorb all relevant direct and indirect costs.

Is there a difference between NFP and Commercial Costing?

Jessie considered all that she'd reviewed and formed the view that there was nothing to differentiate costing within the not-for-profit sector from anything she'd seen being done in commerce, and the words in the foreword of the Framework resonated with her: "Unit prices have traditionally been set by government departments based largely on how much money they have to spend on disability services. Too often, the rationale for the calculation of unit price has been lost in the history of government budget processes. As a result, the state of knowledge of costing and pricing practice in the disability sector has suffered."

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1.2 Decisions to Make and Issues to Consider Before Costing and Pricing Can Commence

Before commencing a costing and pricing exercise, it is necessary to consider a number of issues and to make a number of decisions. The first decision has already been made in that NCG will use Activity Based Costing. However, other issues to consider include:

1. **What are the Units of Measure (UOM) that we are going to cost?** That is, how do we describe each product? This is an important decision because we need to decide what each product is. For instance, are we costing a bed week, a bed day or a bed hour? This decision can have significant impacts as, where we decide a product is something at a more granular level (e.g. a bed hour rather than a bed week), the complexity can be greater, the cost of the exercise can also be greater, but the accuracy can be higher. There is a judgement call to be made as to how to identify a UOM and a trade-off between cost of the exercise and value of the information produced.

   The temptation is to cost so that NCG's UOMs are identical to those of the funder (say, the NDIS). However, this can be risky as the funder may change its description of products and may be overly costly or allow for less flexibility in estimating budgets for participants. However, the provider's services must be mapped to the NDIS (and/or other funders') product so that the Price Gap can be identified and so that assessments can be made.

2. **How do we decide what costs are fixed, variable, direct or overheads:** By deciding what divisions, departments and facilities are essential for delivering services (and are therefore direct), which ones are essential but at corporate level or not supporting service delivery (i.e. they would not impact service delivery if they were not there for a short period – that is overheads), and which costs are variable and which are fixed, we have the framework for allocating and ascribing costs. Without such decisions upfront deciding how to treat data collected becomes very difficult.

3. **What estimated activity levels are we likely to have for each UOM for the period being costed?** That is, when we cost using Activity Based Costing we are essentially trying to identify the cost of providing one UOM for each type of service. We must work out how many of each UOM we are likely to actually deliver in order to work out this cost. Remember, we are interested in what activity we are likely to deliver not what activity we have capacity to deliver. For instance, we might have staffing and motor vehicle capacity to deliver 1,000 hours of home care services per month. However, if we have only ever achieved 800 hours per month, unless you are planning to change something with a view to increasing the likely activity levels, then 800 hours per month is the most likely level of **estimated activity level**.

4. **Are our recent financial outcomes indicative of future expense levels?** That is, the first place we go to when we want to estimate our future costs is our history. Similar to budgeting, we look at what we spent last year and the year before and then try to work out whether this financial activity will be repeated in the coming year. This is always the best place to start a costing and pricing exercise. However, there are two key issues to consider:

   - Will it be necessary to inflate some or all of the historical costs by CPI or some other factor in order to ensure they are a better estimate of likely costs? Remember, it is

unusual for costs to reduce over time. However, there may be some costs that do stay the same or reduce—it costs are a good example.

- Are there any known cost increases that you need to apply? For instance, staff salaries and wages may have increments due in the coming year and there may be programmed award increases or industrial decisions likely to be made.

- Are there any major maintenance items or other large capital outlays due that may affect depreciation charges, cash flow funding costs or are there any major refurbishments or maintenance programs due that will restrict the capacity of a facility to be utilised to its expected capacity?

- **Budgeting for the future.** Remember that Activity Based Costing is focused on future expected operational outcomes. Therefore, the estimates of total costs (and total activity and other income for that matter) should be similar to budget estimates and as comprehensive as possible.

- **The Costs of Costing and Pricing:** what will we need to do in order to change our systems, work flows and roles and responsibilities in order to establish, run and report on the costing and pricing process (see 2.4 below). The costing and pricing system needs to become central to the accounting system and so there may be elements of the accounting system that should be placed lower down in the order of priorities or discontinued all together.

1.3 Sources of Data – An Overview

In order to undertake a costing process, you need to source data as you will use this data to estimate:

- Your expected activity levels for each UOM;

- Your expected costs associated with the delivery of each UOM; and

- The expected timing of the delivery of each UOM.

This data would be sourced from three essential areas:

1) **Historical experience from within your organisation** – prior year's costs, budget estimates and actuals all serve to describe cost types and actual cost levels. Historical data can also be used to identify likely activity levels, types of activities or activity mix, and maintenance or other activities that are likely to restrict productivity. Payroll data, profit and loss reports, invoices and participant activities report, such as accommodation records, hospital visit records and so on.

2) **Contextual information from the Sector** – gathering intelligence from the Sector including from NDS and other formal and informal sources can give you a sense of major changes in the funding and activity environment. The current trial sites for the NDIS and their reporting, formal and informal, are a good example of sources of relevant contextual information.

3) **Organisational Strategic Planning Documents** – by definition, a strategic plan is a compilation of desired change for an organisation and the path intended to be taken to get

there. Clearly there are a number of assumptions[1] and risks associated with the implementation of a strategic plan, however, it is also likely to be a source of information regarding likely changes to activity types and volumes and likely restrictive practices that may impact activity levels. For instance, the plan may include an intention to sell a facility or make some other major change that changes capacity and the cost base of the organisation.

1.4 Utilisation[2]

Utilisation	Where a disability service provider successfully delivers a unit of measurement to a participant, at an agreed time and at an agreed location. It is at this point that the disability service provider is able to invoice a participant for a service. Utilisation includes instances where a disability service provider stood ready to provide a service at an agreed time and an agreed location but was unable to do so, due to the participant's non-attendance, unavailability or unwillingness to receive the service. This only applies when the disability service provider can no longer redirect resources to another participant.

"No-shows" or "Did-Not-Attends" can represent significant costs to a provider regardless of where they operate. Additionally, certain population groups — in cities as well as in regional and remote locations — will have a propensity to either reject services or not be available for services to be delivered.

There is a cost incurred when this happens as providers cannot redirect resources to ensure services are provided elsewhere and, therefore, costs cannot be recovered. Remote and regional service providers face considerable risks in relation to no-shows.

Just because a service is not delivered does not mean a real, and often significant, cost has not been incurred. While this cost is often referred to as an opportunity cost, there is actually a significant cost incurred in preparation, staffing and travel that must be recovered in some way.

The distances and cultural impacts on the ability to deliver services can mean that costs associated with unsuccessful attempted service delivery can be quite substantial. Costs incurred here include:

- Staffing costs
- Preparation costs
- Travel costs — vehicle wear and tear and fuel (remembering that in many situations a four wheel drive must be used, great distances can be required to be covered and the price of fuel is considerably more expensive than in less remote locations, so adding further costs)
- The non-recovery of costs can also include infrastructure and overhead costs that must be incurred in order for the organisation to be in a position to stand ready to deliver services

[1] These include that the strategic plan will be fully implemented in accordance with timing and activity expectations and that financial impacts will be as planned.

[2] Adapted from Gilchrist, D. J. and S. R. Bywaters, *The Reality of Geography: Northern Territory Disability Costs, Prices and the National Disability Insurance Scheme — Final Report*. A report for National Disability Services and the Northern Territory Government, Darwin, July 2014.

- Materials costs.

In a remote or small-demand market, no-shows can represent significant costs to the organisation over and above those incurred in major population areas as the relative impact is usually much higher than that incurred in larger demand markets where participants and staff are usually closer and most often do not have the cultural priorities that can be encountered in remote locations.

For instance, the remote nature of the areas of operation outside of Tennant Creek mean that there often is no way to check whether a participant is available and willing to receive a service en route and this problem can be exacerbated by the existence of communications black spots.

Given some of the distances travelled and the cultural priorities that can compromise service delivery, it would seem inappropriate to require the Disability Service Organisation to be responsible for the costs associated with unsuccessful attempts at service delivery.

In order to mitigate this cost to some extent, the NDIA allows service providers to charge a participant up to eight times per year in the case of no-shows. Continued block funding may ultimately be a more appropriate response because it ensures equity of access for communities impacted by disability in remote locations and promotes sustainability of service delivery of organisations.

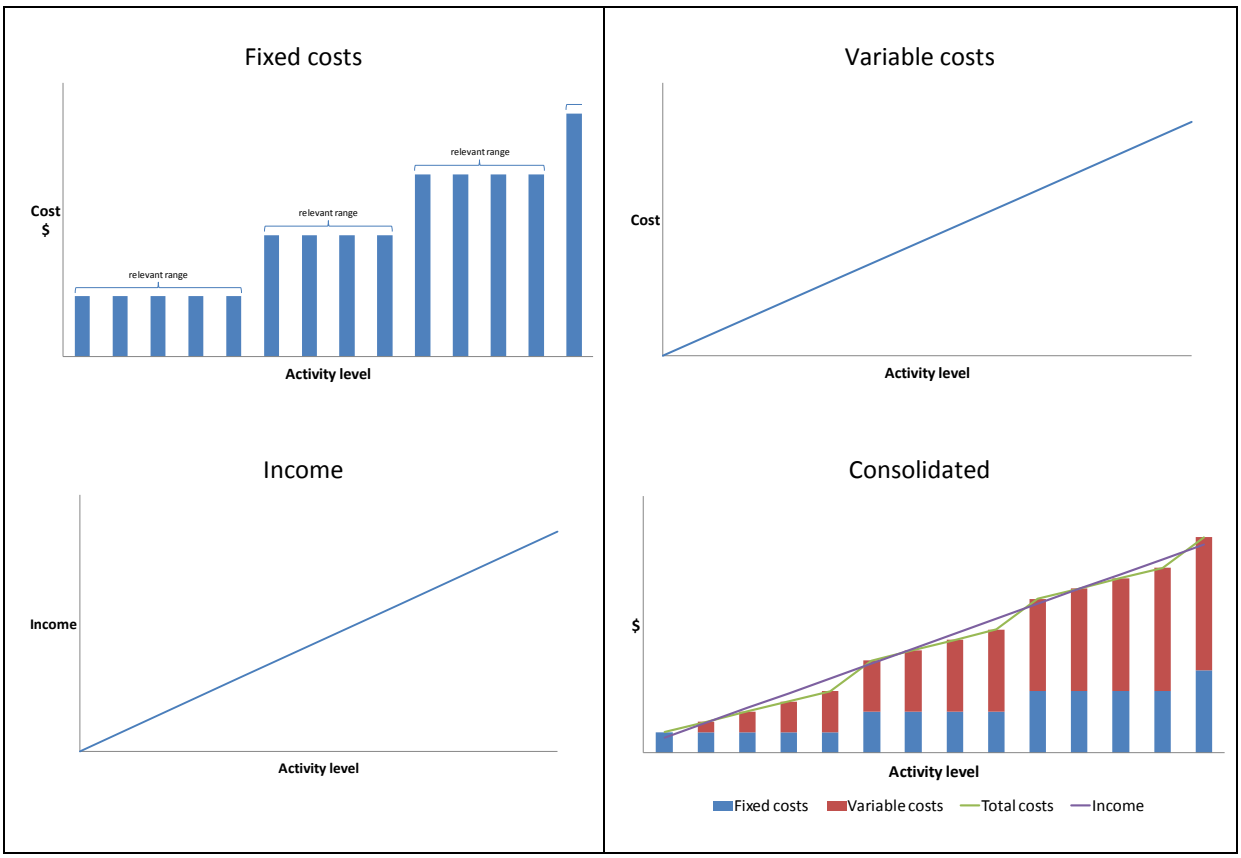
1.5 Strategies for Costing and Pricing

There is a relationship between Activity levels, Income and Costs – But only to a point

With NCG's service offerings defined and service volumes forecast, Jessie considered the relationship between income and cost. She found a portion of the National Framework definition of fixed costs to be pertinent:

"Usually, when activity levels rise beyond the capacity of the organisation so that fixed costs are increased, we say that the organisation has moved out of [above] its relevant range." This made sense to Jessie but she still couldn't articulate clearly to herself (and therefore to Mia or others) how fixed costs, variable costs and relevant range tied together and how they collectively related to income. She drew some charts to represent the concepts. These are provided in figure 3 below.

Figure 3: Charts representing key cost and income relationships



The fixed costs chart made it clear that the relevant range of activity levels that NCG had forecast to apply was one of many that would exist — a smaller fixed cost base would support a smaller amount of activity and a larger fixed cost base would support a larger amount of activity. The chart also made it clear that, within the Relevant Range, fixed costs were static and so the higher the volume of output, the lower the fixed costs component for each UOM. Jessie confirmed this was the nature of how fixed costs behaved at NCG and came up with the example of a payroll clerk costs compared to employee numbers — more activity required more employees, and more employees required more payroll clerk effort, but each payroll clerk could process up to 50 employee payrolls per week so the tipping point for putting on a new payroll clerk was met in multiples of 50 employees.

Both the variable costs chart and income chart made it clear that (disregarding modest volume discounts which might be achieved on variable costs and / or granted on income) the relationship between activity levels and both variable costs and income were constant.

The consolidated chart demonstrated that profitability (the gap between total costs and income) varies at different activity levels within each relevant range. This was a good illustration of higher utilisation creating higher profitability.

Some Key System Decisions

By this stage Jessie was comfortable NCG was ready to initiate costing and pricing and Mia had committed the organisation to going down that road. By Jessie's reckoning the investment in developing an ongoing capability comprised several elements:

1. **Changes to the accounting structure** – to make sure information was captured in a way that supported costing and pricing (e.g. staff costs might need to be recorded according to the Activity the staff perform rather than in one account);

2. **Development of accounting policies** – assumptions[3] and estimates need to be made in order to budget for the following period's cost and, thus, to undertake the costing exercise. Therefore, policies relating to how to deal with assumptions, how to authorise costing and pricing outcomes and how to report all need to be considered;

3. **Development of costing and pricing parameters –** Essentially, this relates to deciding what costs are direct, what costs are indirect and what costs are overheads, what are variable and what are fixed. It also relates to estimating activity levels and likely cost increases;

4. **Development of a costing and pricing tool –** that is, in order to undertake a costing and pricing exercise, it is necessary to utilise a computer-based system to be able to undertake the calculations and build what we describe as a model. This needs to be done before any actual costing can take place. Quite often, models are built in MS Excel and there are many examples made available within the Sector. It is important to ensure that when you choose a model it is appropriate for your organisation's needs and it is functionally correct.

Jessie was concerned about the new capability adding to NCG's corporate costs as Mia had already asked her to make it happen 'within the current funding envelope'.

NCG was far from being in financial crisis but Jessie recalled case on that topic she'd read recently. It described the famously successful turnaround of Continental Airlines in the US. Its author recounted: "I knew the fastest way to make money was to stop doing things that lose it." (Brenneman, 1998). So Jessie looked at her immediate domain (the 7 FTE Finance department) for activities that were 'losing' money (that is, costing more than the value they were delivering to NCG), with a view to making broader changes in the way they worked so that the new costing and pricing activities would fit within the existing budget. She anticipated some pushback for making a big task bigger, even from Mia, but was emboldened by the ethos in the Continental case: "When you want real change, you can't do it partway. You have to do it fast, right away, and all at once." (Brenneman, 1998). She then let some of the air from her chest and took a moderate approach...

Jessie's more junior staff (the Accounts Payable Clerk, Accounts Receivable Clerk, Accounts Assistant, Clerical Officer and Payroll Officer) were, she was reliably informed, fully engaged in primarily transactional work where the processes followed were largely dictated by the accounting and subsidiary system requirements. Nobody she spoke to thought there was any low hanging fruit there. In any event, these were not the staff she needed to access so she turned her attention to her Management Accountant, Beatrix Kiddo.

[3] These include that the same cost types and drivers of cost will be the same as the previous year and that the staffing model and so on will be maintained.

Beatrix's workload was heavily discretionary rather than transactional (that is, she produced a range of deliverables that Jessie and Mia had specified which were not tied to any processing activities). Beatrix was a strong and reliable performer, delivering high quality reports and analysis within deadlines, so Jessie had historically taken a non-prescriptive approach to the processes she should follow. She decided to work with Beatrix to review those processes, and the reporting specifications themselves, in an attempt to uncover 'losses'.

