

Higher Education Essentials for Strategic BI

Darren Dadley

University of Technology, Sydney, Australia, Darren.dadley@uts.edu.au

INTRODUCTION

UTS has recently completed their BI program designed to deliver an integrated performance management capability for UTS to better support the monitoring of UTS Key Performance Indicators (KPIs) and related management information. This will allow for more informed and timely management decision-making within the university.

BACKGROUND - PLANNING FOR QUALITY AT UTS

During 2005 the University endorsed a new KPI framework to measure progress in achieving the UTS Strategic Plan. Their existing reporting processes involved a large amount of manual handling of data and the KPI reporting was all manual. This resulted in an ineffective use of skilled resources preparing data rather than analyzing it. Information is not always delivered in a timely manner and lags behind data availability.

The multifaceted nature of the University mission - or 'mission complexity' as per McKinnon *et al* D. 2000- poses an inherent challenge to measurement. The combination of so many diverse types of measurement from spanning work cultures, skill groups and systems with their own affinities is necessary to quantify performance against the Strategic Plan.

UTS is no exception and the pressure at UTS to increase productivity, make faster decisions whilst reducing costs, has resulted in many IT systems across the organisation. Accordingly, the realisation of the many KPIs led to many innovative and valuable projects using independent technologies and business definitions (org structures, etc). Despite the many valued outputs of these projects, they tended to entrench existing information silos across the University and did not reach to automated delivery of the Strategic KPI framework. Implementation of the Strategic KPIs was available but only insofar as it was spread across many systems.

Late 2007 UTS was awarded a Workplace Productivity Program grant from the Australian Government. The grant provided an opportunity to co-ordinate our information management actions into a program of work with the strategic plan of the university as an authoritative aligning force. With this consolidation and focus upon the strategic, we have been able to realize new levels of quality and business value from our BI and IM systems, which would not have been possible through incremental change, nor more diffuse efforts.

OUTPUT : 'BLUEPRINT' – BREADCRUMBING THE PATH TO STRATEGIC BI

UTS have compiled a Blueprint document and resource kit 'Higher Education Essentials for Strategic Business Intelligence' for use in the sector, compiling our most key learnings in re-engineering our strategy systems, with the aim of assisting other institutions in progressing beyond the low-hanging fruit of piece-meal initiatives to the fuller promise, but perhaps more daunting business case, of a co-ordinated approach to Business Intelligence and Information Management.

By sharing this toolset across the sector, we hope to make it easier for other organizations to more fully harness the capability offered by their BI solutions. A 2008 survey of IR practitioners in the Australian higher education sector identified that whilst investment in BI solutions had increased, progress to full deployment stage was mixed (AUQA 2010.)

The Blueprint packages 6 Foundation Concepts (Key Success Factors of the UTS solution) and a library of assets, based upon practical documents used by the University, which can be leveraged by others in the sector to make their BI/IM initiatives more strategically focussed.

The Blueprint takes its structure from 7 Aspects of Excellence—as per the Universal Business Excellence Framework and the Australian Business Excellence Framework) along with common lifecycle management terms (Discover, Design, Built/Test, Deploy) and the Key Success Factors which UTS have identified. The Blueprint is intended to be of assistance to University BI/IM/Planning or Analytics initiatives using any technology/platform mix and at any level of maturity.

The Foundation Concepts covered in detail can be summarized as :

- **Measurable Plan (SMART)** – Evolution to a corporate strategic plan that is inherently measurable.
- **Relevance / Adoption** – The relationship between relevance and adoption in the Strategic BI context and its importance in ensuring clear focus of BI/IM priorities right down to warehouse funding.
- **Dialog as a purpose** – The release of materials in the expectation that imperfections exist and that dialog surrounding definitions serves to sharpen the organisation’s commitment to excellence. Including the commitment to supporting and documenting dialog surrounding measurement and assessment of performance through annotation and commentary (Social BI).
- **Explicit Strategy Model** – The need to form the strategic view embedded in the core of the system, rather than in individual documents. The appreciation of the special nature of that strategy-centric mart in comparison to the traditional subject-oriented mart.
- **Evolutional** – Commitment to the continuous improvement cycle as concerns the strategic picture of the organisation and decision making practices, and the use of this in overcoming impetus.
- **All Higher Education Perspectives** – The need for the system to span diverse sources (education, external assessments, benchmarks , soft/hard metrics and corporate) even in early instances of the structure to ensure the role and nature of the solution can be meaningfully understood.

