



AAIR SIG - 2012

**A New Beginning
in Demanding Times**
Melbourne 5th – 6th July, 2012



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Introduction

Welcome to the 2012 AAIR SIG forum in Melbourne co-hosted by RMIT and Victoria Universities.

This Forum is the seventh AAIR Special Interest Group meeting expanding from the initial focus on Datawarehousing and Business Intelligence information systems to include Load Planning.

This year's forum theme is **A New Beginning in Demanding Times**.

2012 is "A New Beginning" for tertiary education in Australia with the introduction of a new funding model based on uncapped student demand. There are many new uncertainties on the university horizon.

The forum will help us explore some of the issues we now face in the tertiary sector and help provide thought provoking information and opportunities to discuss the issues we are working with.

We wish to acknowledge and thank the delegates who through their abstracts and presentations provide us with the framework for discussion, information knowledge sharing and networking.

Thanks to our sponsors for participating in the 2012 forum. Altis again are welcomed as our Platinum sponsor, with Gold sponsors InTech, Oracle Business Intelligence, Tableau and Silver sponsor Certus strategies and solutions.

We hope within the extensive program and range of presentations you will use the opportunities available to establish and further relationships whilst gaining from exchanging expertise and ideas as well as enjoying the beauty of Melbourne in winter.

Mark Lane [RMIT] and Steven Wojnarowski [VU]

Forum Program

Wednesday 4 July 2012

5.30pm – 7.30pm **Welcome drinks at Bull and Bear Bar 347 Flinders Lane City**

Thursday 5 July 2012

Day 1 Program – VU Convention Centre

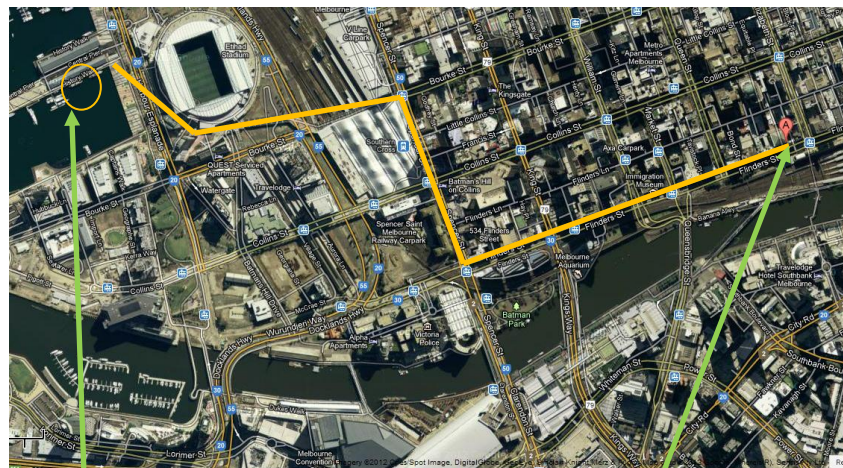
8:30 am – 9:15 am	Registration		
		Load Planning Stream	BI/DW Stream
9:15 am – 9:45 am	Welcome		
9:45 am – 10:15 am	Keynote – Professor Peter Dawkins, Vice Chancellor and President, Victoria University.		
10:15 am – 10:45 am	Morning Tea		
10:45 am – 11:30 am	Altis (Platinum Sponsor) - Chris Kearns with ANU		
11:30 am – 12:15 pm	Parallel Sessions	Chris Van Zeyl and Mark Lane (RMIT University) RMIT Load Planning a refined approach with inter-linked loops.	Timothy Scott and Nina Clemson (Charles Sturt University) A Layered Approach to Democratised BI
12:15 pm – 1:15 pm	Lunch		
1:15 pm – 1:45 pm	Intech Solutions	(Gold Sponsor) Kris Poria	
1:45 pm – 2:30 pm	Parallel Sessions	Dean Ward (Edith Cowan University) Predicting Students at Risk of Attrition	Kerrin Paterson and Chitra Suriyarachchi (University of Western Sydney) More than a mapping table: Integrating organisational unit data in the face of organisational change
2:30 pm – 3:15 pm	Parallel Sessions	Andrea Matulick (Flinders University) Flinders demands a new beginning – building a Business Analytics capability using a blended approach with a small team.	Gihan Khalil (University of Western Sydney) More than a mapping table: Integrating organisational unit data in the face of organisational change (Technical Perspective)
3:15 pm – 3:45 pm	Afternoon tea		
3:45 pm – 4:15 pm	Tableau	(Gold Sponsor) Alan Eldridge	
4:15 pm – 5:00 pm	Parallel Sessions	Angel Calderon (RMIT University) Data paradigms in a market driven ‘police’ environment.	Michael Gibson (Deakin University) Improved Planning, Budgeting and Forecasting, from a BI perspective