Beatrix's position description (which was up to date) outlined her broad areas of responsibility as Management Accountant:

- Various supervisory responsibilities
- Financial maintenance of the organisation including the full balance sheet/account reconciliation process and integrity reviews
- Participate in coordination and compilation of the following monthly reports:
  - Program Reports (7)
  - CEO Report
  - Board Report
- Participate in quarter end and year end reporting processes

Jessie was the initial 'customer' of all of this work so she was intimately familiar with its content, but not so with its production. She asked Beatrix to walk her through the systems, processes and people involved in producing each deliverable and together they drew some rudimentary process maps. Several issues in the landscape quickly became evident — reports were being developed off-system (that is, using Excel and Word rather than the accounting system), independently compiled from the ground up, very often using the same data but with little re-use of data. Jessie again thought of the Continental case: "If you have very little money to spend and you have to spend it very quickly [to achieve change], you had better have a clear idea of the most leveraged plan of action." (Brenneman, 1998). The 'leverage' Jessie saw available to NCG was to do two simple things to achieve a big impact:

1. optimise the extent to which the accounting system could be configured to deliver the required reports (and in the process question whether any of the current reporting requirements that can't be met by the system are valuable enough to warrant off-system reporting), and

2. for the remaining off-system reporting, revise the reporting tools to achieve single entry and multiple use of all data.

Jessie and Beatrix discovered that 60% of the off-system reporting was capable of being delivered by the accounting system and was only being done off-system only because Beatrix (and her predecessor) felt more comfortable using Excel than configuring the accounting system's report generator. A further 10% of the off-system reporting was found to relate to a level of detail in reporting which was no longer required. These findings combined, the scope of off-system reporting could be reduced by 70%. Revising the reporting tools could reduce preparation time by 75%, however Jessie added back a

third of the time saving to put more effort into interpretation and narrative so the net saving available was 50%. All up, the two simple reviews identified what amounted to three full days per month of Beatrix's time, preparing better and more focussed reports, and on a shorter timetable. Jessie was very happy the 'losses' had been stemmed and she had found the way to do costing and pricing within Mia's 'funding envelope'. At the same time, Jessie felt sheepish that an obvious way to improve performance hadn't been identified and acted on sooner so she promptly established — as business per usual — periodic (at least annual) functional reviews to reveal improvement opportunities.

General rules regarding costing: tools, IT, versions, what-ifs

Having just had to undo the results of some expensive bad habits, Jessie was conscious about having a clear set of rules for the establishment of the costing and pricing function. She came up with a list of characteristics she wanted the new function to have:

1. Minimum financial investment to achieve the required result
2. Preference for using existing functionality within the accounting system
3. Preference for tools that many people are skilled to use
4. Data validations[4] built in
5. Transparent and easy to follow maths
6. Easy to operate
7. Easy to audit[5]

Characteristics 1, 2 and 3 together limited Jessie to thinking about using a combination of the accounting system and Excel to effect costing and pricing. It transpired that the accounting system had no costing module (that is, no more granular view of costs than Cost Centre) so an Excel tool seemed the only option, and a good option subject to the other characteristics being attainable.

Jessie had been a strong Excel user in her more junior roles but had become less hands-on with each step up through the ranks, however she retained a firm conviction that the balance of the characteristics could be achieved in an Excel environment if specified as design parameters (that is, the functionality is available if it's what you set out to build). With some research she developed what she considered to be a comprehensive guide to developing an Excel tool which would satisfy the design parameters.

[4] Excel is renowned for being difficult to isolate and correct formula mistakes. Therefore, validation checks, which are automatic ways of comparing calculations in order to highlight potential errors are critical.
[5] By audit, we are referring to the examination of the model by others rather than the formal process of auditing the accounts which would not be a normal part of the external audit process.

The guide included the following material:

- Spreadsheet build — establish rules on:
  - Structure
  - Logic
  - Documentation and filing
- Spreadsheet layout — should:
  - Be intuitive
  - Correspond with the process of sourcing and/or checking the data
  - Match the documented process exactly (e.g. terminology, mathematics)
  - Separate (or separately identify) data that is static from data that is dynamic
  - Where appropriate, reference the source (e.g. website hyperlink)
- Spreadsheet use — it's just a spreadsheet so remember real world protocols:
  - Data must be supported by documentation
  - The documentation must be unambiguous (either inherently, or via additional notes)
  - Index the documentation for easy auditing
  - For any calculations not performed by the model, perform them off model in your working papers so they are visible and auditable (versus typing formulas into input cells)

After consulting with the IT Support Officer, Jessie specified additional rules about file permissions (control over who in NCG could view and or edit the spreadsheet file), location and backup.

Jessie also sought the advice of the Manager Quality, Safety and Risk (whose remit included document management) before specifying a version control protocol for the spreadsheet — a must-have in any event, but particularly in the context that she envisaged the use of 'what-if' analysis (generating different sets of costings based on different sets of assumptions) and the existence of many different versions of spreadsheet files to satisfy different purposes.

Jessie also started thinking about whether the new costing module available for her accounting software was a good investment, but decided to get it done in Excel first and then move it into the main accounting platform once she was satisfied with the way it worked.

1.5.1 The costing process

NCG was now ready to 'do costing'. Jessie pulled through some more definitions from the National Framework to guide the process:

Cost pool	A grouping of costs that will be treated in the same way in a costing process. Generally, pooled costs are those that have similar attributes and are able to be allocated or ascribed together to a particular activity. For instance, all building costs (such as rent, electricity, water, rates, maintenance etc.) would be pooled and then the total would be allocated pro rata to each activity based on, say, floor space used. Generally, the more costs included in a cost pool, the simpler the costing process and the less investment required in time and resources to achieve a costing outcome. However, the more costs included in a cost pool, the more generalised the cost estimate and therefore the less accurate the calculation.
Cost driver	The specific activity that can be used as a basis for allocating costs on a pro rata basis. It is the most common element between all activities and is a sound basis for the pro rating of particular costs. For example, a building may accommodate several activities and programs, so the best choice of cost driver to allocate rent might be the floor space or square metreage used by each activity or program. The choice of cost driver is inherently subjective and is never 100% accurate. It should be based on simplicity, materiality, reasonableness and, preferably, consistency from year to year. The reason for choosing a cost driver should be documented as a key assumption. Different costs may be allocated using different cost drivers.
Accounting cost estimates	Accounting cost estimates are accrual adjustments made to reflect the consumption of resources, and are generally not cash items. For instance, depreciation expense is an accounting estimate — it reflects that portion of an asset that is consumed in the provision of a service during the period. This is a legitimate cost of service delivery and must be incorporated into the comprehensive cost.
Standing ready to provide a service	A disability service provider is standing ready to provide a service if it has irreversibly committed resources to an attempted service delivery. If a participant does not attend for a service, is unavailable or is unwilling to receive a service, the disability services organisation will still incur all of the costs associated with delivering the unit of measurement save for the usually immaterial value of variable costs. The costs that can be avoided by not delivering a service are typically very small components of the comprehensive cost.
Unit of measure (UOM)	Each iteration of service provision. In most instances a UOM will be an "hour of service" but in respite services it could be an "occupied bed-day" and in transport maybe a "trip". A UOM is the basis for charging the unit price.
Span of control	Relates to the supervision of service delivery. It is used to denote the number of service delivery iterations (e.g. hour of service, trip or bed day) able to be supervised by one supervisor and is usually described as a ratio. For instance, where a supervisor has the capacity to oversee 15 service iterations the ratio would be described thus: 15:1. Many parts of the sector would describe this idea as the supervisory ratio and most would denote it in terms of numbers of people controlled rather than number of service iterations controlled or overseen.

Model Building

In the process of compiling all the 'house rules' for developing and using a costing and pricing tool Jessie developed a new enthusiasm for Excel and for a moment even contemplated doing the build herself. That flight of fancy done with, she considered assigning the task to Management Accountant Beatrix Kiddo — an assignment she thought had a lot of merit given her skill level and closeness to the data and the fact that she would be the primary user of the tool. But in the end she decided to use an external consultant for the model build — someone for whom building models was their 'bread and butter' — and rely on Beatrix to undertake detailed user acceptance testing.

Activity Levels & Relevant Range

In defining NCG's relevant range, Jessie considered the issue of increasing or changing acuity in NCG's participant base. Historically NCG had seen increasing or changing participant needs over time, potentially for many reasons including co-morbidity and aging. This increasing acuity had a significant financial impact as the costs of providing services to the affected participants crept up prior to any formal recognition (via a revised support plan) that the nature and or quantity of service needs had changed. Even with effective controls in place to quickly identify increased acuity in a participant's support plan, NCG had incurred additional costs in providing emergency access to newly required supports and in conducting re-assessments of participant needs. Jessie was resolute to bring this issue to the surface because the hours of service delivery associated with dealing with it were effectively an additional cost over and above the paid services delivered. In other words, whatever capacity NCG had to maintain to deliver mainstream services needed to be increased to cope with the additional (unpaid) workload. After speaking with service managers and a number of frontline and supervisory staff Jessie estimated the additional workload at 4% of all frontline worker and supervisor time, across all programs.

She also considered "no-shows", or instances where the participant fails to present to receive the service. No-shows to NCG's services required the majority of costs of a delivered service but generated no income because they weren't (by NCG policy) chargeable. Again after speaking with program managers and a number of frontline and supervisory staff Jessie estimated the frequency of no-shows by program:

Table 3: Frequency of No-Shows by Service Line

Service line	Frequency of no-shows
Program 1: Accommodation services	Nil
Program 2: Respite	11%
Program 3: Employment – Other	13%
Program 4: Community support	3%
Program 5: Therapy services	2%
Program 6: Community access	7%

The collective impact of participant acuity and no-shows appeared in the productivity ratio Jessie used for the purpose of converting from participant service hours to frontline staff hours (and, via the span of control ratio, to supervisory staff hours).

Jessie then addressed the core question of relevant range — what range of activity could NCG sustain with what cost base.

The relevant range here is the facilities available without buying more — or selling any. Buying new properties would not be possible without external support and that with take time. The leases would typically be for a year and selling properties is a major decision. Hiring new staff should be fairly quick (if needed) so that gives the relevant range in this case.

Identifying Information – Basic Information Required in the Model

Jessie had referred to the model build guidelines and determined the minimum identifying information to be recorded in each instance of the costing and pricing tool:

- The name of the organisation
- The year to which the data relates (in NCG's case, financial year rather than calendar year)
- The name of the person or team who prepared the data for the Tool and populated the Tool
- The name of the person who reviewed the populated Tool and endorsed it for approval
- The name of the person who approved the populated Tool
- The version number and brief details of the characteristics of the version

Key Data

Jessie needed the costing and pricing tool to use and generate data at the same level of detail that NCG did its accounting. She wrote a list of the key data which should be recorded for NCG that had global application across NCG's operations:

Calendar information:

- Number of days per year
- Number of days per week
- Number of weeks per fortnight

Figure 4: NDS/Curtin Costing and Pricing Tool extract – Calendar information

Calendar information	
Days in year	365.00
Days per week	7
Weeks per year	52.14
Weeks per fortnight	2
Fortnights per year	26.07

Employment types:

- Full-time/Part-time
- Casual
- Consultant
- Volunteer (Jessie was adamant that volunteer time should be valued and therefore costed)

Figure 5: NDS/Curtin Costing and Pricing Tool extract – Employment types

Employment types	2	3
Employment type	Entitled to leave? 1=yes 0=no	Super and on-costs applicable? 1=yes 0=no
FT/PT	1	1
Casual	0	1
Consultant	0	0
Volunteer	0	0

Payroll information:

- Standard working hours per week
- Annual leave weeks per year
- Public holiday weeks per year
- Sick leave weeks per year
- Annual leave loading rate (%)
- Long service leave rate (%)
- Backfill uplift rate (%) (assuming that all hours of leave backfilled for a person will trigger the utilisation of other personnel at a cost of the 'budgeted rate per hour' x (1 + backfill uplift rate). This uplift rate acts as a proxy for all the alternatives to backfilling leave which come at a higher cost than the budgeted rate, such as agency personnel, overtime and casuals
- Superannuation rate (%)
- Workers compensation rate (%)
- Payroll tax rate (%)

Figure 6: NDS/Curtin Costing and Pricing Tool extract – Global payroll information

Payroll information	
Standard working hours per week	40.00
Standard working hours per fortnight	80.00
Standard working hours per year	2,085.71
Annual leave weeks per year	4.0
Public holiday weeks per year	2.0
Sick leave weeks per year	2.0
At work weeks per year	44.1
Weeks per year	52.1
Annual leave loading rate (%)	17.50%
LSL rate (%)	3.50%
Backill uplift rate (%)	20.00%
Superannuation rate (%)	9.50%
Workers' compensation insurance rate (%	2.85%
Payroll tax rate (%)	-

Cost Centre information:

- Title
- Type of Service Delivery Unit (SDU)
- Number of SDUs per year (which for accommodation-linked services was to include observation of the number of beds available and a projection of occupancy rate

Figure 7: NDS/Curtin Costing and Pricing Tool extract – Cost Centre information

Cost Centre name	Cost Centre short title	Unit of Measure (UOM)	UOMs per year	NDIA Support Item
Accommodation support - metro	Accomm Me	Week	1,952	Item 14 012: Assistance in a shared living arrangement - standard needs
Accommodation support - country	Accomm Co	Week	976	Item 14 012: Assistance in a shared living arrangement - standard needs
Respite - metro	Respite Me	Week	421	Item 14 022: short term accommodation and assistance
Employment other - metro	E-Other Me	Hour	16,454	Item 05 004: Transition into and through school and to further education
Employment other - country	E-Other Co	Hour	7,529	Item 05 004: Transition into and through school and to further education
Community Support	CS1	Hour	15,464	Item 09 011: Assistance with self care activities - day - std needs - weekday
Community Support	CS2	Hour	10,890	Item 09 015: Assistance with self care activities - day - std needs - weekday eve
Community Support	CS3	Hour	4,354	Item 09 013: Assistance with self care activities - day - std needs - Saturday
Community Support	CS4	Hour	3,637	Item 09 014: Assistance with self care activities - day - std needs - Sunday
Community Support	CS5	Hour	2,720	Item 09 012: Assistance with self care activities - day - std needs - public holiday
Therapy services - metro	TS Me	Hour	7,975	Item 27 034: Individual assessment, therapy and/or training
Community Access - South West	CA SW1	Hour	5,810	Item 23 016: Group based comm/soc/rec actvities - std needs - ratio 1:2 - weekday
Community Access - South West	CA SW2	Hour	2,643	Item 23 019: Group based comm/soc/rec actvities - std needs - ratio 1:2 - weekday eve
Community Access - South West	CA SW3	Hour	885	Item 23 017: Group based comm/soc/rec actvities - std needs - ratio 1:2 - Saturday
Community Access - South West	CA SW4	Hour	704	Item 23 018: Group based comm/soc/rec actvities - std needs - ratio 1:2 - Sunday
Community Access - South West	CA SW5	Hour	158	Item 23 xxx: Group based comm/soc/rec actvities - std needs - ratio 1:2 - public holiday
Community Access - Great Southern	CA GS1	Hour	5,878	Item 23 016: Group based comm/soc/rec actvities - std needs - ratio 1:2 - weekday
Community Access - Great Southern	CA GS2	Hour	2,658	Item 23 019: Group based comm/soc/rec actvities - std needs - ratio 1:2 - weekday eve

Jessie then considered NCG's cost profile and, on the basis of the amount of its raw expenditure and with the objective of making the structure intuitive, landed on modelling costs in four categories:

1. People
2. Property
3. Vehicles
4. Other

In each of these categories Jessie saw the need for inputs, calculations and finally allocations. The allocations of costs to cost centres would need to be subjective and she imagined that different bases of allocation would apply for the different categories of cost. Allocations would be readily modelled by assigning percentages to cost centres in relative proportion. Jessie specified that the model should contain a default calculation to allocate any unallocated costs to indirect overheads[6], and an error indicator to alert the model user to any over-allocation.

[6] For example, head office staff, CEO's motor vehicle, or head office.

