Australian Government

Department of Finance and Deregulation
Australian Government Information Management Office

How To Get More Value From The ICT Benchmarking Data

Guidance for Agencies

VERSION 1.0

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1. Introduction

Agencies subject to the Financial Management and Accountability Act participate in annual ICT benchmarking conducted by Department of Finance and Deregulation.

Agencies provide data about their ICT costs, personnel and infrastructure, and Finance uses the data to calculate benchmarking metrics, which it provides to agencies in the form of benchmarking reports.

The ICT Benchmarking Framework sets out the objectives of ICT benchmarking:

- to measure progress in improving the efficiency and effectiveness of ICT services in the delivery of Government programs, and

- inform other Whole-of-Government ICT policy initiatives.

This document focuses on the first of the above dot points. It provides guidance to agencies on how they can use the benchmarking analysis to improve their ICT performance. It has been developed in response to agencies' feedback that guidance on this topic would be useful.

2. What is Benchmarking?

Benchmarking is the process of comparing your performance with that of peer organisations, particularly organisations which are examples of good practice, with a view to identifying opportunities for improving your performance.

Agencies can use the results of the ICT benchmarking exercise in a number of ways. These include:

- To understand current performance and to be able to communicate this on a factual basis, not guesswork.

- To identify variations in current performance levels versus other agencies and seek to understand why there are differences. This may include areas where an agency is shown to be efficient or not efficient in relation to other agencies.

- To identify areas of the benchmarking results that may require a more detailed analysis or external context to provide a greater level of understanding.

- To identify opportunities for improvement and put strategies in place to realise the opportunities.

- To compare an agency's performance over time and develop a baseline against which strategies for continuous improvement may be measured.

- To look at longitudinal trends in the data to assess areas where agencies have made investment and how this aligns with other agencies and with industry trends.

- To incorporate the ICT benchmarking results into agencies' ICT performance measurement cycle.

- Use of metrics in the production of business cases. This includes the use of metrics to support a case for increased investment in area where investment has been neglected, or to support a program of investment in ICT to improve agency performance. Additionally the "cost per" and device to staff ratio metrics can be used to assess the full operational impacts of capacity increases.

- Analysing their results against different segments of the data i.e. insourced versus outsourced to begin to understand whether there may be opportunities to increase efficiency through alternate sourcing of services.

- Providing a summary of results for senior agency stakeholder including key strengths, weakness and opportunities. This includes results from the benchmark that show agency performances against targets that are highly visible to senior members e.g. contractor to permanent staff ratio.

It is important to ensure that the comparisons are of like-to-like, both in terms of the organisation(s) with which an agency is comparing itself, as well as the metric which is being compared. Some of the factors which may be relevant are the size of an organisation, the services it delivers, its ICT requirements, and the way it manages its ICT. It may be difficult to determine whether an organisation has applied the same interpretation in calculating a metric that you have.

For these reasons, one should not apply benchmarking analysis in a simplistic fashion. Benchmarking can enable you to identify areas where your organisation differs in its metrics from other agencies, and these areas should be investigated to see whether there are opportunities to improve performance. It is possible, however, that the investigation will conclude that that there are valid reasons for the difference in the metrics.

An agency can also compare its performance over time, given that benchmarking data is available going back to 2007-08. A key advantage of this approach is that you will have a detailed understanding of what assumptions have been made in collecting the data, and can have more confidence in drawing conclusions from changes in the data across years. Even in this case, though, it is possible that your agency may have experienced changes through implementation of new government programs and machinery of government changes. New functions or the transfer of functions may translate to changes in performance against specific metrics. Where this has happened, allowance must be made in comparing the metrics over time.

AGIMO calculates a range of benchmarking metrics, which vary depending on the size of the agency. AGIMO categorises agencies by the size of their ICT expenditure (large: greater than $20m, medium: $2m-$20m, small: less than $2m) and collects a different set of metrics for each cohort.

The metrics have been categorised according to the following classification, based on the granularity of the metric:

- **Category 1 – Overview metrics**
  These metrics provide high level indicators of expenditure and staffing levels for agencies. These metrics can be used to respond to ad hoc requests for information on IT expenditure, monitor Whole-of-Government targets, and provide context for investment planning and business cases.

- **Category 2 – Service tower cost Key Performance Indicators (KPIs) e.g. Cost KPI's - Unit cost of service tower**
  These metrics allow agencies to understand comparative unit cost by service tower and enables them to compare performance with other agencies on a per unit basis. Where the data is available, these metrics can be segmented by cost element, to help agencies to understand the cost drivers of their unit costs.

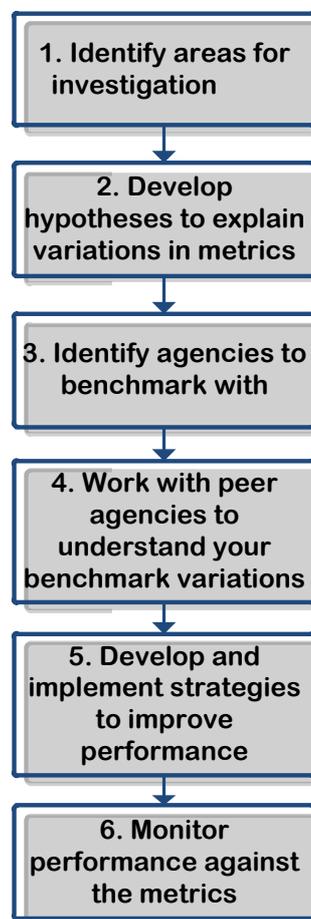- **Category 3 – Service tower supporting metrics**
  These metrics provide supporting information within the service tower. They can be used to identify possible root causes of the agency performance in the service tower cost KPIs.