Thursday 5 July 2012 – Dinner

6:30 pm – 11:00 pm	Lady Cutler – Cruising Port Phillip Bay 9 Central Pier, Docklands, Opposite Channel Seven Offices
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Friday 6 July 2012 - VU Convention Centre - Day 2 Program

9:00 am – 9:15 am	Registration		
		Load Planning Stream	BI/DW Stream
9:15 am – 9:30 am	Welcome		
9:30 am – 10:00 am	Keynote – Dr Julie Wells University Secretary and Vice President – RMIT University		
10:00 am – 10:30 pm	Oracle (Gold Sponsor)		
10:30 am – 11:00 am	Morning Tea		
11:00 am – 11:45 pm	Parallel Sessions	Elena Rubi (RMIT University) Cohort Completions and predicting student behaviour.	VU BI Project Team (Victoria University) BI - Overcoming Challenges.
11:45 pm – 12:30 pm	Parallel Sessions	University Load Planning case study Presented by David Upton A New Horizon in Load Planning	Luke Rowlett/Ben Stevens (Flinders University) From Go to Whoa in 90 Days - implementing a School Based Performance Framework pilot using the Oracle Stack of DW/BI products
12:30 pm – 1:30 pm	Lunch		
1:30 pm – 2:15 pm	Prizes and AAIR Presentation		
2:15 pm – 3:00 pm	Afternoon tea and Close		



Lady Cutler

VU Conference Centre

Key note speakers

Professor Peter Dawkins,
Vice-Chancellor and President
Victoria University.



Peter Dawkins became the third Vice-Chancellor and President of Victoria University on 19 January 2011.

This followed six years in high level leadership roles for the Victorian Government, and 28 years in the university sector.

He was Deputy Secretary of the Victorian Department of Treasury and Finance (2005-2006) and Secretary of the Victorian Department of Education and Early Childhood Development (2006-2010).

In 2001 he was elected as a Fellow of the Academy of Social Sciences in Australia (FASSA), for his research on Australian economic and social policy issues.

His research and writing has covered such issues as education, human capital, labour markets, unemployment, tax and welfare, innovation and productivity. He is currently active in writing about federalism and education policy.

He has served on a range of committees and boards for Federal and State Governments. As Vice-Chancellor of Victoria University, he represents the University on the sector's peak body Universities Australia

Dr Julie Wells,
University and Secretary and Vice President
RMIT University.



Dr Julie Wells was appointed University Secretary at RMIT in April 2009. She heads the Governance and Planning Office, which provides integrated support for governance and strategic and business planning.

She has extensive experience in tertiary education administration and management and expertise in public policy. She has taught in schools, universities and TAFE colleges and held senior administrative and policy positions at RMIT since April 2002. Between 1998 and 2002 she was the Policy and Research Coordinator in the National Office of the NTEU.

She has also worked as an adviser to Commonwealth and State parliamentarians and in the Australian Public Service. She is a former member of the Board of the Council of the Humanities, Arts and Social Sciences.

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- Data Warehouse and Business Intelligence Health Checks
- Toolset Selections
- Delivered Data Warehouse and Business Intelligence solutions in the areas of Student, Retention, Survey, HR, Finance and others

We have been and will continue to be strong supporters of the Higher Education sector, including sponsoring the AAIR SIG Forums since 2009 and the AAIR Annual Conference since 2011.