SE 2-34 WE 2, 3 NF 23

2. Element II: Costing Practice

2.1 Single Service Costing

To better understand ABC Jessie wanted to start with the basics. A hypothetical simplest organisation in disability services would be one that delivers one, and only one, specific service. In this case the unit cost is very easy to calculate – the formula would be:

$$\text{Unit Cost (\$)} = \frac{\text{Total annual costs (\$)}}{\text{Total annual volume (UoM)}}$$

This allows for a quick understanding of the method and a clear breakdown of the costs. The direct costs (direct labour, direct materials) can be quickly separated out and ascribed to the unit cost and the indirect costs can be allocated very simply by dividing them up by the number of units produced.

While this is a very simple model – and does not reflect NCG's operations – it provides a simple baseline from which to build the complications of the

This model is a good start for the internal costings of each of the business units where they are delivering a very simple service, but it also works as a baseline on which to build up to the next phase – building up the cost elements.

2.2 Building Up Key Cost Elements

SE 2-40 WE 2-21 NF 28

Structuring for Costing and Pricing

Jessie sat to consider how to move the organisation into a position of being able to cost individual services so it could respond to the new NDIS environment. NCG hadn't at this stage made a decision on exactly what services it wished to provide (although broadly it was felt they would continue to provide the same range of services) so the exercise at this stage was conceptual.

Jessie reminded herself of what changes the NDIS environment necessitated — NCG would only be able to sell what the NDIA were prepared to fund, and those services and products had been described in a price guide — therefore NCG had to be able to know what their individual service costs were so they could make informed decisions (based primarily on financial viability) about what services they would and would not provide.

Given NCG's current accounting structure, this presented a serious challenge. Of course NCG's general ledger recorded all transaction at the Natural Account[7] level but the only other field in the coding string was the Cost Centre, which NCG had configured to represent its eight operating 'Areas' — Corporate Services plus the seven programs it ran. It was a big step change in detail to move from program level to individual service level coding.

Jessie also considered NCG's accounting policies. To date NCG had been happy to retain all costs in the Area in which they were spent, with no attempt made to reallocate costs, on the basis that

[7] The natural account level is simply the account name that would appear on the profit and loss report. As such, "Wages Expense" is a natural account name while "Wages Expense – Head Office" is a subsidiary account title.

roughly 80% of total costs were payroll costs and it was these costs alone that Area managers were held accountable for. Aside from payroll (where the payroll system allocated costs based on the home Area configured for each employee) there were few other costs which were coded directly to Areas — primarily property related expenses as they were readily distinguishable by property and therefore by Area. All other costs were coded to Corporate Services and rested there.

Jessie could see that both the accounting structure and accounting policies needed an overhaul in order to deliver the service-level data required.

She started with the accounting structure. At first she struggled with how to achieve service-level coding when the only field she had available in the coding string was Cost Centre and that was already being used to denote Area — a level of reporting NCG was not prepared to forego. She eventually landed on the idea that the available Cost Centres (000 to 999) could be partitioned into ranges, with each Cost Centre representing a service and each range of Cost Centres representing an Area. She was happy this solution was scalable — she considered that 100 Cost Centres would be more than sufficient to cater for the number of services in each Area, and the solution also provided two spare Area ranges for future new programs. Jessie reasoned this setup would need some changes to the reporting configuration but would certainly achieve the objective. She specified the Cost Centre ranges as shown in Table 4.

Table 4: Cost Centre Ranges Mapped to Areas

Cost Centre range	Area
000-099	Corporate Services
100-199	Program 1
200-299	Program 2
300-399	Program 3
400-499	Program 4
500-599	Program 5
600-699	Program 6
700-799	Program 7
800-899	Spare for future Program
900-999	Spare for future Program

Allocation versus Ascription

Jessie then considered NCG's accounting policies. It transpired they were practices rather than policies as they weren't formally documented. She took the opportunity to adopt sector best practice and to adopt the glossary in the National Framework. Of course as an accountant the terminology and methodology were not new to her, but Jessie was happy to utilise a set of language and broadly-described accounting techniques that she knew would eventually be commonly understood across the sector.

She committed the key definitions to policy:

Allocation of costs	To determine what a particular part of the organisation costs to run or what a service costs to deliver, you must allocate costs incurred that cannot be directly ascribed to an activity. Costs usually allocated include indirect costs, overheads and accounting cost estimates. The act of allocating costs is based on commonly used accounting processes but is subjective. Usually, organisations establish policies as a basis for allocation of costs.
Ascription of costs	The costs that are easily identifiable as being incurred as a result of a particular activity are ascribed to that activity. The process of ascription is straight forward and logical. It is objective. An example of an ascribed cost is direct support worker wages.
Capital	The amount of financial resources required to be invested in an organisation in order for it to provide the services that it is established to provide. It is usually an estimated element within the cost structure of an organisation. An estimate of capital includes such elements as working capital, the net investment in plant and equipment (e.g. the capital invested in IT, real estate / buildings and motor vehicles less any loans) and amounts set aside for the payment of employee entitlements or any other provision that is actually made in cash. The efficient use of capital (both cash and physical resources) as well as the cost of that capital becomes more important in a market oriented environment.
Comprehensive cost	The comprehensive cost is the total cost of providing a unit of measurement or a bundle of units of measurement. It includes all direct and indirect costs as well as accounting cost estimates and the cost of capital. It is calculated from time to time as an internal control calculation. It serves to inform those charged with governance of the true cost of service delivery and to provide a figure against which to assess actual funding / pricing received.
Consumption	The actual costs and accounting cost estimates incurred in providing a service. Everything that is consumed in providing a service should be included as part of the cost base of that provision including the exhaustion of volunteer time, donated goods and services and the cost of capital.
Cost	The consumption of economic benefit associated with a past, immediate or deferred outlay of cash. A cost may have been incurred but may or may not have been paid. All costs have two characteristics; they are direct or indirect, fixed or variable. Recovery of all costs is necessary to ensure an organisation remains sustainable.
Cost estimation	The process of calculating the expected comprehensive cost for a unit of measurement, or a bundle of units of measurement, for a specific period, usually a year.
Cost recovery	The process of setting a price for an activity so that the comprehensive cost of that activity is repaid. This includes the recovery of the cost of capital and the recovery of accounting estimates, and constitutes the profit margin added to the cost of service delivery to arrive at the price.

Costing period	The period for which an organisation forecasts it's expected costs and seeks to use that data to cost its activities or bundles of activities. Usually the costing period is the financial year. However, if an organisation feels that the environment is too volatile or that they are unsure of their costs, it can reforecast and re-cast its costing process at any time and for any period.
Direct costs	A cost that is clearly attributable to an activity. It is incurred as a result of preparing for, undertaking and finalising the delivery of a unit of measurement. An example would be the cost of travel between participants' houses to deliver services.
Direct overheads	Operating expenses incurred regardless of the level of actual activity and in direct support of that activity. Examples include rent of buildings from which services are delivered, salaries of managers who oversee service delivery and program acquittal audit fees—as opposed to corporate audit fees. The essential features of direct overheads are (1) they are incurred only in support of service delivery, and (2) they are fixed regardless of activity level within the context of the relevant range.
Fixed costs	A cost that is incurred regardless of whether activities are undertaken (in contrast to variable costs). So, if the doors are not opened or services not provided, these costs are still incurred. Examples include rent, insurance and corporate head office staff such as the CEO, and could include IT/phone and legal compliance costs. These costs generally remain the same ("fixed") for the budget period. However, they will change over time and when productivity rises beyond the current capacity of an organisation. In other words, costs are only ever fixed for a certain time and for certain levels of activity. Usually, when activity levels rise beyond the capacity of the organisation so that fixed costs are increased, we say that the organisation has moved out of its relevant range.
Incurred cost	A cost that is actually paid or for which a liability exists to pay it at some future point in time. That is, there is a legal obligation to pay the cost regardless of whether cash has changed hands.
Indirect overheads	Costs that are incurred regardless of the level of activity and not incurred in direct support of service delivery. Usually these would include head-office and other non-service delivery costs. The allocation of overhead costs must be made using a system that is equitable and fair. That is, all activities undertaken, regardless of the source of funding, must support a logically and equitably allocated portion of overhead costs.
Materiality	Costs and activities that represent the bulk of the work of an organisation. An activity or program is material if it constitutes a significant proportion of the organisation's work and it will have an impact on the organisation's sustainability and capacity.
On-costs	Employee-related costs that are additional to gross salaries. These include annual leave, long service leave, superannuation, workers' compensation insurance and award allowances and penalties. They may be paid during the period, or incurred and paid at a later date. Care should be taken when costing expenses that are paid at a later date to ensure the full cost is recovered. For instance, annual leave may be paid at a later date and at a higher rate of pay because annual leave is paid at the prevailing rate of pay at the time of payment, not that rate of pay that was relevant and the time of incurring the cost.

Overheads	A category of expenses usually incurred at a corporate or high level within the organisation. They are usually costs that cannot be attributed directly to an activity and will be incurred regardless of whether activities are provided. Examples of typical overheads include the CEO salary, head office expenses and directors' and officers' liability insurance.
Productivity	The proportion of a staff member's time spent providing services directly to participants. It is time for which the organisation is paid and might include "participant-facing" activities as well as preparation and post-service activities such as model development, support planning and maintaining participant service notes. However, productive time is the time for which an hourly rate or some other price is paid. It is usually described as a percentage figure calculated by dividing the productive time by the total time the employee works. The productivity calculation is used to determine the staffing levels required in order to achieve the expected service delivery output upon which the costing and pricing of the organisation is predicated. The productive time is the chargeable time against which ALL of the comprehensive costs of service delivery must be recovered. This is sometimes referred to as the "participant facing ratio".
Recovery risk	The risk that the price achieved is insufficient to recover the comprehensive cost of service delivery.
Safety margin	The difference between budgeted activity volume and the calculated breakeven point volume. It represents a buffer against an unexpected fall in activity volume that could result in a potentially loss-making level of activity.
Service delivery output	The provision of a single or multiple units of measurement. This can be measured in hours of service delivery, trips in a transport service and so on. It is also described as the activity levels.
Unit cost	The cost of delivering each unit of measurement after allocation of all costs; both direct and indirect. Unit cost plus Mark Up equals unit price.
Variable costs	Incremental costs incurred whenever additional units of measurement are supplied (to be contrasted with fixed costs) and are considered to be uniform for each additional unit of measurement, although these costs do not necessarily have a lineal relationship to activity levels. Generally, we would say that these costs would not be incurred if the doors were not open and services not provided. Examples include support staff costs, fuel for vehicles used in providing a transport service, meals for participants in accommodation services and telephone calls. An understanding of variable costs is necessary when using the breakeven point analysis.
Volume	The level of activity undertaken. For instance, the number of units of measure actually provided. The volume can be forecast and actual.

For clarity, Jessie developed examples of the different types of costs (again, borrowing from the National Framework):

Direct costs	• Daily living expenses and daily clinical expenses incurred in the operation of an assisted living home • Direct care staff • Accommodation Support staff • O/T and physio staff • Transport service from outer city to hospital
Direct overheads	• Programmed maintenance expenses • IT infrastructure required to report service delivery statistics • TAFE training • First aid training • Skills maintenance training • Recruitment agency costs • Clinical supervisors, clinical nurse specialists, team supervisors • A regional office used as a base for home care service delivery; a portion of the cost of corporate accommodation that is used for managing service delivery programs • Cost of transport bus attached to accommodation service and used for participants' shopping and outings • Motor vehicle supplied and maintained in order to facilitate home care service provision
Overheads	• Professional services required to maintain the organisation's operations and to meet regulatory requirements • Packaged fully maintained vehicle provided to senior personnel as part of their remuneration • Payroll staff; marketing staff; accounting staff; governance staff; CEO and CEO's office personnel; divisional staff; IT personnel • The property costs associated with maintaining a head office

Cost / Benefit Rule

Looking back at the work she'd already done and thinking about what lay ahead, Jessie was struck by the potentially enormous cost of doing costing and pricing. Costing and pricing costs because it takes time to achieve and this means staff are unable to do other things. Generally, the more accurate the costing and pricing process, the more time taken to achieve the outcome. She immediately thought about 'cost versus benefit' and started to explore what issues she should consider before deciding on the investment that NCG should make in developing and maintaining a costing and pricing capability. She decided to take guidance from the unit cost calculation —

for each service, unit cost = annual comprehensive cost / annual volume

— and reasoned that all the risk in costing (that is, the risk of estimating unit costs that are too low or too high) is tied up in the estimates of costs and the estimates of volumes. So Jessie concluded that the necessary investment was one which provided sufficient certainty over both cost and volume estimates so as not calculate a misleading result. Jessie identified a costing methodology which she considered would provide that 'sufficient certainty':

- Cost estimation
  - Guided by historical costs
  - Historical costs considered in the context of volumes
  - Scheduled and likely cost increases and decreases taken into account (contributed to by a firm understanding of physical consumptions)
- Cost allocation
  - 90% confidence that cost pool composition is equitable
  - 90% confidence that cost driver identification is appropriate
  - Periodic reviews to confirm the required confidence level is being achieved
- Volume estimation
  - Guided by historical volumes
  - Scheduled and likely volume increases and decreases taken into account

Subjectivity versus Objectivity

When defining this methodology, Jessie was careful to acknowledge the risk inherent in cost allocation by virtue of its subjectivity (as distinct from the objectivity of cost ascription). That is, decisions are made that have a certain arbitrary nature and may not be 100% correct. However, Jessie knows that she has to estimate a confidence level based on her experience of the organisation and balance against the cost/benefit rule. She believes she is 90% confident that both the cost pool composition is equitable and the cost driver is appropriate, the overall confidence that the result is

accurate is 81% (90% x 90%) — an acceptable number by reference to the Pareto principle[8] — however Jessie took pains to ensure the inherent subjectivity in cost allocation was well understood.

2.3 Relevant Range and Assessing Activity Volumes

With generic structural and policy considerations dealt with, Jessie moved on to develop an understanding of how the costs in NCG behaved in response to the level of activity. The Framework had touched on this in describing the 'relevant range':

Relevant range	The level of activity in which the assumptions made about fixed and variable costs are true. For instance, if activity increases beyond a certain level, it may be necessary to increase fixed costs by employing a general manager or leasing more office space. Additionally, such an increase may cause the variable costs to be reduced as a result of economies of scale or to increase as a result of diseconomies of scale.

Jessie was familiar with this concept but during her time at NCG there hadn't been any material change in the level of activity so she was uncertain how the organisation's costs would respond if the NDIS environment (or any other material disruption to the market) caused such a change. It now seemed inevitable to Jessie that she needed to commit to a view on what services NCG would provide, and in what volumes, before she could start to define a relevant range for NCG. She referred back to the National Costing and Pricing Framework for more guidance to allow her to build up a framework for NCG, starting with some additional definitions:

Activities	Activities refer to each of the service types provided by an organisation. This provides the basis for identifying each unit of measurement or a bundle of units of measurement. Historically, terms used by disability service providers include "program", "service" and "package".
Bundle of activities	A bundle is a group of activities or units of measurement that can be taken together for costing purposes because they are delivered jointly together. Rather than costing individual activities, it can be more efficient to cost bundles if each bundle is the same and each participant in a cohort receives the bundle of activities or services. If there are variances in services provided between one participant and the next, it is usually not appropriate to bundle the activities.

The National Framework also provided a narrative on a number of issues related to recovery of comprehensive costs associated with the relevant range:

> *Given the resourcing and cost implications of operating outside the organisation's relevant range, executives and/or boards must consider how these issues will affect their capacity to operate within the relevant range, and the risks of inadvertently moving out of that range. The key issues to be considered include:*

[8] Also known as the 80/20 rule — roughly 80% of the effects come from 20% of the causes, or "don't sweat the small stuff" (ref Dr Richard Carlson).

a) *The effect of incremental service increases: it is often tempting to accept additional service delivery opportunities. However, the organisation should always keep in mind its maximum service delivery activity level within its existing resources and capacity. Increasing service delivery will, of course, increase direct costs, but it will also affect direct and indirect overheads such as supervision, transaction costs (e.g. payroll, invoicing), cash flow requirements and recipient recruitment costs. This can have detrimental effects on service quality, clinical governance and opportunity costs associated with service opportunities elsewhere.*

b) *Providing unfunded services will make it harder for disability service providers to remain in their relevant range (that is, not inadvertently move outside it). A provider's mission often leads their staff, for nonclinical reasons, to go "above and beyond" cost-recoverable service provision. Clearly, this type of activity can fall outside governance arrangements, can build expectations in service recipients, and can increase the cost of funded service delivery by reducing the capacity of the organisation through the absorption of resources. The issue here is not necessarily to curtail those activities (this is a matter for the executive and/or the board) but, rather, to intellectually engage with the implications for capacity reduction and cost. This is best done by accepting realistic forecasts of expected future activity based on activity levels historically achieved.*

2.4 Estimating Activity Levels

It is crucial that activity levels are estimated as closely to the likely outcome as possible as poor estimation could result in costs not being recovered and/or your organisation's prices may mean you do not attract or keep participants.