More information about the above categories is provided at Appendix A of this document. A detailed categorisation of the benchmarking metrics is provided at Appendix B.

3. Benchmarking Process

This section sets out a general approach to benchmarking. It identifies the steps you would go through in undertaking a benchmarking process, using the benchmarking report as a basis. It highlights the issues you should be aware of, and is intended as a guide only.

The diagram below sets out the steps in the process.

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┌─────────────────────────┐
│ 1. Identify areas for   │
│    investigation        │
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│ 2. Develop              │
│ hypotheses to explain   │
│ variations in metrics   │
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│ 3. Identify agencies to │
│    benchmark with       │
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│ 4. Work with peer       │
│    agencies to          │
│    understand your      │
│ benchmark variations    │
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│ 5. Develop and          │
│ implement strategies    │
│    to improve           │
│    performance          │
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│ 6. Monitor              │
│ performance against     │
│    the metrics          │
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1. Identify areas for investigation

To begin with, review the AGIMO Benchmarking Report and identify those metrics where your agency is much higher or lower than the average for your cohort. The fact of the variation does not necessarily indicate that anything is amiss. It merely highlights areas where investigation is required.

In deciding which areas to investigate, you may wish to focus on those metrics in service towers which represent a significant pool of expenditure for your agency, because these offer most opportunity for improving performance.

Bear in mind that areas where your agency appears to be performing much better than other agencies may also need to be investigated. For instance, if your agency has a much lower unit cost per desktop than other agencies, this may indicate efficient management. It is possible however, that it indicates your agency has been under-investing in the desktop area – maybe reducing the number of support staff or deploying ageing infrastructure. This may result in reduced performance in future years. It would be useful to determine that the 'good' metric was due to efficient management.

Given that several years' worth of benchmarking data is now available, you may wish to compare your agency's performance over time, identifying areas of improvement or deterioration.

You may also wish to supplement the AGIMO benchmarking reports with external benchmarks provided by ICT research analysts. While external sources can be useful, it is important to ensure that the benchmarks they use are consistent with the ones in the AGIMO benchmarking reports i.e. are the comparisons of like with like?

2. Develop hypotheses to explain variations in metrics

You may be able to explain the variation in the metric as due to your agency's specific requirements. For instance, if your 'users per printer' metric is much lower than other agencies', a possible explanation is that your agency has a large number of small offices, which increases the numbers of printers required.

To take another example, you may be aware that your unit costs for a particular service are higher than average, because the prices you are paying under a particular contract are higher than the norm. This may be because market prices have declined considerably since you entered into the contract, and the prices in your contract do not reflect current pricing. While you may not be able to remedy this situation until the contract ends, at least you understand why the metric is higher.

You may be able to explain a variation in your own agency's performance over time in the same way i.e. the variation may be due to changed requirements, contract prices, sourcing arrangements, etc.

You may also need to take account of the impact of changes in ICT delivery arrangements within you agency e.g. if it is using cloud technology and X-as-a-service (where 'X' could be 'software', 'infrastructure', etc). This may result in

increased operational expenditure and decreased capital expenditure. It may also result in changes in costs across service towers. This could also be relevant to comparisons with other agencies.

If you are confident that you have a good explanation for the variation, you may not need to explore further. But you may wish to test the hypothesis further, depending on the supporting evidence for the hypothesis. If you need to investigate further, you would proceed to the following steps.

3. Identify agencies to benchmark with

In identifying those agencies to benchmark with, you may wish to focus on those agencies which perform well against metrics of interest. You may also decide to benchmark with peer agencies, which are generally agencies with some of the following characteristics:

- of a similar size,
- in the same industry,
- delivering similar services,
- with a similar sourcing model (outsourced/insourced), and
- with similar ICT requirements.

While agency anonymity was protected in the first years of the benchmarking exercise, the CIO Committee agreed in 2011 that agencies could be identified in a separate index to the benchmarking report. You are now able to identify and approach those agencies which you know are comparable, with a view to sharing benchmarking data.

4. Work with peer agencies to understand your benchmark variations

Initiate a discussion with peer agencies in order to understand why the benchmark is higher or lower. The first step is to break down the elements that are used to calculate the metric. Understand which data points (costs, personnel and volume) enter into the calculation.

The next step is to confirm that the agencies you are comparing yourselves against have the same interpretation of the data used to calculate the metric e.g. have a similar range of costs been used to calculate a metric?

In the case of the end user infrastructure (EUI) service tower, for instance, the costs allocated to this service tower should include those relating to email and file and print servers. It is possible that an agency may have mistakenly allocated these costs to the Midrange service tower, which would give a misleading indication of its unit costs in the EUI service tower.

You may find that the variation is no longer significant when you have adjusted for differences of interpretation, in which case no further action is required.

Areas where an agency appears to be cost efficient may be a result of underinvestment or an area where service quality is poor. Conversely an area where cost efficiency is poor may be a result of over delivery or where additional complexity of service delivery is required.