We look forward to talking to you during the Forum or you can call Chris Kearns on (02) 9211-1522 if you'd like to find out how you can leverage our experience in Higher Education.

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Parallel Sessions Abstracts

Thursday 5th July

11:30 am – 12:15 pm

Load Planning

Chris Van Zeyl and Mark Lane (RMIT)

RMIT Load Planning a refined approach with inter-linked loops.

Load Planning is a difficult and complex process, especially in the new regime of demand driven funding in both sectors and changes from the Victorian budget.

The profile serves to enable the strategic plans and business plans of the university and has influence and exposure to both internal and external stakeholders. The rigours placed on the profile process in any institution means the entire process must be robust and effective.

As a follow up from 2010 RMIT continues to further develop its own tool to help reduce the risk and uncertainties involved with developing a one, three or five year student load projection.

This is an overview of the RMIT process and also an update on the mechanics of the tool used to aide the profile planning process.

BI/DW

Timothy Scott and Nina Clemson (Charles Sturt University)

A Layered Approach to Democratised BI

Universities must consider a broader base of BI consumers than most commercial institutions. Course and subject co-ordinators, support areas and university administrators are increasingly looking to demographic and student activity data to improve teaching and research quality, identify students who might benefit from additional assistance and understand how to better deliver Online Learning. Democratisation of BI is a hot topic and is a key driver of our approach to DWBI. However some pragmatic issues arise with such an 'Information for Everyone' approach. Two recurring issues within CSU have been cost and the ability to provide information to a broad range of data literacies.

Solutions like Cognos have gained traction in the sector due to their ability to rapidly develop a complete DWBI ecosystem, however in line with our approach obtaining fully interactive licenses all staff became, in our experience, cost-prohibitive. While CSU has relied upon Excel pivot tables to provide the most detailed level of analysis it has major shortcomings when addressing the BI needs of those who don't have the time, inclination or technical ability to become familiar with the software, and increases the workload of those undertaking cross-sectional rather than thematic analysis.

This presentation will use examples from CSU to seek to validate a hybrid-layered approach to reporting, using a variety of tools operating upon a solid data-warehouse to provide a positive and cost effective BI experience.



Accurate Socioeconomic Status (SES) profile matching to your student addresses is the key to securing HEPPP funding. Resolve your Information Quality issues including student, staff and alumni address validation and geographic coding with Intech's **IQ Office**.

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Join Deakin University and other tertiary institutions who have engaged Intech Solutions to provide information quality solutions to help increase their share of the HEPPP funding, research and monitor low SES student participation, plan programs, and promote activities supporting low SES student participation in tertiary education.

Address 1	Address 2	Locality	Postcode	Flag	FlagString
Lot 10, 33 Gurus Rd		WETHERILL PARK	2164		4 amended Lot number
Lot 10, 33 Gurus Rd	65 Berry St	NORTH SYDNEY	2060	✓	correct
Lot 10, 33 Gurus Rd	1 Newland St	BONDI JUNCTION	2022	✓	correct
Lot 10, 33 Gurus Rd		LEWISHAM	2049	✓	correct
Lot 10, 33 Gurus Rd	168 Walker St	NORTH SYDNEY	2060	✓	correct
Lot 10, 33 Gurus Rd	168 Walker St	LIDCOMBE	2141		p missing house number
Lot 10, 33 Gurus Rd	168 Walker St	SUTHERLAND	2232		6 amended Street Name
Lot 10, 33 Gurus Rd	168 Walker St	SYDNEY	2000	✓	correct
Lot 10, 33 Gurus Rd	168 Walker St	TAREN POINT	2229		G no such postal type in th
Lot 10, 33 Gurus Rd	168 Walker St	LANE COVE WEST	2066		12 on 2nd pass amended Po
Lot 10, 33 Gurus Rd	168 Walker St	SYDNEY	2000		

➤ Get The Right Address For Correct Funding

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1:45 pm – 2:30 pm

Load Planning

Dean Ward (ECU)

Predicting Students at Risk of Attrition

Universities continue to invest heavily in retaining students through to completion, however improvements in Retention Rates remain difficult to realise. Edith Cowan University has undertaken a project to derive a quantitative probability of a student being retained, using IBM's SPSS Data Analytic tools.