In estimating activity levels, it is important to note the following:

- We are concerned with the likely activity levels for each UOM achievable not the capacity that the organisation is capable of. That is, most organisations have a theoretical capacity or potential which would be reached if all activities were fully engaged. However, changes in participants, recruitment of staff, unplanned staff leave, break downs, maintenance and a myriad of other unforeseen or practical outcomes prevent an organisation from fulfilling its theoretical service delivery potential.

- Therefore, when estimating activity levels it is critical to try to determine what levels of activity for each UOM are likely to be achieved.

- History is always a good place to start and so considering what activity levels were achieved in prior years (usually going back 3 years maximum—but there may be good reasons for your to go back further) helps to determine a yardstick as well as to understand some of the things that have prevented the organisation reaching its potential activity levels or capacity.

- You also need to scan the environment and your organisation in order to identify anything that may reduce activity or allow activity to increase. Such things as major maintenance plans may reduce a facility's capacity because it cannot be used for part of the year. Further, you may identify that your organisation is likely to have far greater leave taken in the coming year due to the board's desire to clear leave and so staffing may be an issue in some areas thus reducing potential activity levels.

- Finally, once an estimate of activity levels has been made for each UOM, it is necessary to undertake a reasonableness test. If the estimated activity levels are similar to those experienced in previous years, then confidence in the estimate may be justified. If the estimate is more than a little different from the history, then organisations should be very wary and ensure they understand why that difference has occurred.

2.5 Overheads

With the bulk of costs captured in the People, Property and Vehicles categories, the "Other" costs category 'mopped up' all remaining costs in the organisation. Jessie specified simply that the data be captured by natural account:

- Natural account name
- Natural account code
- Annual cost

For the allocation to cost centres Jessie considered it appropriate to use simple percentages.

Indirect Overheads

Through the use of four cost categories Jessie had outlined a structure for capturing every cost in the organisation, and by specifying an allocation method for each cost category she had achieved the pooling of costs into cost centres (including a dummy cost centre called 'Indirect overheads'). The last remaining allocation round related to indirect overheads — those costs which weren't able to be directly allocated to cost centres; typically costs associated with executive management and administration support. Jessie saw some scope for middle management costs can be included here, however considered some of those costs may be more appropriately entered as direct overheads. In any event, the way Jessie had specified the model permitted a great deal of flexibility for responding to whatever circumstances NCG might be experiencing at any point in time.

Jessie specified that all costs from the four categories (People, Property, Vehicles and Other) that had been pooled into the 'Indirect overheads' dummy cost centre would be pulled through to a single summary. From there she envisaged a freeform mechanism for creating smaller pools and allocating those pools to real cost centres on the most appropriate basis. She saw this as a fair and efficient method of allocating costs to users.

The challenge Jessie saw in this method was to identify pools of costs of a similar nature for which there was a single measurable driver. The last thing we wanted was for the freeform mechanism to lead to a lack of consistency. As guidance she developed an example: the cost pool 'Multi-function device (MFD) expenses' with a driver of 'number of copies'. She thought this was a good example in that the driver clearly isn't perfect (an MFD is also used for scanning, a copy may be colour or black and white, a copy may be single or double sided, staples may or may not be used, etc) but (a) a review would likely show that 'number of copies' would on balance represent a reasonable basis for allocating costs and (b) there are or could be simple mechanisms in place to track the usage. This was certainly the level of thinking that Jessie required to be done.

As further guidance Jessie noted that 'true cost drivers' are generally self-evident and are generally a measure of physical usage. The costs which belong in each cost pool should also pool naturally rather than be a forced construction (to continue the 'MFD expenses' cost pool example, the types

of costs which would belong in that pool are intuitively photocopier lease, repairs and maintenance, toner, paper and other consumables).

Jessie specified that for each indirect overhead cost pool the model should capture:

- Overhead pool description
- Overhead pool value ($, annual cost)
- Basis for allocation of property costs to cost centres (UOM, floor space, FTE, revenue, %)
- Base value being allocated (i.e., annual total usage, specified in UOM, is estimated for each cost pool)
- Allocations to cost centres, expressed in the relevant unit of measure

A complication that Jessie had consciously avoided in specifying the treatment of indirect overheads was to overlook that the various Corporate Services departments, as well as servicing the participant-facing areas of the organisation, also serviced each other. For instance, Information Technology as a function supported every other department within Corporate Services. She'd done this because she considered that all participant-facing areas of the organisation utilised all of Corporate Services' functional support areas relatively equally so no material misallocation would result from not including this intermediate allocation stage.[9]

2.6 People

People costs were by far the most substantial of NCG's total costs and Jessie was keen for them to be modelled to a high degree of accuracy. She specified a format which gathered all payroll costs for all cost centres and was based on fortnightly rostering. The model had to capture all categories of personnel, including direct service delivery personnel (like Disability Support Workers who deliver direct participant services) and direct and indirect overhead personnel (those who provide executive or middle management and administrative support). Jessie identified the data to be captured for each person:

- Position title
- Cost type (direct or indirect)
- Employment type (full-time/part-time, casual, consultant or volunteer)
- Average number of hours worked per fortnight
- Budgeted pay rate per hour ($)
- Proportion of annual leave taken (%) (NCG had a history of employees not taking their full annual leave entitlement each year so Jessie was keen to calculate the extra cost to the organisation of the increase in accrued entitlements)
- Allowances annual amount ($) (e.g., motor vehicle allowances, travel allowances, sleep over allowances, public holiday penalties)
- Proportion of annual leave be backfilled (%)

[9] Of course, this may not be true for all organisations and so each organisation must make an assessment regarding this point.

- Proportion of sick leave backfilled (%)
- Proportion of training time back filled (%)

For the allocation to cost centres Jessie considered it appropriate to use simple percentages.

Jessie was also keen to model maternity and paternity leave but concluded that it wasn't something that could be readily modelled. She resolved to include a line item for this in 'Other' costs.

Jessie envisaged some peculiarities which needed to be taken into account when populating the model and noted:

- Ensure that all likely new positions have been included having regard for new programs or changes in participant mix and intensity of support
- For employment types casual and consultant the 'Average number of hours worked per fortnight' should be calculated as annual budgeted hours divided by 26 fortnights

The model would perform a series of calculations based on the inputs and the global data. Jessie specified a review procedure: "Review the calculated 'Total employment costs' for each person. Do these total costs look reasonable compared to historical costs?"

Vignette: Calculate total annual employment cost of an employee

Elaine Woo is a Team Leader in NCG's Accommodation services program. She is engaged on a full-time basis on a 37.5 hour week (75 hour fortnight). In common with all NCG staff her entitlements include 4 weeks annual leave per year, 2 weeks public holidays, 2 weeks sick leave per year (non-vesting), 9.5% superannuation and a 17.5% loading on annual leave taken. Her budgeted base pay rate at the beginning of the year is $34.95 per hour and she qualifies to receive additional allowances of $1.40 per hour for every hour worked, taking her ordinary rate of pay to $36.35 per hour. Under the relevant award she is entitled to a mid-year 2.5% pay increase, taking her ordinary rate of pay to $37.26 per hour. For costing purposes an average of $36.80 per hour is used. Elaine is not entitled to any lump sum allowances or non-cash benefits. In her three years with NCG Elaine has on average taken only 12 days per year (60%) of her annual leave. Due to the nature of her position, Elaine's annual leave and sick leave are always backfilled.

How do we calculate Elaine's total annual employment cost?

Step 1: Configure the organisation-wide costing data —

- Days in year: **365.25**
- Calculated weeks per year = **365.25** days / **7** days = **52.18**
- Standard working hours per week: **37.5**
- Annual leave weeks per year: **4**
- *Calculated* annual leave proportion = **4** weeks per year / **52.18** weeks per year = **7.67%**
- Public holiday weeks per year: **2**
- Sick leave weeks per year: **2**

- *Calculated* sick leave proportion = **2** weeks per year / **52.18** weeks per year = **3.83%**
- Annual leave loading rate: **17.5%**
- Long service leave rate: **2.5%**
- Backfill uplift rate: **20%**
- Superannuation rate: **9.5%**
- Workers compensation rate: **3.2%**
- Payroll tax rate: **%Nil**

Step 2: Configure Elaine's specific data —

- Employment type: **Full-time**
- Average number of hours worked per fortnight: **75**
- Budgeted pay rate per hour: **$36.80**
- Proportion of annual leave taken: **60%**
- Allowances annual amount: **$Nil**
- Proportion of annual leave backfilled: **100%**
- Proportion of sick leave backfilled: **100%**

Step 3: Calculate the cost of Elaine's annual leave loading—

- Annual leave entitlement = 4 weeks = 2 fortnights x 75 hours per fortnight = 150 hours
- Elaine's hours on annual leave = entitlement 150 hour x 60% proportion taken = 90 hours
- Cost of annual leave time = 90 hours x $36.80 per hour
  = **$3,312.00 (A)** (not an expense as it is paid from the leave provision)
- Cost of annual leave loading = A x 17.5%
  = **$579.60 (B)**

Step 4: Calculate the cost of Elaine's paid work, public holiday and sick leave time:

- Fortnights per year = 365.25 days per year / 14 days per fortnight = 26.09 fortnights
- Paid hours per year = 26.09 fortnights x 75 hours per fortnight = 1,956.7 hours
- Paid hours per year excluding annual leave = 1,956.7 hours – 90 hours = 1,866.7 hours
- Cost of work and other leave time = 1,866.7 hours x $36.80 per hour
  = **$68,694.43 (C)**

Step 5: Calculate base for provisions —

- Base = cost of annual leave time + cost of work and other leave time
  = A + C
  = $72,006.43 (D)

Step 6: Calculate provisions —

- Cost of provision for annual leave = base for provisions x annual leave proportion
  = D x 7.67%
  = **$5,520.00 (E)**

- Cost of provision for long service leave = base for provisions x long service leave rate
  = D x 2.5%
  = **$1,800.16 (F)**

Step 7: Calculate base for superannuation and workers compensation insurance (known as Ordinary Time Earnings or OTE)—

- Base = cost of annual leave time + cost of work and other leave time + cost of annual allowances + cost of annual leave loading + cost of provision for long service leave (as proxy for LSL paid)
  = A + C + Nil + B + F
  = $74,386.19 (G)

Step 8: Calculate cost of superannuation and workers compensation insurance —

- Cost of superannuation = base for superannuation and workers compensation insurance x superannuation rate
  = G x 9.5%
  = **$7,066.69 (H)**

- Cost of workers' compensation insurance = base for superannuation and workers compensation insurance x workers compensation insurance rate
  = G x 3.2%
  = **$2,380.36 (J)**

Step 9: Calculate base for payroll tax —

- Base = OTE + cost of superannuation
  = G + H
  = $81,452.88 (K)

Step 10: Calculate cost of payroll tax —

- Cost of payroll tax = base for payroll tax x payroll tax rate
  = K x $Nil
  = **$Nil (L)**

Step 11: Calculate cost of annual leave backfill —

- Cost of annual leave backfill = hours on annual leave x budgeted pay rate per hour x (1 + backfill uplift rate) x proportion of annual leave backfilled
  = 90 x $36.80 x (1+20%) x 100%
  = **$3,974.40 (M)**

Step 12: Calculate cost of sick leave backfill —

- Sick leave entitlement = 2 weeks = 1 fortnight x 75 hours per fortnight = 75 hours

- Cost of sick leave backfill = hours on sick leave x budgeted pay rate per hour x (1 + backfill uplift rate) x proportion of annual leave backfilled
  = 75 x $36.80 x (1+20%) x 100%
  = **$3,312.00 (N)**

Step 13: Calculate the total annual employment cost —

- Total annual employment cost = B + C + E + F + H + J + L + M + N
  = $579.60 + $68,694.43 + $5,520.00 + $1,800.16 + $7,066.69 + $2,380.36 + $Nil + $3,974.40 + $3,312.00
  = **$93,327.64**

Figure 8: NDS/Curtin Costing and Pricing Tool extract – People – cost build-up

People

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	Enter	Choose	Choose	Enter	Enter	Enter	E / swhpfn	E x fnpa	I x G x AL_propn	I x SL_propn	I x PH_propn	I - sum(J:L)	sum(J:M)	F x J	F x K
	Subtotal			10,160				264,885.71	19,200.00	9,600.00	9,600.00	226,485.71	264,885.71	782,812.93	391,40
	Identification and profile							Hours						AL paid	
Ref	Position	Cost type	Employment type	Average hours per fortnight hours	Budgeted rate ph $	Proportion of AL taken %	FTE %	Total hours per year hours	Annual leave hours	Sick leave hours	Public holidays hours	At work hours	Total hours	Annual leave $	Sick lea $
1	CEO	Indirect	FT/PT	80	86.54	100%	100.00%	2,085.71	160.00	80.00	80.00	1,765.71	2,085.71	13,846.40	6,92
2	Executive Assistant	Indirect	FT/PT	80	33.65	100%	100.00%	2,085.71	160.00	80.00	80.00	1,765.71	2,085.71	5,384.00	2,69
3	Receptionist	Indirect	FT/PT	80	28.85	100%	100.00%	2,085.71	160.00	80.00	80.00	1,765.71	2,085.71	4,616.00	2,30
4	Personal Assistant P1	Direct	FT/PT	80	28.85	100%	100.00%	2,085.71	160.00	80.00	80.00	1,765.71	2,085.71	4,616.00	2,30
5	Personal Assistant P2, P4	Direct	FT/PT	80	28.85	100%	100.00%	2,085.71	160.00	80.00	80.00	1,765.71	2,085.71	4,616.00	2,30
6	Personal Assistant P3, P5, P6	Direct	FT/PT	80	28.85	100%	100.00%	2,085.71	160.00	80.00	80.00	1,765.71	2,085.71	4,616.00	2,30
7	Executive Manager Operations	Indirect	FT/PT	80	72.12	100%	100.00%	2,085.71	160.00	80.00	80.00	1,765.71	2,085.71	11,539.20	5,76
8	Executive Manager Finance	Indirect	FT/PT	80	72.12	100%	100.00%	2,085.71	160.00	80.00	80.00	1,765.71	2,085.71	11,539.20	5,76
9	Executive Manager HR and Development	Indirect	FT/PT	80	72.12	100%	100.00%	2,085.71	160.00	80.00	80.00	1,765.71	2,085.71	11,539.20	5,76
10	Property Manager	Indirect	FT/PT	80	57.69	100%	100.00%	2,085.71	160.00	80.00	80.00	1,765.71	2,085.71	9,230.40	4,61
11	Purchasing Officer	Indirect	FT/PT	80	43.27	100%	100.00%	2,085.71	160.00	80.00	80.00	1,765.71	2,085.71	6,923.20	3,46
12	IT Support Officer	Indirect	FT/PT	80	43.27	100%	100.00%	2,085.71	160.00	80.00	80.00	1,765.71	2,085.71	6,923.20	3,46
13	Coordinator Marketing/PR and Fundraising	Indirect	FT/PT	80	38.46	100%	100.00%	2,085.71	160.00	80.00	80.00	1,765.71	2,085.71	6,153.60	3,07
14	Management Accountant	Indirect	FT/PT	80	38.46	100%	100.00%	2,085.71	160.00	80.00	80.00	1,765.71	2,085.71	6,153.60	3,07