5. Develop and implement strategies and targets to improve performance

As a result of the previous step, you should now have a detailed understanding of the reasons your costs (or performance more generally) in different areas are higher or lower than average. Where you have determined that you can improve performance in a specific area, develop detailed strategies to realise this opportunity. Improved performance is, of course, the rationale of the benchmarking process.

The practice of the agencies which are performing well against the metric will provide a guide to you in developing strategies. There may be other sources of information on good/best practice you can draw on, such as research analysts.

As part of this process, you should develop targets to measure performance against the metric. The targets should be realistic, while resulting – assuming they are achieved – in real improvements. The performance of better-performing agencies should provide a useful guide in setting targets.

Some general guidance about strategies for improving performance within specific service towers drawn from the BAU ICT Program is provided at Appendix C. This is offered for guidance only. None of the strategies may be relevant to your agency, but they may be useful in triggering potential hypotheses for further investigation.

6. Monitor performance against the metric

If you have implemented strategies to improve performance successfully, this should be evident from measurement of your performance against the metric – including targets you have set - in future benchmarking rounds. If your agency's performance against the metric has not improved, further investigation is required.

The results of the benchmarking provide a strategic management tool that will assist agencies in evaluating the effectiveness of their IT operations and set goals for the future.

4. Identifying Areas for Investigation

Below is an example showing how an agency might use the AGIMO Benchmarking Report to identify areas for further investigation. The example is based on a notional agency, called the Department of Administrative Affairs (DAA).
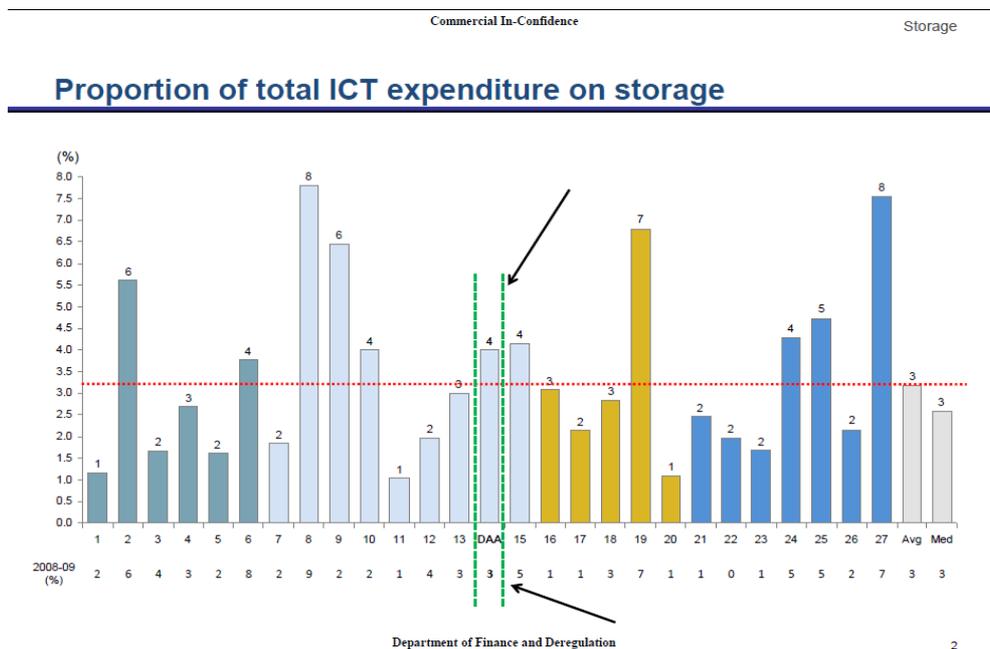
The chart above shows that the DAA spends approximately 4% of total ICT costs, while not extreme it is slightly above the cohort average of 3%; additionally the DAA proportion of total ICT expenditure on storage has risen from 3% to 4%.

While none of these elements are overly concerning by themselves they may be an indication of an emerging trend i.e. an increasing storage costs/burden.

Utilisation of installed storage capacity (%)

Total storage capacity (TB)

(%)

Unutilised

Utilised

2008-09 utilised (%): 1=10, 2=27, 3=90, 4=80, 5=0, 6=0, 7=#N/A, 8=6, 9=20, 10=21, 11=98, 12=83, 13=98, DAA=95, 15=85, 16=83, 17=50, 18=20, 19=6, 20=24, 21=54, 22=0, 23=15, 24=0, 25=15, 26=99, 27=91, All=49
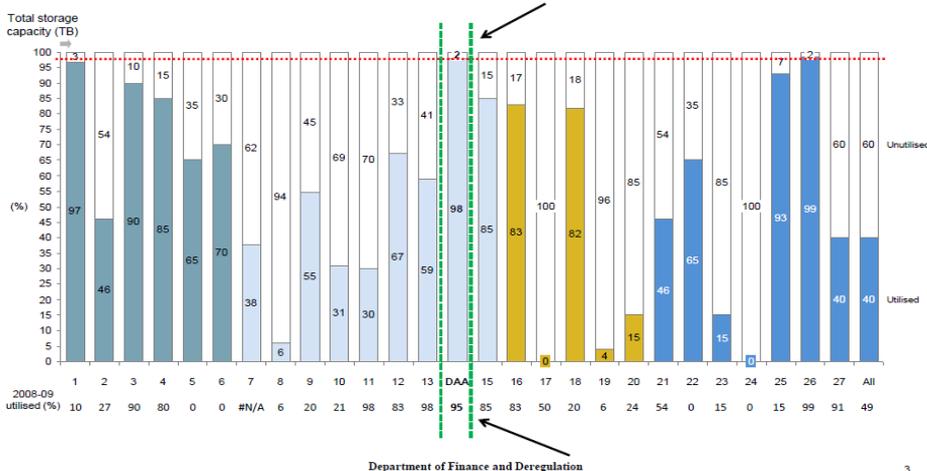
The chart above shows that the DAA is utilising 98% of its available storage; a much higher rate than the majority of the cohort. The percentage of utilisation has also increased from 95% to 98% between 2008-09 and 2009-10.