Using this probability, ECU is developing a range of interventions to promote the student's success. The first step towards a comprehensive predictive mode is identification of predictive variables. Using 107 variables, analytics have been applied.

This presentation will discuss the development of ECU's model, the findings to date and future plans to extend the range of variables to be used in the analytics.

1:45 pm – 2:30 pm

BI/ Data warehouse

Kerrin Paterson and Chitra Suriyarachchi (UWS)

More than a mapping table: Integrating organisational unit data in the face of organisational change

A key data dimension which is common across a university's business intelligence subject areas is the organisational unit. For example, there are business requirements to report financials, student load, staffing numbers as well as cross functional measures such as student staff ratios by faculty or other academic organisation unit. At the University of Western Sydney the main corporate applications have different coding schemes for the organisation units which are themselves different to the value of the Academic Organisation Unit code as reported to DEEWR. Integration of data for cross-functional reporting has historically been a manual and adhoc process and thus problematic for many years. To meet this challenge the University of Western Sydney's Business Intelligence Team have designed and built a custom application to manage the organisational unit master data element and to serve as a source for the conformed organisational unit dimension in the data warehouse.

In this presentation UWS will demonstrate the Organisation Unit application and show how it has enabled the University to create and maintain a persistent organisation unit code for business intelligence reporting. We will show how the application facilitates the mapping of the various source system codes to a common data warehouse code and how organisational restructures can be accommodated. Examples of reports before and after the creation of the conformed organisation unit will be provided to further illustrate the benefits.

2:30 pm – 3:15 pm

Load Planning

Andrea Matulick (Flinders)

Flinders demands a new beginning – building a Business Analytics capability using a blended approach with a small team.

During 2011 the Planning Services Unit at Flinders University engaged consultants to assist with the development of a Business Analytics (BA) Strategy. Flinders did not have a centralised BA platform. Data and analysis were delivered using Excel, Access, SQL queries direct to databases and extensive manual integration and calculation. A significant amount of data was produced for consumption by various areas and external stakeholders but there was no systematic approach.

The strategy was developed over a 2 month period by consulting with key stakeholders as representatives of Senior Executive, Faculties and Administration covering the breadth of strategic functions performed by the University. The consultants assisted in managing high level expectations and process by demonstrating where the University was positioned in respect to other like organisations. The strategy covers multiple facets from governance, requirements, metadata, data sources to tool selection and provides a roadmap for the first 3 years of implementation using a small blended team approach and knowledge transfer. Development of the strategy has helped deliver answers to the increasing strategic demands facing the university in the coming years.

2:30 pm – 3:15 pm

BI/ Data warehouse

Gihan Khalil (University of Western Sydney)

More than a mapping table: Integrating organisational unit data in the face of organisational change (Technical Perspective)

Organisation Unit dimension journey from the mapping application to the BI reports

This presentation is a continuation of the presentation given by the University of Western Sydney presenters earlier, about creating an organisation unit conformed dimension using the Organisation Unit mapping application. In this presentation UWS will demonstrate how the Data warehouse organisation unit codes make its way from the mapping application to the warehouse and BI Reporting. Illustrating the technical steps used to create a conformed dimension in the ETL – Extract Transform and Load using WhereScape RED.

The BI team worked on enhancing existing dimensions such as: “Course Version” dimension and “Unit of Study” dimension by adding new columns to present the current organisation unit code and name vs the previous organisation unit code and name. The demo will present the technical steps used to enhance some existing TYPE 2 dimensions to become TYPE 6 in addition to enhance TYPE 1 dimension to become a TYPE 3 dimension to accommodate changes to organisation unit codes.