Figure 9: NDS/Curtin Costing and Pricing Tool extract – People – cost ascription

People

	B	C	D	E	F	G	AJ	1	2	3	4	5	6
	Enter	Choose	Choose	Enter	Enter	Enter	AD + AI	AK	AL	AM	AN	AO	AP
								Enter	Enter	Enter	Enter	Enter	Enter
	Subtotal			10,160			13,808,168						
	Identification and profile						Total						
Ref	Position	Cost type	Employment type	Average hours per fortnight hours	Budgeted rate ph $	Proportion of AL taken %	Total employment costs $	Accomm Me %	Accomm Co %	Respite Me %	ATE/PSO Me %	ATE/PSO Co %	IFS1 %
1	CEO	Indirect	FT/PT	80	86.54	100%	212,609						
2	Executive Assistant	Indirect	FT/PT	80	33.65	100%	92,362						
3	Receptionist	Indirect	FT/PT	80	28.85	100%	79,187						
4	Personal Assistant P1	Direct	FT/PT	80	28.85	100%	79,187	66.67%	33.33%				
5	Personal Assistant P2, P4	Direct	FT/PT	80	28.85	100%	79,187			60.00%			20.24
6	Personal Assistant P3, P5, P6	Direct	FT/PT	80	28.85	100%	79,187				22.67%	10.67%	
7	Executive Manager Operations	Indirect	FT/PT	80	72.12	100%	177,183						
8	Executive Manager Finance	Indirect	FT/PT	80	72.12	100%	177,183						
9	Executive Manager HR and Development	Indirect	FT/PT	80	72.12	100%	177,183						
10	Property Manager	Indirect	FT/PT	80	57.69	100%	141,731						
11	Purchasing Officer	Indirect	FT/PT	80	43.27	100%	112,535						
12	IT Support Officer	Indirect	FT/PT	80	43.27	100%	118,766						
13	Coordinator Marketing/PR and Fundraising	Indirect	FT/PT	80	38.46	100%	94,488						
14	Management Accountant	Indirect	FT/PT	80	38.46	100%	94,488						

2.7 Real Property – Buildings

After people costs, NCG's property costs were the next largest category. Jessie specified that the model should gather the costs of all owned, mortgaged and rented properties including those used for program services and the head office. Importantly in the context of NCG's arrangements with certain participants that they contribute a portion of their pension to paying board, the costs gathered were specified to be the gross costs (with the contributions income to be shown as a separate, and negative, line item). She identified the data to be captured for each property:

- Property description (property address or other identifier)
- Annual cost of rent or notional rent, loan interest and depreciation (noting that depreciation will only be relevant for properties which are owned)
- All other annual costs for each property

For the ascription to cost centres Jessie considered it best not to assume a single base (intuitively, floor space) so she specified that for each property the model should also capture:

- Basis unit for ascription of property costs to cost centres (e.g., floor space, FTE, revenue, %)
- Total number of basis units being ascribed
- Pattern of ascription to cost centres, expressed in the relevant basis units

Vignette: Capturing and ascribing property costs

Unlike employment costs, property costs do not need to be calculated in a complex build-up; just collated and ascribed to cost centres.

Step 1: List all the properties utilised by NCG (as detailed in Table 2) —

- Group homes x 12
- Respite house
- ADE facility
- Head office

Step 2: For each property, enter the annual costs of occupancy —

- Rent or notional rent (for leased properties or properties NCG has been granted the use of)
- Loan interest (for freehold properties over which there is an interest bearing debt)
- Depreciation (for freehold properties, based on historical cost)
- Public liability insurance
- General insurance
- Repairs
- Electricity
- Cleaning
- Water
- Gas
- Security

- Gardening and grounds
- Rates
- Other

Step 3: Determine the basis for ascribing each property to a cost centre/s —
For properties dedicated to a single cost centre, a basis unit of 'each' and total count of 1 is the simplest approach, and in this case appropriate for every property except the head office. The head office ascription is done most equitably by area.

Step 4: Calculate the ascription proportions —
There are some complicating factors which need to be considered in order to arrive at an equitable split:

- A portion of the area is taken up by therapy rooms
- There are a number of hot-desks for Team Leaders which are only utilised 40% of the time
- As can be seen in the staffing profile in Table 1, there are many staff who work across cost centres (in particular, Managers, their Personal Assistants, and Team Leaders)

In this case there are also some factors which simplify the split calculations:

- Aside from the therapy rooms and some common use meeting rooms, the office are open plan
- Each person's work area is about the same size
- No material area is utilised for any cost-centre specific purpose (for instance, there is no compactus)

Figure 10: NDS/Curtin Costing and Pricing Tool extract – Property – cost build-up

Property

	Subtotal		270,400	-	63,840	27,500	22,500	49,000	51,200	78,000	40,800	40,80
	Identification		Annual costs ($)									
Ref	Property description	Identifier	Rent or notional rent $	Loan interest $	Depreciation $	Public liab. insurance $	General insurance $	Repairs $	Electricity $	Cleaning $	Water $	Gas $
1	Group Home 1	Metro 1			7,680	1,500	1,500	3,000	2,400	5,200	2,400	2,40
2	Group Home 2	Metro 2			8,320	1,500	1,500	3,000	2,400	5,200	2,400	2,40
3	Group Home 3	Metro 3			6,880	1,500	1,500	3,000	2,400	5,200	2,400	2,40
4	Group Home 4	Metro 4	33,800			1,500	1,500	3,000	2,400	5,200	2,400	2,40
5	Group Home 5	Metro 5	33,800			1,500	1,500	3,000	2,400	5,200	2,400	2,40
6	Group Home 6	Metro 6	33,800			1,500	1,500	3,000	2,400	5,200	2,400	2,40
7	Group Home 7	Metro 7	33,800			1,500	1,500	3,000	2,400	5,200	2,400	2,40
8	Group Home 8	Metro 8			7,680	1,500	1,500	3,000	2,400	5,200	2,400	2,40
9	Group Home 9	Country 1	33,800			1,500	1,500	3,000	2,400	5,200	2,400	2,40
10	Group Home 10	Country 2	33,800			1,500	1,500	3,000	2,400	5,200	2,400	2,40
11	Group Home 11	Country 3			6,880	1,500	1,500	3,000	2,400	5,200	2,400	2,40
12	Group Home 12	Country 4			7,200	1,500	1,500	3,000	2,400	5,200	2,400	2,40
13	Respite House 1	Respite	33,800			1,500	1,500	3,000	2,400	5,200	2,400	2,40
14	ADE Facility 1	ADE			19,200	5,000	1,500	5,000	10,000	5,200	4,800	4,80

Figure 11: NDS/Curtin Costing and Pricing Tool extract – Property – cost ascription

Property						1	2	3	4	5	6
	Subtotal		695,040								
	Identification										
Ref	Property description	Identifier	Total annual costs $	Allocation basis unit description	Allocation basis unit total no. units	Accomm Me no. units	Accomm Co no. units	Respite Me no. units	ATE/PSO Me no. units	ATE/PSO Co no. units	IFS1 no. unit
1	Group Home 1	Metro 1	29,080	ea	1	1					
2	Group Home 2	Metro 2	29,720	ea	1	1					
3	Group Home 3	Metro 3	28,280	ea	1	1					
4	Group Home 4	Metro 4	55,200	ea	1	1					
5	Group Home 5	Metro 5	55,200	ea	1	1					
6	Group Home 6	Metro 6	55,200	ea	1	1					
7	Group Home 7	Metro 7	55,200	ea	1	1					
8	Group Home 8	Metro 8	29,080	ea	1	1					
9	Group Home 9	Country 1	55,200	ea	1		1				
10	Group Home 10	Country 2	55,200	ea	1		1				
11	Group Home 11	Country 3	28,280	ea	1		1				
12	Group Home 12	Country 4	28,600	ea	1		1				
13	Respite House 1	Respite	55,200	ea	1			1			
14	ADF Facility 1	ADF	61,500	ea	1						

2.8 Transport

SE 2-55 WE 3-24 NF

After people costs, NCG's vehicle costs were the next largest category. Jessie specified that the model should gather the costs of all owned, leased and rented motor vehicles including those used for program services and corporate/functional support. She identified the data to be captured for each vehicle:

- Vehicle description (registration or other identifier)
- Annual cost of rent or notional rent, loan interest and depreciation (noting that depreciation will only be relevant for vehicles which are owned)
- All other annual costs for each vehicle

For the allocation to cost centres Jessie considered it appropriate to use simple percentages.

2.9 Governance Issues

SE 2-17 WE 2-25 NF 29

Jessie appreciated that any conclusions arising from the costing work had to have as much buy-in as possible if there was to be a serious effort to make any changes as a result of the project. Accordingly she was careful to be as open and transparent as possible, keeping all involved informed about the progress of the project and ensuring that all line managers knew what the results for their area were, and taking on board any comments made.

2.9.1 Governance and Control in a Fluid Environment

Mia felt that, operationally, NCG now had robust costing and pricing capabilities and it was time to engage with the board on how the new framework should interface with existing board reporting. She booked time to discuss the matter with NCG's chair, Nora Heysen, under the banner of 'Governance and Control in a Fluid Environment'.

Mia had kept the board informed of the nature of changes in NCG's operating environment but she recapped these to Nora as a prologue to introducing the new control measures (accounting policies, accounting structures, costing methodology, costing team, etc) that had been instituted. What then

remained was to work through how to best and most appropriately engage the board, via regular reporting in the board pack, with the data and information made available by the new measures. Mia and Nora stepped through the key elements one by one.

2.9.2 Reporting Requirements

With a comprehensive costing framework in place, NCG had gained the ability to report costs at either or both natural account (or a rolled-up equivalent) and service/service bundle. Mia's experience was that her board had never had an appetite for a large amount of detail, and even when presented with quite summary data (for instance, a profit and loss report using a handful of cost categories and comparing actual to budget) struggled to find meaning in anything other than the bottom line. But rather than simplifying the cost reports to the point of worthlessness, Mia proposed to retain a moderate amount of detail (cost by category, budget versus actual and variance, this month/year to date/full year) and add a narrative which 'sorted the wheat from the chaff' by explicitly highlighting the results that warrant board attention. In addition, Mia proposed to report comprehensive costs by service; collectively reporting on statistics and, on an exception basis, individually reporting the results of services where the variance to budget warrants board attention.

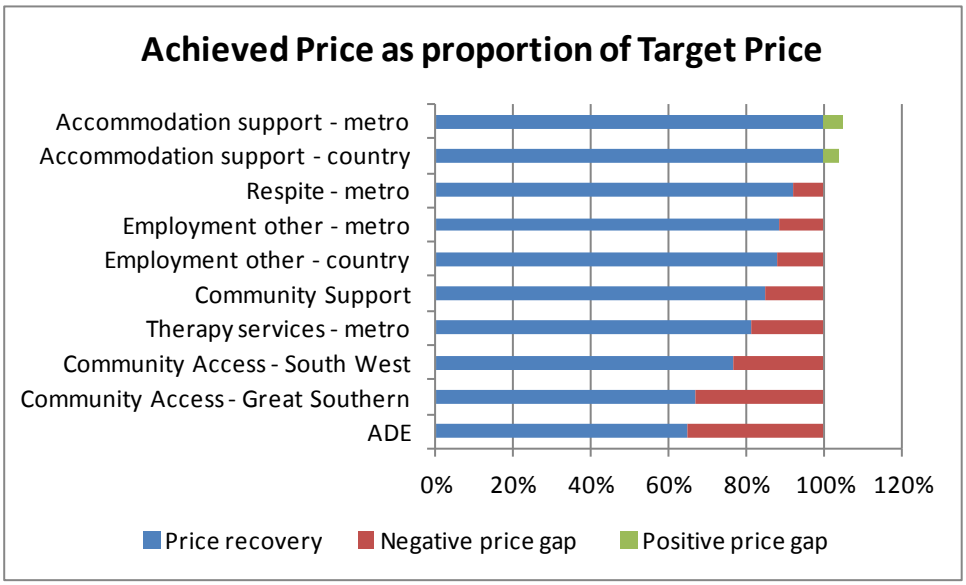
In essence, Mia identified that the board needed to have information at a summary level relating to the four key elements of costing and pricing:

- Activity levels achieved versus planned
- Timing of activity levels versus planned
- Actual costs per UOM versus budgeted costs
- Actual price achieved versus expected price achieved for each UOM

The additional key element is cash flow and so the board also needs to have a report detailing expected cash flow and actual cash flow in order to ensure the timing of invoicing and payment in arrears (i.e. after a service has been performed) is not threatening NCG from the point of view of running out of cash.

In terms of reporting actual price achieved versus targeted price for each UOM (that is Target Price versus Achieved Price), Mia referenced the new terminology of 'target price' and 'achieved price' in proposing that board reporting on pricing be focussed on the collective statistics — for example, a histogram of the proportion of target price achieved across all services might be reflected similarly to figure 12.

Figure 12: Achieved price performance



For governance at an operational level, Mia requested Jessie present her with a detailed analysis, by unit of service, from cost through to price gap:

Figure 13: Price gap analysis

Service	UOM	Cost per UOM $	Target price per UOM $	Historical funding achieved $	Price gap per UOM $	Annual volume of UOMs	Total annual price gap $
Accommodation support - metro	Week	2,462.11	2,708.32	2,200.00	(508.32)	1,952	(992,240.64)
Accommodation support - country	Week	2,462.38	2,708.62	2,400.00	(308.62)	976	(301,213.12)
Respite - metro	Week	3,727.90	4,100.69	3,600.00	(500.69)	421	(210,790.49)
Employment other - metro	Hour	61.76	67.94	45.50	(22.44)	16,454	(369,227.76)
Employment other - country	Hour	63.82	70.20	45.50	(24.70)	7,529	(185,966.30)
Community Support	Hour	46.87	51.56	47.50	(4.06)	15,464	(62,783.84)
Therapy services - metro	Hour	195.59	215.15	165.00	(50.15)	7,975	(399,946.25)
Community Access - South West	Hour	24.13	26.54	27.50	0.96	5,810	5,577.60
Community Access - Great Southern	Hour	23.85	26.24	27.50	1.26	5,878	7,406.28
ADE	Week	246.28	270.91	230.00	(40.91)	2,905	(118,843.55)

3. Element III: Starting Off – Pricing

Jessie again extracted the following primary definitions from the Framework:

Profit	Profit is that figure that remains after the subtraction from income of all consumptions (expenses) incurred during a particular period. It is necessary for an organisation to make a sufficient profit in order to maintain sustainability. It is not a surplus as the amount retained by the organisation is necessary to ensure ongoing viability, to provide working capital and to provide the financial capacity for asset replacement and other renewal processes.
Price achieved	The actual price paid by a funder/or purchaser for the unit of measure provided.
Capital	The amount of financial resources required to be invested in an organisation in order for it to provide the services that it is established to provide. It is usually an estimated element within the cost structure of an organisation. An estimate of capital includes such elements as working capital, the net investment in plant and equipment (e.g. the capital invested in IT, real estate / buildings and motor vehicles less any loans) and amounts set aside for the payment of employee entitlements or any other provision that is actually made in cash. The efficient use of capital (both cash and physical resources) as well as the cost of that capital becomes more important in a market oriented environment.
Working capital	The level of cash required to operate the organisation. Usually it is calculated as current assets (focusing on cash and assets readily converted to cash such as debtors) minus current liabilities (focusing on creditors and bank overdraft).
Mark Up	An amount added to unit of measure cost to arrive at the unit price. It is usually expressed as a percentage and should reflect a policy decision taken at board level. Components include: (1) base Mark Up which is the minimum Mark Up required to ensure sustainability and achieve the strategic plan; (2) an estimate of the cost of capital invested in the NFP to allow it to operate; and (3) risk Mark Up which is intended to reflect risk associated with a particular program or service. Programs can have different Mark Ups. However, all Mark Ups used should be considered in the light of the activity levels and profit required for sustainability. The Mark Up is different to the contribution margin as the former equates to a reward for risk and effort while the latter is simply a description of the amount of the income from the sale of a service left over after variable costs have been met.
Efficient price	The efficient price is an economics term rather than an accounting term. It is the point where an arms-length buyer and an arms-length seller agree on a price. The buyer will not pay more for the item because they can get it for the efficient price elsewhere. The seller will not accept less because then they will not get an appropriate return on their investment and will move their capital into another business. Therefore, the efficient price is determined by market forces reflecting actual and local economic conditions. The efficient price will vary in different markets and for different market segments. The efficient price includes the cost of capital—that is, the return on investment required by the seller in order to make the transaction worthwhile.
Unit Price	The fee actually paid by a participant for a service. It is usually established by the funding agency. For instance, under the NDIS, the NDIA will set this price.