The chart below demonstrates a more concerning scenario where the DAA's storage utilisation and available capacity may eliminate the organisation's ability to absorb additional storage demand or agency activity.

Unit cost of installed storage per TB against total installed storage

Cost per TB ($)
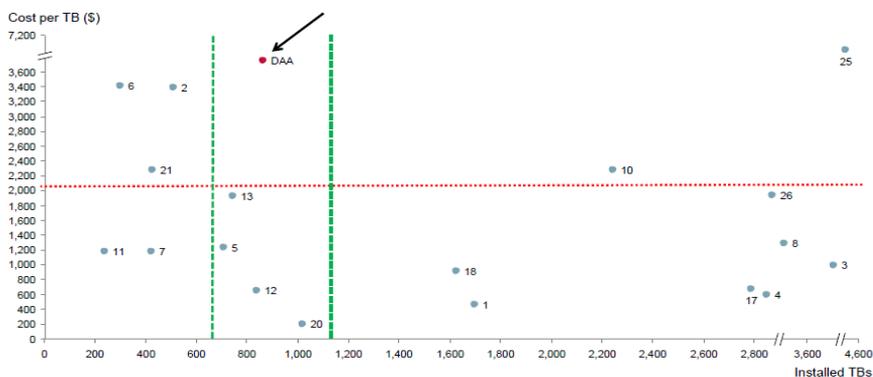
Installed TBs

This chart show agencies' relative positions with regard to the level of installed storage they currently have and the unit cost that they are paying for that storage.

The chart shows that the DAA is paying approximately $3,750 per Terabyte of storage, while other agencies (5, 12, 13, 20) are achieving much lower unit costs for their storage, generally under $2,000, for similar volume of installed storage.

Conclusion

The analysis above suggests that the DAA storage demand is gradually growing and cost is expanding. Paralleled in this scenario is the impending storage ceiling, which is potentially creating a significant risk to the agency's ability to continue to operate normally. Also, the DAA appears to be incurring an unnecessarily high unit cost in comparison with its peers.

This assessment is based on analysis of the charts only. The next step is to validate the analysis through further investigation, including through discussions with peer agencies.

5. Briefing Senior Stakeholders on the Benchmarking Results

You may wish to brief stakeholders within your agency, such as the CEO, on the results of the benchmarking process. The metrics that would be of interest to senior stakeholders are typically the Overview metrics (see Section 3 above), which provide high level indicators of expenditure and staffing levels for agencies.

The benchmarks you use to brief stakeholders could include the AGIMO benchmarking reports as well as any other source data you have access to (e.g. published external benchmarks or benchmarking conducted specifically for your agency by an external provider).

Some of the key metrics, and the issues you would need to consider, in briefing stakeholders are listed below:

Metric	Issues for consideration
Proportion of ICT expenditure	How does the metric for your agency compare with those you would consider peers, based on size, business, capability etc?
	What reasons might there be for variations between your agency and its peers?
	Are there variations in the metric for your agency across years? If yes, what are the reasons for the variations?
Proportion of BAU/non-BAU expenditure	How does the proportion of BAU expenditure compare with the Government target of 70% BAU expenditure?
	Given that project expenditure can be cyclical, how has the metric changed over time, and how do you expect it to change in the future?
	Does the data suggest your agency is investing at appropriate levels in new capability?
Proportion of ICT staff	How does the metric for your agency compare with those you would consider peers, based on size, business, capability etc?
	What reasons might there be for variations between your agency and its peers?
	Are there variations in the metric for your agency across years?
Proportion of internal staff/external	How has your agency performed against its contractor reduction target (if it had one)?
	Does your agency have a target for the proportion of

staff	internal/external staff for workforce planning purposes? If yes, what activities are you undertaking to progress towards the target?
	What cyclical changes in your agency's business have impacted on this metric e.g. has your agency been undertaking new projects which have required the engagement of additional contractors?
Largest pools of expenditure (by service tower and cost element)	What are your agencies' largest pools of expenditure?
	What factors in your agency's environment explain the distribution of expenditure across pools?
	How does the metric for your agency compare with those you would consider peers, based on size, business, capability etc?
	Are there variations in the metric for your agency across years?
	Do you have any plans to change the distribution of expenditure across the pools?
Unit costs for items such as desktops and servers	How does the metric for your agency compare with those you would consider peers, based on size, business, capability etc? (Note that Whole-of-government procurement arrangements will standardise prices for some components.)
	What reasons might there be for variations between your agency and its peers (e.g. server specification)?
	Are there variations in the metric for your agency across years?
	What activities are you undertaking to improve your performance against these metrics, if relevant?
Numbers of desktop devices and printers per user	How does the metric for your agency compare with those you would consider peers, based on size, business, capability etc?
	What reasons might there be for variations between your agency and its peers?
	Are there variations in the metric for your agency across years?
	What activities are you undertaking to improve your performance against these metrics, if relevant?