In the case of ad-hoc requests to view time series reports using new organisation unit hierarchy as well as keeping the old structure, the BI team utilised Cognos Framework Manager to link the legacy system organisation unit dimension to the conformed dimension using mapping table. The last section shows some HR Cube with time series reports using conformed organisation unit dimension vs legacy system organisation unit hierarchies during and after an organisation restructure.



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4:15 – 5:00 pm

Load Planning

Angel Calderon (RMIT University)

Data paradigms in a market driven ‘police’ environment.

As the landscape of higher education continues to evolve rapidly around the globe, so is the world of managing institutional data. Over the past twenty years the flow of information has increased considerably as universities gather more data systematically about their students, staff, resources, capabilities outputs and their overall contribution to society and the economy. All of these ongoing developments have required that Institutional Researchers and Strategic Planners build strong and robust systems to support institutions in their strategic directions. In fact it can be argued that in the ongoing massification of higher education, managing copious amount of data can be a determining factor for universities to succeed and remain relevant in a globalised world.

One of the main tenets of Institutional Research and Strategic Planning is having a good handle of the institutional data – its use and how it contributes to decision making. This is a transformative process that requires effort and ongoing dedication to build resilience and strength for institutional success. As universities are driven to compete in a tacitly deregulated market and with a diversity of competing funding sources, institutions are being effectively policed by how effective they are handling their data. Institutions are required to report copious amount of data and, this requires that institutions develop long term strategies to build systems to report, interpret and draw assertions about the data that is being captured.

In this presentation I will focus on the transformation that has occurred in recent years – from institutions being active players in their local communities to their relative impact on the national arena and in more recent times active in the world stage. I will also focus on some of the challenges that we face in responding to the policy changes – which have a lasting impact on how institutions operate, as well as the economic reforms that are transforming the higher education sector from being government supported to responding to the perils of a liberalised market environment.

BI/ Data warehouse

Michael Gibson (Deakin)

Operational Reporting and the Business Intelligence Agenda

This presentation discusses the path taken by Deakin University in considering the relevance and impact of Operational Reporting requirements on its broader Business Intelligence and Data Warehousing agenda. It discusses the potentially contentious nature of the topic as well as how it was resolved at Deakin. It also outlines the work undertaken to date, the difficulties encountered and the success or otherwise of the endeavours.

The Oracle logo, consisting of the word "ORACLE" in a bold, red, sans-serif font, with a registered trademark symbol (®) to the upper right of the "E".

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Oracle is recognized by IDC as the #1 vendor in business analytics and is positioned as a Leader in Gartner's BI Platform Magic Quadrant.

Parallel Sessions Abstract

Friday 6th July

10:30 am – 11:15 am

Load Planning

Elena Rubi (RMIT University)

Cohort Completions and predicting student behaviour.

RMIT set up a project to analyse the academic performance of students from various channels. The project identified student channels (by broad demographics, basis of selection, country of origin, secondary education qualification, prior qualifications, English language qualification, referring agent, etc.) and determined whether or not any significant differences in academic performance can be identified. Access to academic performance data (in terms of GPA, student load progress rate, attainment rate, attrition, further study) for each channel will facilitate recruitment and marketing decisions (around successful streams) or teaching and learning interventions (around less successful ones).

The project to date has looked at the cohorts including a base undergraduate cohort and then creating comparatives to the Low SES and NESB cohorts of students.

The presentation will discuss the methodology and the outcomes for this New Beginning in understanding student outcomes for improved student load planning.

BI/ Data warehouse

BI Project Team (Victoria University)

BI - Overcoming challenges

Since 2007, Victoria University (VU) has been implementing a new data warehouse (DW) and BI capability in one shape or another. There have been a number of twists and turns along the way!

In 2007, a project began to upgrade the 'soon to be out of life' reporting tool, Business Objects (BO) and also to upgrade the middleware product – Informix – due to cessation of licensing agreements. As this project was progressing, there were changes to senior management and relationships with current vendors, including licensing arrangements.