Deferred expenses	Consumptions related to real expenses, which will be met at some, often unknown, point. Examples are employment expenses associated with annual leave, sick leave and long service leave. These elements of cost represent a risk, as it is not known when they will be paid or what amount will be paid. The ultimate liability will be based on some future cost. They must be recovered at current values but are likely to be more expensive when they are actually paid.

3.1 What is Pricing?

As discussed in the Framework:

> Pricing is central to the financial management of any organisation involved in recovering its costs from third parties. Sometimes the ideas of price and cost are conflated. A disability service provider must recover all of its costs, and generate a profit from its activities to maintain sustainability in the medium and longer term. Quite apart from risks to government, suppliers and staff, an unsustainable organisation will risk continuity of service for participants and their families.

This makes incorporating a profit target in the financial management of a disability service provider critical from everyone's point of view. A non-profit provider cannot, of course, distribute its profits to members or owners, but uses its profit for the following:

a) Working capital;

b) Cash outflows for deferred expenses such as long service leave and annual leave. These are part of the cost base of an activity, but the ultimate outflow is likely to be higher due to the timing of payment and the inflation of salaries;

c) Reinvestment in infrastructure and to ensure resources are available for the ongoing development of the organisation and the quality of its services;

d) Innovation and change management. This includes service improvement and service innovation; and

e) To meet the organisation's strategic and operating plans.

Determining the Mark Up is extremely difficult for Not-for-profit organisations as they typically do not have an industry profit benchmark in the way that other segments of the economy do and because they do not return profits to shareholders and so the impetus for profit is somewhat limited in a traditional sense.

The UOM profit is calculated as follows:

UOM Price — UOM Comprehensive Cost (All Costs) = UOM Profit

The Mark Up has two components: the profit required to meet the organisation's financial and strategic goals, and a premium for the risk the organisation accepts as part of its operations.

To calculate the requirements for the organisation to meet its strategic and financial goals, it must develop a three- to five-year financial plan, to run concurrently and support its strategic plan. Smaller organisations would probably have simple plans outlining specific capital and other non-operational expenditure items, together with the timing of the cash outgoing and the forecast cash flow requirements.

On the other hand, larger organisations might have much more complex financial plans, including 'what-if' scenarios and taking into account expected inflation.

Calculating the organisation's risk premium is a good deal more complex. There is no hard and fast way of doing this and a proxy for risk premium might be the required return for the organisation to remain solvent and to ensure it can still deliver its services. Often, this element is calculated by estimating a required return on capital by multiplying the capital invested (i.e. all assets net of loans) by an accepted index for return on investment (for instance, the All Ordinaries Index).

Alternatively, the board and/or the executive may determine that there is a minimum rate of return required from each of their activities.

It is important to note also that the calculation of a price and, therefore, the Mark Up for each activity or bundle does not have to be the same. There will be activities and bundles that do not deliver significant profits, while others may be priced to deliver a higher profit. It is critical, however, for the combined outcomes of the achieved price for each activity or bundle to meet the organisation's financial requirements.

Sustainability and Pricing: Determining Sustainability Requirements

Jessie recalled how the NDS had defined pricing: "The process whereby an organisation establishes the price it wishes to charge for the delivery of an activity. This price should be based on the comprehensive cost of a unit of measure and include a Mark Up. The formula is usually described as: Target Price = Comprehensive Cost + Mark Up."(Gilchrist, 2014).

Jessie also noted the further NDS guidance on target price contained in the Framework:

> "The price calculated using the comprehensive cost and Mark Up will usually be the organisation's target price rather than its achieved price. This is because the nature of the funding of disability services means that rationing of resources will always see a gap between a truly suitable price and that achieved. Obviously, there is great value in the organisation having calculated both the comprehensive cost and the target price. This will allow it to develop strategies to assess the activities it undertakes for their combined financial effects, respond to narrow the gap between achieved and target prices, and forecast solvency and sustainability issues within a timeframe that allows for an effective response."

She took this as a warning against forecasting against a theoretical pricing structure and in favour of market prices — even when this leaves an income gap to be filled to maintain financial sustainably.

3.2 Basis for Pricing the Cost of Capital

Jessie was also aware that pricing decisions also must incorporate some consideration of the use of working capital by a project – for example if a project requires a large new investment then it will not only use up a considerable amount of management time, but it will also tend to use up a substantial amount of working capital, as well as introduce a fair amount of riskiness into the operations of NGC.

If this is not taken into consideration in pricing and project decision making then there is a tendency to under-price more expensive and riskier projects.

The difficulty Jessie was having was developing a proxy for the risk of a new business line and assigning a value to that risk. Standard finance theory is that a business can assess the risk of the normal business and then add (or subtract) a percentage rating for the assessed added risk to the business[10].

Given that NGC had never assessed the risk of the continuing business, this process was unlikely to prove effective.

Jessie therefore decided to use a simpler method – calculating the internal cost of capital to be the amount it would cost to borrow the money for the project from their bank, spread out over the term of the use of the working capital required – so if the new business line would need funding for three years, then the cost of capital was the bank's lending rate, expressed as a percentage, times the capital required per year.

Knowing that capital funding for new business lines might be made available from funders, donors and others Jessie also decided that, where this funding was available and when the rest of NGC could be shielded from any serious adverse impacts from the new business line this would not need to be considered, but only where this funding might be available.

3.3 Determining a Mark-Up for Different Unit Costs

Developing a Mark Up requires making a decision on three elements:

1. Profit Target
2. Cost of Capital
3. Risk Component (service levels, clinical risk, activity level risk)

This is discussed at length in the Framework.

[10] This is the Capital Asset Pricing Model (CAPM) and is the simplest of the now traditional measures.

3.4 Accounting Strategies – Special Orders

With its costing processes bedded down, NCG management are confident they have a firm understanding of the scope and scale of their services and all the associated costs. However when an opportunity presented to bid for a new contract, uncertainty crept in about key elements of the costing process:

- If the new contract increases the scale of the organisation outside the relevant range then what will be the impact on costs?
- Indirect costs are being fully recovered from the existing services so should they also be recovered from the new contract?
- Should we also look at the possible future opportunities in evaluating this bid?

Consulting her text on the matter of special orders, she read that the important considerations in evaluating any such special order were only what would change if the contract was accepted – not the existing costs which would be incurred whether the contract was accepted or not.

Jessie noted that the existing indirect costs would not be affected by the new contract, and so decided that they were not relevant to evaluating whether it was worth pricing them in or not – leaving them out of consideration.

The need to temporarily hire some more support staff (changing the relevant range) was a change to the cost base, and so that was included. Also included were all of the costs unique to the new contract, such as the cost of tendering, the working capital needed and other such areas.

As this was a fairly new area to NGC, with some education needed for staff if it was to go ahead.

3.5 Identifying the Target Price Gap

There will usually be a gap between the organisation's target price and its achieved price. The task for providers is to calculate both the comprehensive cost and the target price and develop strategies for narrowing the gap.

To remain sustainable, organisations must understand their comprehensive costs of service delivery. There will usually be a difference between what they calculate as their comprehensive cost of service and their target price on the one hand, and the price achieved (the amount actually paid by participants or funders) on the other. This gap must be identified and strategies adopted to close it. These will probably involve identifying efficiencies within the organisation, assessing and possibly modifying the service mix offered, and advocating for higher prices. Importantly, applying the principles in this document will strengthen any advocacy undertaken.

3.6 Governance Issues

The governance issues around a costing and project are extensive. Given that the project is targeted at allowing decisions to me made that will affect the future of the entire organisation, the involvement of the Board, senior management and staff is essential if the benefits are to be realised. To remain sustainable some difficult decisions will need to be made, from the possibility of cutting whole service lines if the price gap is so large that it threatens solvency to greatly expanding others if circumstances permit.

In NCG's case, good governance around the project would involve:

1. Prior to commencing the project ensuring that the Board understands the implications and also understands that this is no "silver bullet". It will not be a simple or quick project for an organisation that has not done costing previously. Board support, clearly expressed, helps drive the project to a successful conclusion.

2. Regular reporting to the Board on progress, without necessarily reporting on actual costing outcomes until they are close to completion.

3. Creating cultural change, including ensuring NCG's staff understand that unless a proper understanding of the costs of doing business is gained then the NDIS, which should be good for their participants, may not be good for NCG.

4. Examining and understanding the reasons behind any service unit shortfalls to ensure that premature decisions are not made.

5. Changing the reporting, both to the Board and internally, to report pricing, revenue and costs based on the ABC data.

4. Element V (i): Managing the Target Price Gap

Once any negative target price gaps are identified the challenge becomes managing those gaps in such a way that their impact on the organisation is minimised[11]. This can be done through a variety of means, such as scenario analysis, adjusting the service mix or boosting efficiency. Which way, or ways, that the gap is managed largely depends on what elements of the gap your organisation controls and can be fixed.

4.1 Scenario Analysis

Managing the target price gap through scenario analysis depends on re-analysing the inputs into the costing model and identifying circumstances where those costs can or should be re-allocated to other service lines.

For example, in a circumstance where a particular service may only be provided to participants who have been engaged with the organisation for a considerable period of time, then allocating marketing overhead to that service may not be appropriate. This type of analysis is fairly detailed and may take some thought and planning, but before and serious decisions are taken regarding an existing service line this should be considered.

4.2 Service Mix

The issue of service bundling had already been considered in the context of the NDIS but Jessie was cautious about making internal settings to satisfy a single, and external, framework. She was also sensitive to the need to cater to future unknowns. After a lot of consideration she decided to adopt a business rule for determining the level of detail at which a service should be costed: the greater of it is considered internally (supply view) and how it is or might foreseeably be required by any participant (demand view). Jessie set this business rule in full knowledge of the administrative effort that would be required to establish and maintain it, believing the effort was justified by the flexibility it would deliver to NCG, the scalability of the system and the mitigation it provided against ever having to recast historical data to 'unpack' a less detailed costing structure. The business rule received endorsement up and down the line, with Mia satisfied it was a balanced approach and Beatrix very pleased (notwithstanding the mountain of work ahead for the whole accounting team) to move to a regime which rectified the lack of accounting visibility over the individual services within NCGs current programs.

With the accounting settings now at a detailed level, Jessie turned her attention to a business rule for creating service bundles and noted the two practical reasons for bundling services: (1) NCG's preference for delivering the services, and (2) the market's preference for consuming the services. She decided on the business rule that either supply or demand considerations could be the catalyst for creating a service bundle, but that both must be viable in order for a service bundle to be offered (to avoid offering a bundle NCG is capable of providing but for which there is no demand, or a bundle for which there is demand but which NCG doesn't have the capability to supply).

Further, Jessie was conscious that different services would, irrespective of their costs, realise different Mark Ups due to market forces delivering a range of achieved price outcomes against target prices — there would invariably be winners and losers. She added to the business rule the condition that, irrespective of whether a service bundle has been developed in response to demand

[11] Or, if possible, eliminated

or supply conditions, it must be assessed for profitability, and that assessment must be in the context of the anticipated sales volume of the service bundle.

4.3 Boosting Efficiency – Quality / Efficiency Balance

Achieving the appropriate balance between quality and efficiency can be a sensitive subject, as participant service staff who may be unaware of costings will, quite naturally, strive to deliver high quality service to participants and as a result may incur unnecessary expenses.

This tendency should be managed in all service lines, not just those affected by a negative price gap, but the investigation and resolution of these will normally start in these service lines[12]. Where service delivery quality may be compromised *below an acceptable level* then this should not be done for reputational reasons, but there is often scope for efficiencies to be found.

Transparency here is the key to both discovery and resolution, with staff being actively encouraged to find these efficiencies and to actively manage them down.

4.4 Boosting Efficiency – Cost Management

Determining your costs is helpful in the way that any business planning is helpful; strategic planning articulates direction and objectives, operational planning articulates how you will go about executing your strategic plan, and costing (which falls under financial planning, aka budgeting) articulates the dimensions you need to achieve in order to achieve your financial objectives.

However no plan will benefit the organisation by its mere presence; it must be 'worked' – it must be managed.

Managing your financial plan entails monitoring your actual results against the plan results and taking action whenever and wherever a gap opens up. Again, this is no different to the management of other plans you will be familiar with – performance targets are set (such as completion of a task by a certain date), actual performance is monitored and compared to the targets, and action is taken if the target is not met.

Specifically in relation to costing, we know from the unit cost formula

for each service, unit cost = annual comprehensive cost / annual volume

there are two areas of performance which need to be managed if unit costs are to be managed:

1. Service costs
2. Service volumes

What this means is that, important as it is, controlling only your service costs is insufficient to effectively manage unit costs. You must also control your volumes.

[12] A warning here – a substantial degree of tact may be required in dealing with these issues.

Before we go further, let's clarify some terminology. Costs don't occur by themselves, they are the result of consumption, and consumption is the result of actions taken by people. Costs can be controlled by managing the behaviour of people.

Controlling Service Costs

Potential for control of costs is highest when the visibility over the detail is greatest, so the first element of control is to budget costs at fine detail. To use the participant plan illustrated in Figure 2 as an example of fine detail, the plan makes it very clear what the breakdown of service costs is — in every line item the cost is the product of quantity and rate (e.g. Ref D: 10 basketball games at $37.50 each is a total cost of $375).

Regrettably, costs (both budgets and actuals) are typically stored in and reported out of accounting systems by natural account (a descriptor of the type of cost — for example, 'Wages' or 'Insurance' or 'Cleaning Supplies'). This is regrettable because whatever fine detail might have been recorded in developing cost budgets is not immediately accessible as a tool to control those budgets. A variance between actual and budget might be the result of a variance in the quantity consumed or the unit cost or both, but this isn't evident from looking at the results reported from the accounting system. Or a variance between budget and actual might be due to the cost of basketball ticket going up mid-year, but again this isn't evident from looking at the results reported from the accounting system. This gap between the level of detail represented in the accounting system and finer level of detail required to control costs is a significant challenge to overcome.

Fortunately, the required fine detail is typically available for your largest type of costs — wages. The payroll module of your accounting system calculates periodic wage costs as the product of wage rate (held in employee configuration data) and number of hours worked in the period (entered). If the payroll module has been used to load the cost budget in the same manner then you have full visibility over both quantity and rate variances.

For the balance of costs you will need to use your judgement on what style of supporting system you will need to develop to provide the required visibility over the fine detail. For any cost with a small number of annual transactions (e.g. insurance which is paid as an annual premium) there is no need for a supporting system — manually reviewing the source documents (insurance invoices) against the budget (insurance budget calculations) will reveal the cause of any variance. Manually reviewing costs with higher volumes is of course possible but creating supporting systems will likely reduce the work effort. For instance, for many organisations the costs associated with providing participant transport are substantial so it would make sense to systemise an ongoing review of both the quantities consumed and the unit price paid (e.g. for fuel, the number of litres and the cost per litre, both available from the purchase invoice).

Visibility of data is an enabler of control but doesn't provide it. Cost control is achieved by responding to the observed variances (quantity consumed and or price paid), and in order to respond to them you first need to understand them.

Price variances (and let's assume increases are the only variance of concern) don't leave much to the imagination — you budgeted for one price and it transpires that you're paying another. To control your costs the available responses include reducing consumption, finding a way to reduce the unit price you pay (e.g., by negotiating with the supplier, changing to a lower price supplier or engaging in cooperative purchasing to access greater volume discounts) or reducing the specification of the item (e.g., by switching from a branded product to an equivalent unbranded product).