Where relevant, you would highlight any activity you are undertaking to investigate any anomalies in your benchmarking results. You may also wish to discuss more detailed metrics from particular service towers where these are particularly relevant to your agency.

The analysis of the metrics listed above can be used to facilitate a broader, more strategic discussion on issues such as:

- the drivers of ICT expenditure for your agency;
- whether it is investing in new capability;
- balancing internal and external resources; and
- strategies for managing increased demand and costs.

Appendix A – Metric Categories

AGIMO calculates a range of benchmarking metrics, which vary depending on the size of the agency. AGIMO categorises agencies by the size of their ICT expenditure (large: greater than $20m, medium: $2m-$20m, small: less than $2m) and collects a different set of metrics for each cohort.

The metrics have been categorised according to the following classification, based on the granularity of the metric:

- **Category 1 – Overview metrics**

  These metrics provide high level indicators of expenditure and staffing levels for agencies. These metrics can be used to respond to ad hoc requests for information on IT expenditure, monitor Whole-of-Government targets, and provide context for investment planning and business cases.

  Examples of overview metrics are listed below:
  - Proportion of expenditure on ICT
  - Proportion of ICT expenditure on ICT Management service tower
  - Proportion of ICT expenditure on Mainframe service tower
  - Expenditure per agency FTE.

- **Category 2 – Service tower cost Key Performance Indicators (KPIs) e.g. Cost KPI's - Unit cost of service tower**

  These metrics allow agencies to understand comparative unit cost by service tower and enables them to compare performance with other agencies on a per unit basis. Where the data is available, these metrics can be segmented by cost element, to help agencies to understand the cost drivers of their unit costs.

  These metrics should be used to identify performance improvement opportunities and drive more detailed examination of the contributing factors to explain variances. Factors impacting relative cost efficiency in these metrics include: service level targets such as hours of support, infrastructure availability or guaranteed response and resolution times; capacity utilisation; productivity of support personnel; effectiveness of procurement arrangements for hardware and software; and the competiveness of outsourced services. In addition the information contained in these metrics may be used to support business cases.

KPIs for the service towers are listed below.

- ICT Management - Annual cost per End user infrastructure user

- Application – Annual cost per Function Point

- Mainframe –Annual cost per Installed MIPS

- Midrange – Annual cost per OSI

- Storage – Annual cost per installed TB

- WAN – Annual cost per Mbps

- Gateways – Annual cost per Total uploaded and downloaded GB

- LAN and RAS – Annual cost per active LAN port

- End User Infrastructure – Annual cost per end user infrastructure user

- Voice – Annual cost per agency FTE

- Helpdesk – Cost per Contact

- Facilities – Annual cost per square metre.

- **Category 3 – Service tower supporting metrics**

These metrics provide supporting information within the service tower. They can be used to identify possible root causes of the agency performance in the service tower cost KPIs.

Examples of metrics in this category are listed below:

- Proportion of ICT FTE on ICT management

- Unit cost per installed MIPS against number of installed MIPS

- Wintel Unit cost per installed physical midrange server against number of servers

- Installed storage capacity managed per storage FTE.

The full list of the metrics, including which of the above categories they fall into, is provided at Appendix B.