In 2008, it was decided to go out to tender for a new BI Toolset. The Oracle BI Toolset and ODI were selected. In 2009, VU announced that a new Student Management System (SMS) would be implemented over the next couple of years. A subsequent project commenced to build a new DW using the Oracle BI toolset and ODI to source student data from the new SMS.

The project concentrated on the technical build of the data warehouse and the development of new reports, sourcing data from the 'yet to go live' new SMS. The project concluded with a new data warehouse technical solution and some prototype reports.

In 2011, the BI project commenced. The project will deliver a strategic BI solution to VU. Executive sponsorship and governance were established. The project team was resourced and consultants engaged. Stakeholders were engaged and business requirements gathered to inform development. Since the launch of the new SMS, development is well under way to deliver the first phase of self-service information access to support enrolments and load management as well as load planning and forecasting activities. After a number of twists and turns, stops and starts, VU is establishing a robust BI platform to inform planning and budgeting decisions in these challenging times.

11:45 am – 12:30 pm

Load Planning

David Upton

University Load Planning case study

A New Horizon in Load Planning

A new horizon in load planning

Discover a new approach for Student Load Planning and see how you can deliver this end-to-end (not a pilot!), with the *45-day drop*.

Yesterday's Tools, Today's Problems

Student Load Planning is a core planning process but is typically dislocated from Activity Based Costing, Teacher Load Planning, Salary Planning, and University Budgeting and Forecasting. Each process is connected to your student numbers but typical models are often 'handraulic'¹ blending alchemy and science from numbers coerced from a combination of hand-fed databases and spread sheets.

From 2012, the Commonwealth Grants Scheme funding changes means getting your student numbers right is critical to revenue. These changes mean these same manual, two-dimensional models must produce multi-faceted analytical outputs like Cluster Revenue, Cohort Planning, Rounds and Simulations, Agency analysis, Continuation, and DEEWR Reporting.

Tomorrow's Solutions: Agility & Alignment

You can now utilise new and innovative approaches to student planning and faculty loading to significantly reduce the workload and turnaround times, mobile access, and enable faculty planners to rapidly develop multiple scenarios. With the right tools, engaging the right people, and focussing only on what is needed, we can push ahead to deliver outcomes in timeframes of less than half of 90 days. We call it the "45 day drop".

With a unified university modelling layer you can share values, drivers and assumptions between models. You don't need a 12-month big bang project to change the world all at once, but instead take on each component or phase at a time. Build momentum, credibility and excitement by delivering results today.

BI/ Data warehouse

Luke Rowlett/Ben Stevens (Flinders University)

From Go to Whoa in 90 Days - implementing a School Based Performance Framework pilot using the Oracle Stack of DW/BI products

In 2010 the Planning Services Unit produced a prototype of a School Based Performance Dashboard using Tableau. The prototype was well received by Executive and Management and in 2011 Flinders conducted a Business Analytics Strategy. In follow up to the Strategy, late in 2011 we underwent a DW/BI Toolset Selection – which we chose to go with Oracle's toolset offering. From late September we started setting up the infrastructure and early October started developing a re-design of the School Based Performance Dashboard. The pilot was presented to Executive in early December, with some cleaning up through December, the pilot was completed from go to whoa in approximately 3 months. The Oracle toolset was intuitive and the learning curve was minimal IMHT(echincal)O.

Oracle Business Intelligence Enterprise Edition (OBIEE) supported the Agile development approach we were undertaking with a small team (2-3 developers). This allowed for results to be realised quickly through test driven development. All of the development team had Oracle PL/SQL experience so the shift to Oracle Data Integrator was fairly effortless. OBIEE was also fairly intuitive and allowed fast paced delivery of functionality into the reporting front end. The pilot School Based Performance Dashboard involved 11 strategic KPI's – 6 for Research, 4 for student and graduate outcomes and 1 for staff – as well as Student, Staff and Finance summary statistics. What does the future hold???.. come to the presentation to find out!

¹ The use of archaic hand methods to articulate complex ideas; even though use of technology would greatly increase efficiency and simplify the task at hand.

[illegible]



daleallman
PHOTOGRAPHY