Quantity variances are more difficult to assess because it is often difficult to spread an annual budget across months (the usual reporting period) and so a variance between actual and budget in a particular month may be attributable simply to an inappropriate budget spread. In the absence of that impact, so a variance is genuine, the question needs to be asked whether the variance is merely a timing difference (that is, the consumption occurred earlier than budgeted but the full year consumption will remain the same) or a permanent difference (that is, consumption was higher than budgeted and this will result in a higher than budgeted full year consumption). The response to a timing difference is to keep an eye on it in subsequent months to ensure there is an equal and opposite variance in a subsequent month. The response to a permanent difference is to find an offsetting saving somewhere in the organisation, either through reducing consumption or achieving a reduction in the price you pay (applying some of the strategies discussed above).

Controlling Service Volumes

We know from earlier in this guide that service costs typically include some fixed costs and some variable costs. By definition, variable costs vary with service volume so they aren't the major concern[13] here. Fixed costs have an inverse relationship with service volume — accountants speak of fixed costs being 'diluted' by the volume of activity they support; within the relevant range (discussed earlier in this guide), the higher the volume of activity the higher dilution so the lower the cost per activity.

As with controlling service costs, the way to control service volumes is simply to hit the agreed target within the budget period, however the same factors are at play with service volumes as are in play with consumption quantities: service volume variances attributable merely to an inaccurate budget spread; timing differences; permanent differences. But the responses to variances are different for service volumes than for service costs — you typically exercise far less control over service volumes so the effort to rectify a variance will necessarily be more intense (for example, broadening your target market, increasing your lead generation, increasing your lead-to-sale conversion rate). This feature of service volumes makes it absolutely imperative that both the acknowledgement of variances and the actioning of appropriate responses are timely. A good reference point for managing service volumes and avoiding generating losses is your breakeven point:

Breakeven point	The point at which unit of measurement sales volume is sufficient to recover all fixed costs, as well as variable costs, but insufficient to generate a profit. The relevant formula is: total fixed costs divided by the result of unit price minus unit variable costs, or: total fixed costs/(unit price - unit variable costs). Often, the denominator (unit price - unit variable costs) is referred to as the contribution margin.

[13] Service volumes can impact on variable costs, for instance where the unit cost of a purchased consumable goes up because a volume discount is lost.

4.5 Collaboration Options – Due Diligence and Planning

Entering into a partnership brings both opportunities and risks, so conducting appropriate due diligence and planning is crucial to success. Partnerships can go wrong for any number of reasons, but will normally go well only if there is a strong common understanding and regular, frank but respectful communication between the partners.

It is important to note that there are a number of legal and jurisdictional issues that also need to be addressed in this area and they are not touched upon here due to the focus on financial management and sustainability. However, legal and other advice should be sought with respect to specific opportunities.

The nature of each partnership will be different, from agreeing to work together over differing geographical areas, working with each other on multi-disciplinary projects to agreeing to share certain internal functions, such as office space, IT infrastructure or HR or other such services. All of these, however have several common elements.

4.5.1 Due Diligence

Due diligence needs to consist of several steps, including:

1. Ensuring that there is no severe cultural clash between the partners. This step is often missed in discussions and really should be pursued through the entire process, from the networking opportunities that might lead up to more formal procedures, right through until the final decision is made – and should continue for the life of the partnership. A partner with a poor corporate culture, or just one that is radically different to your own, may well not allow for a strong working relationship, introduce many unwanted risks and is likely to result in poor communication.

2. Saying how to do it is much harder than knowing it needs to be done. There are many possible ways, but most come down to whether you feel you can continue to work together. A good step is to explicitly include this consideration in most, or all, internal notes, memos or working papers and also include it in most discussions on the topic. The Board and management should make this an explicit consideration in considering the partnership.

3. Financial due diligence is likewise an important step – and one where appropriate professional assistance is required. Even if the arrangement is likely to be short term in nature it is still important that the other party has (and you have) the financial capacity to see it through. Examining the latest financial accounts will help, but following up on any questions is also vital.

4. For longer, or more deep, arrangements much more financial due diligence is advisable including the examination of budgets and forecasts, cash planning and other such investigations.

5. Like the financial due diligence process, legal due diligence must occur – and should be tailored to the extent of the likely relationship, including engaging appropriate legal advice if required – and most of the time it will be. Being sure that the partner has the legal ability to

enter into the agreement is vital, as is ensuring that any procedural requirements have been properly met[14]. For more long lasting partnerships, making sure that they are complying with the terms of their Rules and the Act is also important.

6. A further, even more important step, is to also ensure that you do due diligence on your own organisation – including all of the points above. Ensuring that your own culture is able to handle the demands placed upon it by a partnership, that your own financial capacity is good enough and that all of the appropriate legal steps are taken.

Most legal or accounting advisors will have considerable experience of such due diligence processes, and so should be able to help in this.

The importance of following a full due diligence process before committing to an agreement is illustrated by the number of times these agreement have failed – either in terms of not delivering the expected benefits to the consumers of the services to be provided or resulting in poor outcomes for the organisations involved. No amount of due diligence can protect you from future events, but you can at least ensure you are protected from the worst of the past.

4.5.2 Planning

The planning process, like the due diligence process, needs to be able to scale in size depending on the size of the overall project. Also as with due diligence, there are a few things that need to be included regardless of the size of the project.

Planning needs to be done for all stages of the project, including giving sufficient time to get through all of the due diligence elements, the legal processes required (such as Rule changes) and planning through any likely, or high impact, risks to the project.

Planning thought also needs to be given to what steps will be needed at the end of the partnership, and how to end it along the way, if needed. These issues should be included in any final plan so that, in the event it is needed, it is there.

4.6 Debt Finance for Meeting Working Capital Requirements

Debt finance has not been a traditional method for the not for profit sector in Australia to finance their operations. It's rare to see any significant debt at all on balance sheets other than for significant infrastructure outlays.

In part, this is because of the current funding method – quarterly or semi-annual payments from the funders in advance, with little to no guarantee of payments to be made beyond the period of the current contract period meant that, other than for well-collateralised lending such as mortgages for real estate, borrowing has been difficult or impossible.

In an NDIS environment this all changes[15]. Payments will now (predominately) be in arrears and funding is effectively guaranteed for life to our consumers. This means the funding streams will be much more commercial in nature and debt finance will become a greater part of the mix. Debt

[14] The most time consuming step, if it is needed, may well be any Rule changes for either of the Associations. This requires a General Meeting of the members.
[15] As demonstrated by the interest of some large commercial organisations, including Serco Group plc, in the NDIS as a source of future profits.

therefore becomes not only a possibility, but perhaps the most effective way of funding operations and a requirement to survive in the sector.

For an organisation that is not skilled in managing debt finance and relationships with lenders this can be an uncomfortable experience. Cash planning and managing the cost of debt are not core skills for all service providers and banking requirements are often unfamiliar.

Key issues to consider here include:

- That bank overdrafts and lines of credit are often repayable on demand and so boards and executives need to consider their capacity to make such payments;
- Finance facilities are also often approved provided that there are debt covenants in place restricting the entity's capacity to realise assets and take on more debt;
- The repayment of debt must be factored into the provider's cash flow modelling in order to ensure the net position after taking on debt is not the same as it was before hand. That is, the debt must be paid off and working capital set aside;
- The cost of debt should also be factored into the Target Price calculations to ensure that it is recovered like all other costs; and finally,
- Any collateral offered in support of debt needs to be unencumbered and the financial institution may not realise that certain assets may have restrictions on them in terms of funders caveats that disallow realisation. In other words, if an asset is donated it might not be a practical form of collateral because the funder places requirements on the donation.

5. Element V(ii): Financial Management

Financial management is focused upon ensuring an organisation:

- Is able to continue to pursue its mission (e.g. provide disability services): this is sustainability.
- Is able to pay bills as and when they become due: this is solvency.
- Is able to generate a profit from its operations in order to fund working capital, replace assets and fund innovation: this is viability.
- Is able to utilise cash in a way that benefits the organisation and supports the above focus points: this is working capital management.

All of these focus areas are necessary in order to ensure the organisation survives and can continue to provide services. It is therefore one of the most crucial aspects of the whole management process and should be a focus of most, if not all, management and governance activities.

How financial performance and management is reported, both internally and externally, has long been an area of study and analysis by accounting and finance professionals.

5.1 Internal Financial Information

Internal reporting, unlike external reporting, is covered by no laws, regulations or Standards and so is largely up to the individual to decide upon. As a result, standards are highly variable. For many, the practice is to put as much detail as possible into internal reports and then to trust the reader to find the important elements. Typically, this situation results in extended meeting times, frustration for the reader and difficulty for the person attempting to explain it.

More recent practice involves cutting back on the detail to allow for a focus on the issues that actually matter to the financial health of the organisation. This involves deciding on a set of metrics, deciding on what levels are acceptable and then reporting only on these, with any other issues reported only if they become important. All issues that are outside established tolerances are then given reasons. This is commonly referred to as “Dashboard” reporting, due to its similarity to a motor vehicle dashboard, with colours (typically yellow and red) used to highlight areas of concern.

What exactly these issues are is highly dependent on each organisation, and the benchmarks to be met are similarly open to interpretation – but issues such as overall income, expenses0 and performance against budget together with cash reserves and cash forecast position being common.

Supporting this process should be a strong financial reporting system, based around a good, and appropriately scaled, accounting system with the relevant modules included.[16]

[16] Quickbooks and MYOB are typical systems for a smaller NFP, with ones approaching the scale of NGC requiring a change to a mid-range system such as Xero, Netsuite or MS Dynamics GP. Still larger systems, such as SAP, Dynamics AX, Oracle eBusiness and Peoplesoft might be suitable for the very largest. The actual selection of a system would be dependent on your own situation.

5.2 Comparative Financial Information (i.e. Benchmarking)

Benchmarking is the process of comparing two (or more) organisation's performance against each other to discover areas where one, or both, can improve.

The process typically involves determining which organisations should be benchmarked against which other ones, running a number of financial and operational ratios and then comparing them against each other to find where performance is better or can be improved. Normally the organisations selected will be close competitors, either within the same area or more widely if needed.

The selections involved can be difficult to decide on, as can the ratios to be used for the analysis. Ideally, the organisations chosen should be close in both size and industry but this is rarely going to provide enough organisations to be really useful, so a wider net will need to be used.

The important issue is to be both realistic and honest – not eliminating organisations from consideration simply because their inclusion would skew results one way or another.

In deciding on the ratios to be for the comparison a good way to choose them would be, as far as possible, to use the ones that the organisation currently uses for their own in-house performance metrics. The level of detail will not be a great as the publish information will typically not be a comprehensive, but provided they are done in a similar way the information will still be useful.

5.3 Budgets and Costing

The budgeting or forecasting process is the way that a business effectively benchmarks itself against itself – performance against the forecasts is a good method of ensuring that the business is on track, or, if not, where it is going off track.

Like the costing process it should never, however, become a strait-jacket; restraining the ability to make decisions or, worse, driving poor decisions as that is the only way to make budget or get the planned cost outcome. This would be the opposite of good financial management. A budget or forecast is a good guide, but a poor master.

Accurate costing is a big support to the budgeting and forecasting process, allowing for both more accurate budgets and more accurate costing once the two processes are working together. The costing process becomes one of the major inputs into the budget and the process of measuring performance against budget allows for modifications and corrections to the costing process. Budgets and costing should therefore be seen as complimentary processes, both leading to more effective financial control and therefore more effective financial management.

5.4 Cash Flow Management in a Costing Environment

As with the budgeting process, a well formed costing process will assist cash-flow management and allow for re-calculation on a regular basis to better optimise working capital. Managing cash flows to ensure that at no time does

the organisation run out of cash and does not have excessive cash balances is done by projecting from the budgeted figures, using the cost analysis on an at least monthly basis out as long as is reasonably possible.

5.5 Working Capital Management

Working capital management is a projection process – projecting forward as far out as is reasonably possible what the working capital needs of the organisation are and then, using a conservative set of assumptions, what the needed reserves are and then seeing if there are any projected deficits or excessive balances.

If deficits are projected for a short term (for example, when purchasing any major capital equipment) then borrowing to cover temporary shortfalls (for example, through a short term loan or line of credit) is a viable option.

If the projected deficit is longer term in nature then some other corrective action would be sensible – such as longer-term (secured) lending or, at worst, an examination of the solvency and sustainability of the organisation.

The opposite problem, excessive projected working capital, is not often understood to be a problem. While a better problem to have than not enough, it can be expensive. Maintaining excessive working capital balances means that other assets that may be of more benefit to the organisation are not purchased and so services may not be provided. Keeping the right amount of cash on hand to meet all likely expenditure (and borrowing in the event of short term or unlikely issues) and then using the remaining amount for the benefit of members is a strategic option that should be examined.

6. Element VI: Solvency and Sustainability

Ensuring the organisation remains on a sustainable path, in financial terms at least, involves ensuring that the organisation has the financial resources to continue to operate into the future. This involves a planning process to know where, or if, any solvency "squeezes" are likely to occur so that they can be met and dealt with as long as possible before they occur – and, if they can't be dealt with, ensuring that the organisation is in a position to meet its legal obligations, either by merging with another organisation or exiting the industry.

6.1 The Target Price Gap in Solvency Terms

As noted in 3.5 above, there will usually be a gap between the organisation's target price and its achieved price. Often this will be a positive gap, and so contribute to the sustainability of the organisation, but it will, occasionally be negative – i.e. the service will cost more to deliver than it is priced at by the funders.

This creates a problem in that the organisation has to make a decision whether to:

1. Try to reduce the cost of delivery
2. Increase the funding from the service (whether by re-negotiating the price or getting some donations or using other means)
3. Exiting the particular service delivery; or
4. Because the service is important, continuing to provide it despite the losses.

This is always a difficult decision and choosing the fourth option is, in many ways, the riskiest, as it means that there is a loss in the organisation. Unfortunately, it is also typically the easiest, short term, decision as it involves little immediate pain or effort.

The most common cause of insolvency, both in disability service and in industry, is failure to manage such continuing losses appropriately, either because it is not recognised (poor cost control or information) or because it is ignored for too long. Decisions involving any "loss leading" service lines should always be made with full transparency within the organisation, and the Board or Committee should also be involved.

6.2 Multiple Year Evaluation

Detailed forecasting or budgeting is normally conducted to a maximum of either the current 12 month period, with a budget being re-cast in the last 3 months of the current period or, in the case of a rolling forecast structure, approximately 18 months into the future.

This is seldom long enough for solvency planning. With a budget not being re-visited until the last few months of the financial year it may be that an operation has been under-performing for some time before it is re-analysed for sustainability, and it may only then be budgeted out another 12 months, giving little time to re-examine the way the business is working.

Multiple year evaluation is doing forecasts out to the length of a typical strategic plan – around 3 to 5 years. At this period forward making accurate forecasts is very difficult, but it does provide a good

sense check to the budget or shorter term forecasting process. If the growth assumed in the strategic planning and forecasts is not realistic, or the plan starts to show losses in any particular year, then a re-examination of a service line is warranted.

Longer-term issues, such as premises refurbishment, long service leave delivery, computer systems replacement and so forth are then included in the planning process where they may be missed if they are not incurred in the current planning periods.

A second element of this sort of strategic planning process is to see if there are any elements to which the organisation is very sensitive. Typically these are such issues as increases in wages above inflation, the likelihood of funders increasing funding to meet increased service costs, demographic changes in the target market and so forth.

6.3 Solvency and Sustainability Key Decision Points

The nature and timing of the key decision points around the sustainability of the organisation are largely determined by the nature of the issue or issues involved. If, as occasionally happens, the issue is of an immediate and pressing nature then decisions will typically have to be made on the spot and with any consultation happening very quickly.

Immediate crises are typically the result of fraud or other malfeasance and may result in the organisation being wound up. If this is the situation, then the urgent involvement of the committee is essential.

If sustainability has been noticeably under threat for some time then planning for it should be well advanced, with the organisation ensuring that at all times it is not trading insolvent[17]. Trading insolvent opens the committee and management up to further legal consequences.

In considering whether the organisation remains sustainable it is important to be realistic and accept that, in the event of a forced or speedy shut-down it is unlikely that all of the assets will be sold at book value and it is also likely that not all liabilities will be correctly stated. If there is ever a longer-term question of solvency than early engagement with appropriate professionals is appropriate.

6.4 Governance Arrangements

Financial solvency is a key governance issue and must be at the forefront when there is any questions regarding the organisation's sustainability. As soon as there is any issue that may result in a solvency issue then it should be escalated to the most senior management, and from them to the Board or committee with an urgency reflecting the seriousness of the issue.