Appendix B – ICT Metrics Catalogue

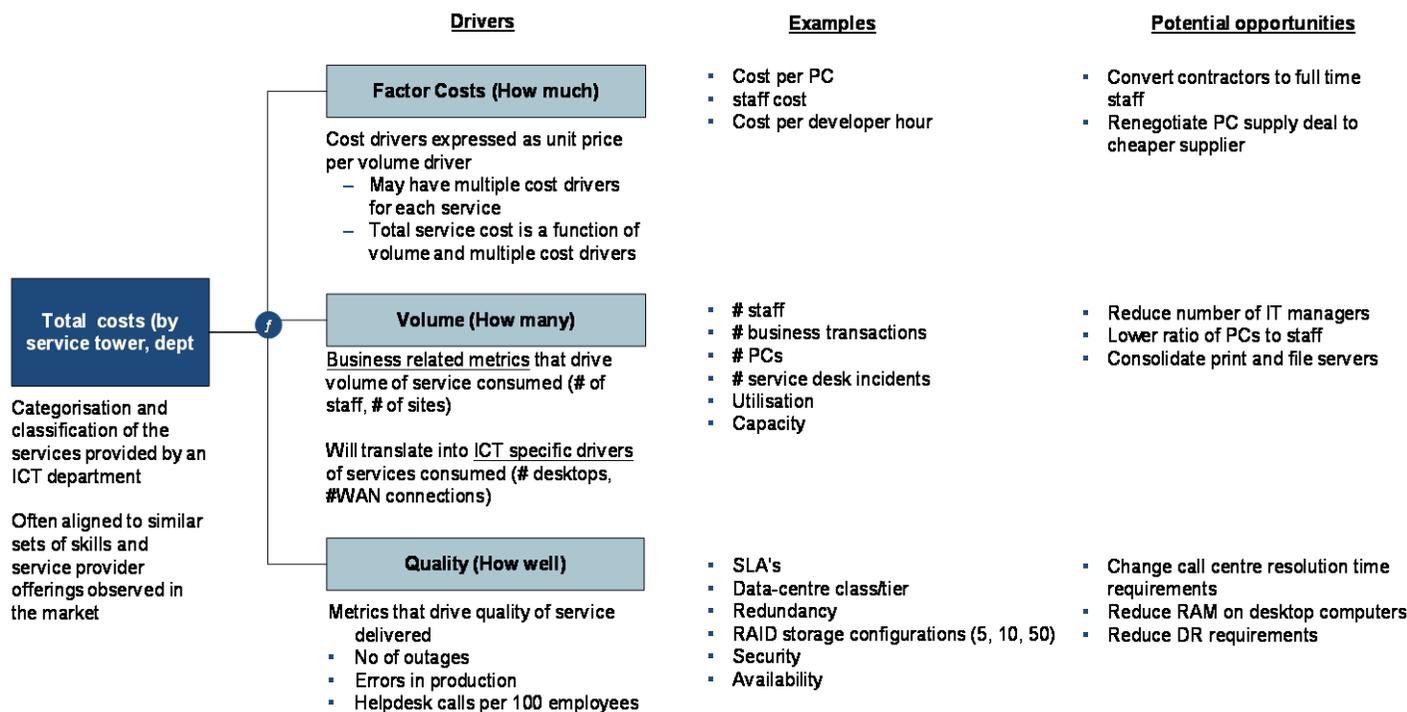| Section	Cate-gory	Reference to 2010-11 large agency report	Type	Metric	Large	Medium	Small
Scope	1	Page 12	Total Cost	Total ICT expenditure split by cost element and service tower *(for small agency report, the service tower aspect is not displayed)*	✓	✓	✓
Scope	1	Page 14 – 15	Total Cost	agency aggregate facts and figures	✓	✓	
Overall metric	1	Page 16	Total Cost	Total ICT expenditure – opex + depreciation	✓	✓	✓
Overall metric	1	Page 17	Total Cost	Total ICT expenditure – opex + capex	✓	✓	✓
Overall metric	1	Page 18	Total Cost	ICT expenditure as a proportion of total agency expenditure	✓	✓	✓
Overall metric	1	Page 19	Total Cost	ICT BAU expenditure as a proportion of total ICT expenditure	✓	✓	
Overall metric	1	Page 20	Total Cost	Total ICT expenditure by service tower and cost element	✓	✓	
Overall metric	1	Page 21	Total Cost	Total ICT expenditure by service tower	✓	✓	
Overall metric	1	Page 22	Total Cost	Total ICT expenditure by cost element	✓	✓	✓
Overall metric	1	Page 23	FTE Ratio	Proportion of agency FTE in ICT roles	✓	✓	✓
Overall metric	1	Page 24	FTE Ratio	Mix of internal and external ICT FTE	✓	✓	
Overall metric	1	Page 25	FTE Ratio	Mix of internal and external ICT BAU FTE	✓	✓	
Overall metric	1	Page 26	FTE Cost	Overall unit cost of internal and external ICT FTE	✓	✓	✓
Overall metric	1	Page 27-28	FTE Cost	Overall unit cost of ICT FTE by agency	✓		
Overall metric	1	Page 29-30	FTE Cost	Cost of internal ICT FTE by agency	✓		
Overall metric	1	Page 31-32	FTE Cost	Cost of external ICT FTE by agency	✓		
Overall metric	1	Page 33	FTE Cost	Overall cost of ICT FTE by service tower	✓		
Overall metric	1	Page 34	FTE Cost	Cost of internal ICT FTE by service tower	✓		

Section	Cate-gory	Reference to 2010-11 large agency report	Type	Metric	Large	Medium	Small
Overall metric	1	Page 35	FTE Cost	Cost of external ICT FTE by service tower	✓		
Overall metric	1	Page 36, 38	FTE Ratio	Proportion of ICT FTE that are external by agency	✓	✓	
Overall metric	1	Page 37, 38	FTE Ratio	Proportion of ICT FTE that are external by Service Tower	✓	✓	
ICT Management	1	Page 40	Total Cost	Proportion of ICT expenditure on ICT management	✓	✓	
Overall metric	1	Page 41	FTE Ratio	Proportion of internal ICT FTE at each APS pay-grade	✓	✓	
Application	1	Page 43	Total Cost	Proportion of ICT expenditure on applications	✓	✓	
Application	2	Page 44	Ratio	Proportion of COTS/GOTS/Bespoke solutions	✓	✓	✓
Mainframe	1	Page 46	Total Cost	Proportion of total ICT expenditure on mainframe	✓		
Mainframe	3	Page 47	Other	Total installed MIPS capacity and MIPS utilisation	✓		
Mainframe	3	Page 48	Other	Unit cost per installed MIPS against number of installed MIPS	✓		
Midrange	1	Page 50	Total Cost	Proportion of ICT expenditure on midrange	✓	✓	
Midrange	3	Page 51	Other	Proportion of ICT expenditure on processing split by Mainframe cost and Midrange cost	✓		
Midrange	3	Page 52	Other	Number of installed physical midrange servers split by Wintel and *nix *(In the large agency report, two charts are produced, one for Wintel and one for *nix. These charts are split by DR, Test, Dev and Prod)*	✓	✓	
Midrange	3	Page 53	Other	Wintel Unit cost per installed physical midrange server against number of servers	✓	✓	
Midrange	3	Page 54	Other	*nix Unit cost per installed physical midrange server against number of servers	✓	✓	
Midrange	3	Page 55	Other	Number of operating system instances per installed physical midrange server	✓	✓	
Midrange	3	Page 56	Other	Number of physical servers managed per midrange FTE	✓	✓	

Section	Cate-gory	Reference to 2010-11 large agency report	Type	Metric	Large	Medium	Small
Storage	1	Page 58	Total Cost	Proportion of total ICT expenditure on storage	✓	✓	
Storage	3	Page 59	Other	Total installed storage capacity *(In the large agency report, this metric is split by Offline, External, NAS, SAN storage types)*	✓	✓	
Storage	3	Page 60	Other	Utilisation of installed storage capacity (%)	✓		
Storage	3	Page 61	Other	Unit cost of installed storage per TB against total installed storage	✓		
Storage	3	Page 62	Other	Installed storage capacity managed per storage FTE	✓	✓	
WAN	1	Page 64	Total Cost	Proportion of total ICT expenditure on WAN	✓	✓	
WAN	3	Page 65	Other	Unit cost of installed WAN capacity per Mbps against installed WAN capacity (ICON)	✓	✓	
WAN	3	Page 66	Other	Unit cost of installed WAN capacity per Mbps against installed WAN capacity (Non-ICON)	✓	✓	
Gateways	1	Page 68	Total Cost	Proportion of total ICT expenditure on gateways	✓	✓	
LAN & RAS	1	Page 70	Total Cost	Proportion of total ICT expenditure on LAN & RAS	✓	✓	
LAN & RAS	3	Page 71	Other	Cost per installed LAN port against number of LAN ports	✓	✓	
LAN & RAS	3	Page 72	Other	Installed LAN port against total Agency FTE	✓	✓	
End User Infrastructure	1	Page 74	Total Cost	Proportion of ICT expenditure on end user infrastructure	✓	✓	✓
End User Infrastructure	2	Page 75	Unit Cost	End user infrastructure expenditure per Agency FTE	✓	✓	✓
End User Infrastructure	3	Page 76	Other	Mix of desktops, laptops and thin client devices	✓	✓	
End User Infrastructure	3	Page 77	Other	Number of end user devices per agency FTE	✓	✓	✓
End User Infrastructure	3	Page 78	Other	Unit cost per desktop, laptop and thin client	✓	✓	
End User Infrastructure	3	Page 79	Other	Overall unit cost of PCs against number of PCs	✓	✓	

Section	Cate-gory	Reference to 2010-11 large agency report	Type	Metric	Large	Medium	Small
End User Infrastructure	3	Page 80	Other	Number of devices managed per End User Infrastructure FTE	✓	✓	
End User Infrastructure	3	Page 81	Other	Number of agency FTE per printer	✓	✓	
End User Infrastructure	3	Page 82	Other	Printing cost per agency FTE against ratio of printers to FTE	✓	✓	
Voice	1	Page 84	Total Cost	Proportion of total ICT expenditure on voice	✓	✓	
Voice	3	Page 85	Other	Proportion of voice expenditure by classification	✓	✓	
Voice	3	Page 86	Other	Fixed phone cost per fixed phone user	✓		
Voice	3	Page 87	Other	Mobile phone cost per mobile phone user	✓		
Helpdesk	1	Page 89	Total Cost	Proportion of total ICT expenditure on helpdesk	✓	✓	
Helpdesk	3	Page 90	Other	Proportion of helpdesk contact resolved on the first call	✓	✓	
Helpdesk	3	Page 91	Other	Number of contact per helpdesk FTE per annum	✓	✓	
Helpdesk	3	Page 92	Other	Cost per helpdesk call against number of calls	✓	✓	
Helpdesk	3	Page 93	Other	Overall helpdesk service cost per helpdesk user	✓	✓	
Facilities	1	Page 95	Total Cost	Proportion of ICT expenditure on facilities	✓	✓	
Facilities	2	Page 96	Unit Cost	Unit cost of installed raised floor space per square meter	✓	✓	

Appendix C – Identifying Opportunities to Improve Performance

Cost drivers used to identify and quantify opportunities to improve performance

Drivers	**Examples**	**Potential opportunities**

Total costs (by service tower, dept)

Categorisation and classification of the services provided by an ICT department

Often aligned to similar sets of skills and service provider offerings observed in the market

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Factor Costs (How much)

Cost drivers expressed as unit price per volume driver
- May have multiple cost drivers for each service
- Total service cost is a function of volume and multiple cost drivers

Examples:
- Cost per PC
- staff cost
- Cost per developer hour

Potential opportunities:
- Convert contractors to full time staff
- Renegotiate PC supply deal to cheaper supplier

Volume (How many)

Business related metrics that drive volume of service consumed (# of staff, # of sites)

Will translate into ICT specific drivers of services consumed (# desktops, #WAN connections)