If the issue has an immediate impact then an extraordinary committee meeting is appropriate, while if it is an issue in the projections for the years ahead then it should be raised at the next scheduled meeting.

[17] Trading insolvent is a situation where the organisation takes on new obligations either in the knowledge that it is unlikely to be able to meet them or negligently missing that it cannot meet them.

6.5 Exiting Disability Services in an Orderly Fashion

The advent of new funding arrangements together with more complex management and financial requirements can leave organisations in a position where they need to consider whether or not they ought to continue in delivery particular services.

Additionally, the changed funding arrangements together with the changes described above may lead organisations to consider whether it is in the interests of those they support to continue their operations. This is often a difficult decision to take but a very important one.

It is also a valid decision where the organisation's mission or its service users are either put at immediate risk or, as a result of changes in the environment, in funding or any other changes impacting capacity to deliver, are likely to be at risk of service disruption or closure.

Service users require certainty of service in terms of quantity and quality. Therefore, some organisations may decide that it is better to withdraw from delivering a particular service or to close entirely in an orderly way rather than await the impact of financial and/or other operational stresses.

Disability service providers should make an informed decision as to whether they can continue to operate under new arrangements. As such, organisations should:

- Undertake a costing and pricing process in order to identify the Target Price Gap: this will assist in making the continuity decision. It will also allow the organisation to determine, given the size of the gap, how long it can continue to operate.

- Consider its liabilities (including employee entitlements unpaid) and determine the amount of cash required in order to meet those liabilities.

- Consider the contractual arrangements it has with funders and contact those funders in order to allow them to assist in managing the wind up process.

- Develop a timeline for winding up including for identifying, negotiating with and transferring recipients and assets to a successor organisation(s).

- Undertake a review of the staffing contract arrangements and the prospects for transferring staff to the successor organisation(s).

These steps are neither exhaustive nor specific enough to inform an organisation fully. Before undertaking any of these steps any organisation intending to discontinue a service or discontinue operating entirely should get appropriate advice and ensure that the directors and senior staff are fully informed in order to take the decision.

7. Micro Case Studies

Each Micro Case Study provided here is designed to emphasise particular aspects of costing and pricing that may not be dealt with comprehensively or in sufficient detail in the Macro Case Study; or it might be that these resources simply present an alternative view or example.

In relation to each case, where an answer or suggested calculation is also necessary, this is provided over the page so that trainers and those pursuing self-education can test their skills and then view the suggested response.

7.1 Costing Basics: Hairy Biker Benevolent Association Inc

The Hairy Biker Benevolent Association Inc. (HBBA) operates hostels for retired bikers and these hostels are located throughout the metropolitan area. Vince Knifem is the CEO of the organisation and he is in the process of instructing the finance officer to undertake a costing and pricing process for the organisation.

The hostels all have live in care takers and a bus to get the residents around. They also have kitchen staff and cleaners and gardeners. Each hostel is owned outright by the organisation (they were funded by the lottery fund). A suite of services is provided within the hostels and these are funded by the W.A. State Government. All hostels contain the same number of beds and provide the same services. All charges are the same for each hostel.

The operations are divided into three regions, Metro North, Metro South East and Metro Central. Each region has a regional manager and a regional support officer. These officers each have a car and a secretary.

The central office is located on Walters Drive in Osborne Park and includes the CEO, his secretary and the finance and administration staff. The building is rented office accommodation.

If you were the finance officer of HBBA, and given the above, what would you advise the CEO if he were to ask you:

(a) Of the above, what are overhead costs?

(b) Of the above, what are direct variable costs?

(c) Direct overhead costs?

(d) What cost drivers might be used to allocate overhead costs in the case of HBBA?

9.1 Hairy Bikers Micro Case Study – suggested response

You might consider the following as an acceptable answer:

Cost Type	Example	(d) Cost Driver or Direct
(a) Overhead Costs	CEO & Central Office Staff and Costs (e.g. Building Rent)	Equal Share; Hostel Income; Program Income; Beds
(b) Direct Variable Costs	Kitchen Staff, Cleaners, Bus Costs and Gardeners	Direct
(c) Direct Overhead Costs	Hostel Managers, Regional Managers, Associated Costs	Equal Share; Hostel Income; Program Income; Beds

7.2 Direct Costs: Retired Accountants Support Association Inc

The following data relates to the provision of one hour of home care service in Brisbane Metropolitan area by the Retired Accountants Support Association Inc:

Costing Element	Entitlement
Hourly Rate	$14.50 per hour
PAYG Tax on Hourly Rate	$2.50 per hour
Superannuation Rate	9%
Annual Leave Entitlement	4 weeks per annum
Sick Leave Entitlement	10 days per annum
Average Days Sick Leave Taken	5 Days per annum
RDO Entitlement	1 day off every month
Workers Compensation	4%
Service Delivery Units per Day	4
Working Hours in a Day	8
Long Service Leave – Entitled	12 weeks every 10 years
Shift Allowance –this applies	$40 per week
On-call Allowance – this applies	5%

Based on this information, what would be the Direct cost of a Service Delivery Unit given the above cost assumptions?

9.2 Retired Accountants Support Association Inc Micro Case Study suggested response:

You might consider the following as an acceptable answer:

1. This is a direct variable cost calculation
2. We would calculate the cost of Service Delivery Units by reference to the total hourly cost
3. The number of hours per Service Delivery Units per Day is 2 (8 hours divided by 4 SDUs per day)
4. We want to recover the costs over 48 weeks as four weeks per annum are spent on leave and are not productive, yet we must recover all costs
5. The base cost is $14.50 per hour
6. Calculations:

a) Annual Leave Entitlement

Cost for Annual Leave = $14.50 x 8 hours per day x 5 days per week x 4 weeks
= $2,320.00

Productive Hours Per Year = 8 hours per day x 5 days per week x 48 weeks per annum
= 1,920 hours

Cost allowance per Hour for Annual Leave = $2,320 divided by 1,920
= $1.208 per hour

b) Sick Leave Entitlement

Cost for Sick Leave = 8 hours per day x 5 days allow. (avg taken) x $14.50 hourly rate
= $580 per annum

Cost allowance per Hour = $580 divided by 1,920 productive hours per year
= $0.3021

c) Workers Compensation Cost Per Hour

Cost per hour for W/Compensation = $14.50 hourly rate x 4% W/Compensation rate
= $0.58

d) Long Service Leave Cost Per Hour

Total Cost for Long Service Leave = $14.50 hourly rate x 8 hours per day x 5 days per week x 12 weeks
= $6,960.00

Cost Per Hour = $6,960 divided by 19,200 productive hours over 10 years
= $0.3625

e) Shift Allowance Per Hour

Total Cost for shift allowance per week	= $40
Productive Hours per Week	= 8 hours per day x 5 days per week
Productive Hours per Week	= 40
Cost of Shift Allowance per hour	= $1.00

f) Hourly On-Call Allowance Cost

Hourly Cost – On-call Allowance	= $14.50 hourly rate x 5% On-call rate
	= $0.725

g) Superannuation Cost

Hourly Rate	$14.5000
Annual Leave Provision	$ 1.2080
Sick Leave Provision	$ 0.3021
Long Service Leave Provn.	$ 0.3625
Shift Allowance	$ 1.0000
On-Call Allowance	$ 0.7250
Total Costs Attracting Super	$18.0976

h) Service Delivery Unit Cost:

Hourly Rate	$14.5000	
Superannuation	$ 1.6288	($18.0976 x 0.09)
Annual Leave Provision	$ 1.2080	
Sick Leave Provision	$ 0.3021	
Workers Compensation	$ 0.5800	
Long Service Leave Provn.	$ 0.3625	
Shift Allowance	$ 1.0000	
On-Call Allowance	$ 0.7250	
Total Cost Per Hour	$20.3064	

i) Cost Per Service Delivery Unit

Number of hours per Service Delivery Unit	= 8 hours per day divided by 4 SDU max
	= 2 hours
Cost Per Service Delivery Unit	= 2 hours per SDU x $20.3064 Total Cost Per Hour
	= $40.8476

7.3 Direct Costs Transport Services: Go'n'getem Inc

Go'n'getem Inc. operates a Transport Service as part of its service offerings. The following data relate to the direct costs associated with this operation.

Costing Element	Entitlement
Total Hourly Rate – Driver	$32.00 per hour
Driver Works	8 hours per day
PAYG Tax on Hourly Rate	$2.50 per hour
Number of Cars	3
Fuel – 2011 Financial Year Total	$16,000
Motor Vehicle Insurance Total	$3,500
Repairs & Maintenance	$2,500
Depreciation Car 1	$2,000
Depreciation Car 2	$1,980
Depreciation Car 3	$1,200
Kilometres Travelled – Car 1	36,000
Kilometres Travelled – Car 2	71,000
Kilometres Travelled – Car 3	48,000
Average Trips in a Day Per Car	3
Productive Weeks Per Annum – Drivers	52

Based on this information, what would be the Direct cost of a Service Delivery Unit given the above cost assumptions?

9.3 Go'n'getem Inc Micro Case Study suggested response:

You might consider the following as an acceptable answer:

1. This is a direct cost calculation
2. We would calculate the cost of Service Delivery Units by reference to the average cost per trip
3. We want to recover the costs over 52 weeks as the cars are on the road for the full year
4. Calculations:

a) Driver Costs Per Service Delivery Unit

Cost Per Driver Per Day = $32.00 total per hour x 8 hours per day
= $256 Total Cost Per Day

Driver Cost Per Service Delivery Unit = $256 divided by 3 SDUs Per Day
= $85.3333

b) Car Running Costs Per Day on Average

(i) Fuel – total costs allocated by kilometres travelled:

Car	Kilometres	% of Fuel costs Allocated	Cost Allocated $
Car 1	36,000	23.22%	3,715.20
Car 2	71,000	45.81%	7,329.60
Car 3	48,000	30.97%	4,955.20
Total Kilometres	155,000	100.00%	16,000.00

(ii) Insurance:

Car	Kilometres	% of Insurance costs Allocated	Cost Allocated $
Car 1	36,000	23.22%	812.70
Car 2	71,000	45.81%	1,603.35
Car 3	48,000	30.97%	1,083.95
Total Kilometres	155,000	100.00%	3,500.00

(iii) Repairs & Maintenance:

Car	Kilometres	% of Repairs & Maintenance costs Allocated	Cost Allocated $
Car 1	36,000	23.22%	580.50
Car 2	71,000	45.81%	1,145.25
Car 3	48,000	30.97%	774.25
Total Kilometres	155,000	100.00%	2,500.00

(iv) Total Annual Costs Per Car:

Car	Fuel $	Insurance $	Repairs & Maintenance $	Depreciation $	Total Cost by Car $	Average Cost Per Trip (Total Cost divided by 780) $
Car 1	3,715.20	812.70	580.50	2,000.00	7,108.40	9.1133
Car 2	7,329.60	1,603.35	1,145.25	1,980.00	12,058.20	15.4592
Car 3	4,955.20	1,083.95	774.25	1,200.00	8,013.40	10.2736
Total Costs	16,000.00	3,500.00	2,500.00	5,180.00	27,180.00	

(v) Total trips in a year

= 3 trips per day x 5 days per week x 52 weeks per annum
= 780 trips each car x 3 cars
= 2,340 trips per year

(vi) Average Motor Vehicle Costs Per Trip

= Total Motor Vehicle Costs divided by Total Annual Trips
= $27,180.00 divided by 2,340 trips
= $11.61

(vii) Total Cost of Driver Per Day:

Driver Total Hourly Rate = $32.50
Number of Hours Per Day = 8
Total daily Cost Driver = $256.00

(viii) Average Driver Cost Per Trip

= Daily Driver Cost divided by Average Trips per Day
= $256.00 divided by 3 trips
= $85.33

(ix) Total Average Cost Per Trip:

	Total $	**Car 1 $**	**Car 2 $**	**Car 3 $**
Average Motor Vehicle Cost Per Trip	11.62	9.11	15.46	10.27
Average Driver Cost Per Trip	85.33	85.33	85.33	85.33
Total Average Cost Per Trip	96.95	94.44	100.79	95.60

7.4 Direct Costs: Live It Inc

Stichem & Leggit are an accounting and advisory firm operating in Sydney, New South Wales. They are currently consulting to a Group Home operator called Live It Inc (Live). Live has asked Stichem & Leggit to advise on the types of costs they should consider when developing a price per bed day for their accommodation services.

Information provided by Live includes:

- Accommodation Facilities:

House	Number of Beds	Total Possible Occupancy (365 days x number of beds)	Average Occupancy Days	Direct Staffing Costs Staffing Costs
House 1	22	8,030	7,000	$120,000
House 2	18	6,570	6,000	$100,000
House 3	12	4,380	4,000	$ 78,000
House 4	18	6,570	5,000	$ 90,000

- Direct Overheads for Accommodation Services – $ 420,000.

Based on this information:

(a) How would you calculate the total direct costs associated with each house with the information available?

(b) What costs need to be included beyond those provided before a full Service Delivery Unit Costs can be calculated?

9.4 Live It Inc Micro Case Study suggested response:

a) Total Direct Costs from Information Provided:

House	Number of Beds	Average Occupancy	Percentage of Total Average Occupancy	Allocation of Direct Overheads	Direct Staffing Costs Staffing Costs	Total Direct Costs From Information Provided
House 1	22	7,000	31.81%	$133,602	$120,000	$253,602
House 2	18	6,000	27.27%	$114,534	$100,000	$214,534
House 3	12	4,000	18.18%	$ 76,356	$ 78,000	$154,356
House 4	18	5,000	22.74%	$ 95,508	$ 90,000	$185,508

b) Costs Required to Complete a Cost of Service Delivery Unit Calculation

- Complete operating costs
- Complete overheads to be allocated

7.5 Pricing: Legal Aid Inc

Legal Aid Inc. (a Not-for-profit providing housing to poor lawyers) has to provide a quote to the Department of Legal Services for the cost of providing the accommodation services it provides. The quote is for the coming 2012/13 financial year. Legal Aid only provides this service and no other. The costs associated with this service are:

Fixed Costs Per Annum	$240,000
Variable Costs Per Bed Day	$210

Legal Aid has one facility with a capacity of 25 beds. The following additional information might be useful:

Occupancy – 2010:	85%
Occupancy – 2011:	82%
Occupancy – 2012:	86%
Funding Received Per Bed Day 2012:	$1,700,000
Target Surplus – Financial Plan 2013	$25,000

Based on this information:

(a) What should the quoted price be and what is the level of occupancy required to breakeven?

(b) What is the safety margin at that price?

9.5 Legal Aid Inc Micro Case Study suggested response:

In order to arrive at an answer for this case study, you probably need to make some initial calculations:

a) What is the average occupancy you are going to assume? You are given the occupancy for the last three financial years. You could average

Occupancy – 2010:	85%
Occupancy – 2011:	82%
Occupancy – 2012:	86%

Therefore, you can use the above information to arrive at an average occupancy:

(85% + 82% + 86%) divided by 3 = 84.33%

b) You need to calculate the number of bed days (i.e. Service Delivery Iterations) likely to be achieved:

Average Occupancy:	84.33%
Total Possible Bed Days:	9,125 days (25 beds x 365 days)
Likely Occupancy:	7,695

c) Cost Per Bed Day:

(i) Fixed Costs per Bed Day: = $240,000 divided by 7,695 bed days

= $31.19

(ii) Variable Cost per Bed Day: $210.00

(iii) Total Cost Per Bed Day: $241.19 ($31.19 + $210)

d) Price Calculation:

(iv) Margin Required:

Targeted Surplus per Bed Day: $3.25 per bed day

($25,000 target divided by 7,695)

(v) Price:

Margin + Cost Per Bed Day = $3.25 + $241.19 = $244.44

Price Set = Say $245 per bed day

e) Breakeven Point:

Fixed Overheads:	$240,000
Variable Costs:	$210.00 per bed day
Price:	$245.00 per bed day
Breakeven Bed Days:	6,857 ($240,000 divided by [$245 - $210.00])

f) Safety Margin:

Expected Occupancy:	7,695
Breakeven Occupancy:	6,857
Safety Margin:	838

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