Examples:
- # staff
- # business transactions
- # PCs
- # service desk incidents
- Utilisation
- Capacity

Potential opportunities:
- Reduce number of IT managers
- Lower ratio of PCs to staff
- Consolidate print and file servers

Quality (How well)

Metrics that drive quality of service delivered
- No of outages
- Errors in production
- Helpdesk calls per 100 employees

Examples:
- SLA's
- Data-centre class/tier
- Redundancy
- RAID storage configurations (5, 10, 50)
- Security
- Availability

Potential opportunities:
- Change call centre resolution time requirements
- Reduce RAM on desktop computers
- Reduce DR requirements

Performance improvement hypotheses by Service Tower (I)

ICT Management

- Simplify cost recovery from business
- Self-service reporting for business on cost recovery system
- Consolidate/centralise similar functional areas, especially for support services (e.g. Finance)
- Review management layers and spans of control
- Remove duplicate roles (due to restructures / "shadow" org to manage vendors / support overlaps between in-house services and services performed by vendors)
- Reduce overhead through better policies and rationalisation of optional services (e.g. fewer reports, higher asset management threshold)
- Convert contractors to APS
- Negotiate better rates for contractors (direct sourcing / fewer suppliers / longer contracts etc.)
- Multiskill staff across service towers

Application Maintenance

- Consolidate application development platforms and environments
- Move legacy applications to standard configurations
- Decommission applications
- Move to a single ERP system with integrated HR and FMIS
- Reduce the number of maintenance releases per year and increase efficiency of apps releases
- Review application performance and tune code
- Manage application demand and minor enhancements
- Change business process to reduce change requests (e.g. make quarterly CPI changes annually)
- Move to Saas applications to reduce internal management costs
- Optimise application maintenance costs through location/outsourcing
- Manage licenses more efficiently

Mainframe

- Mainframe system tuning
- Mainframe application tuning
- Review mainframe service levels
- Review/rationalise mainframe software
- Review mainframe disaster recovery capabilities (incl. service levels)
- Share mainframe capabilities across agencies
- Transition off the mainframe onto midrange

Performance improvement hypotheses by Service Tower (II)

Midrange and server	Storage	WAN
• Consolidate and virtualise servers • Review server utilisation • Virtualise midrange onto a mainframe • Migrate from AIX to windows • Reduce maintenance fees for servers • Move to a single platform – MR or MF • Simplify environment management • Remove manual migrations process to automate migrations • Scale back hardware requirements • Cloud technology (Infrastructure as a service)	• Rationalise business and end-user data holdings (storage/backup) • Review and optimise storage architecture • Review and optimise storage utilisation • Enforce single resource storage, and limit access to shared drives • Use cloud storage for unclassified documents • Consolidate data and storage management service providers • Review backup arrangements • Reduce service levels on server storage (lower availability) • Implementation of tiered storage • Deduplication of storage space • Reduce support on tape drives • Implement lower cost storage options • Reduce overall storage capacity • Lease or buy back storage infrastructure	• Rationalise redundant LAN/WAN links • Single WoG bandwidth between capital cities • Market test WAN carriers and WAN equipment providers • Reduce bandwidth consumption • Restrict corporate internet streaming • Alternate communications to offices – lower bandwidth • Review ISP procurement • Review communications end-points

Performance improvement hypotheses by Service Tower (III)

Gateways	LAN and RAS	End user infrastructure
• Whole-of-government gateway reduction initiative • Insource internet gateway • Lease or buy back storage infrastructure • Rationalise gateways	• Single RAS solution (no laptop SOE) • Market test LAN/WAN support	• Reduction of surplus PCs per user • Replacement of laptops with desktops • Hardware standardisation to single machine • SOE standardisation • Migration to low cost EU applications (e.g. move to OpenOffice) • Reduce end-user support levels • Whole of government EU software and hardware procurement panels • Migrate to thin client architecture • Rationalise and standardise printers • Set printing defaults to low cost options (e.g. DS and B&W) • Resource EU hardware • Eliminate/reduce additional peripherals (e.g. standalone monitors) • Extend the useful life of PCs

Performance improvement hypotheses by Service Tower (IV)

Voice services

- Rationalise mobile phone and/or blackberry fleet
- Reduce or remove facsimile machines
- Reduce telephony volume
- Use Skype instead of VC or Office Communicator
- Consolidate or remove 13, 1300 and/or 1800 numbers
- Implement IP telephony or consolidate services onto IP
- Review telecommunications contracts
- Optimise or reduce video conferencing volume, equipment or services
- Optimise or reduce telecommunications services and/or bandwidth
- Test market for telecommunications services: bundle, outsource, renegotiate
- Outsource blackberry management services

Helpdesk

- Remote servicing of PCs and staff
- Helpdesk call rationalisation and automation
- Reduce SLAs
  - take away specialised support
  - remove on-call arrangements
  - reduce helpdesk hours
- Reduce factor cost through offshoring of helpdesk services

Facilities

- Whole-of-Government data centre panel
- Rationalise physical data centres (incl. centralisation of state and territory offices)
- Review data centre redundancy/failover arrangements
- Implement green data centres
- Consolidate storage facilities
- Rationalise accommodation (less buildings)
- Rationalise offshore locations (incl. potential repatriation of work)
- Implement e-Learning to reduce face-to-face training

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