WHAT’S NEXT FOR UTS? ‘WHAT’S NEXT’ AS WHAT’S NEXT

Our Planning journey has covered the measurement and monitoring challenge. But we have paths to travel yet. The BI Maturity Model articulates areas which step beyond measuring what’s happened.

Traditional performance measures and business intelligence solutions used in the higher education sector tend to focus on output or outcome (‘lag’) indicators. They give a sense of how the institution performed in the recent past (or in the case of many research indicators, the more distant past), rather than input or process (‘lead’) measures indicating how the institution is likely to perform in the future. According to Davenport and Harris (2007), answering questions such as “what happened?” is the domain of access and reporting. Stretching to leading measures for a full strategic picture may answer “where exactly is the problem?” and even “what actions are needed?”, but there is a higher tier of value.

Analytics incorporating the use of forecasting, predictive modeling and optimisation, answers proactive questions such as “what if these trends continue?”, “what will happen next?” and “what’s the best that can happen?” Figure 1 presents one representation of the relationship between the range of reporting and analytical tools, and the questions they can answer.

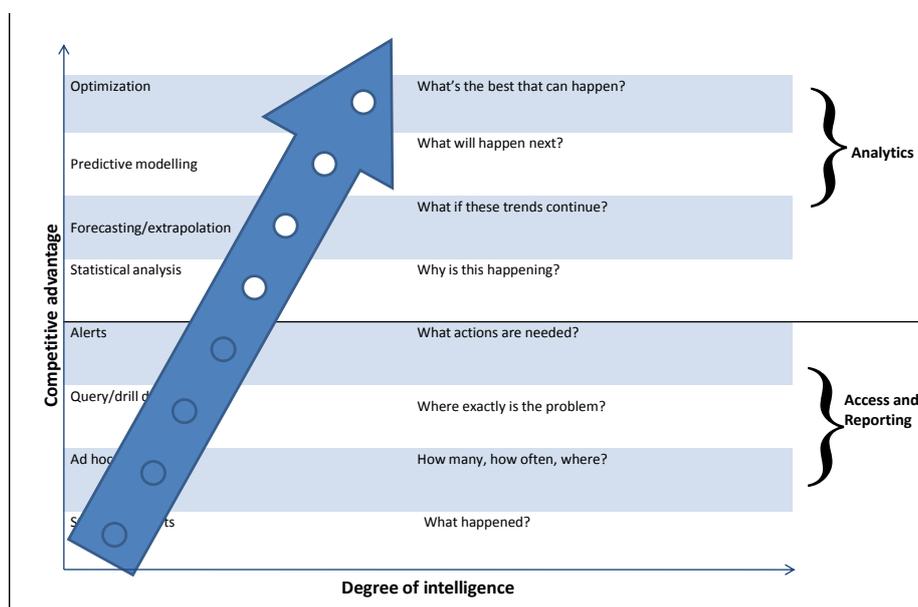


Figure 1: Business Intelligence and Analytics [1]

Figure 1 signals that universities which chose to invest in their analytical capabilities through forward looking performance measurement frameworks, advanced business intelligence systems, and staff with skills in analytics, will have more opportunity to influence future institutional results.

REFERENCES

1. McKinnon (McKinnon, K.R., Walker, S.H. & Davis, D. 2000, *Benchmarking: A manual for Australian universities*, Higher Education Division, DETYA, Canberra)
2. Davenport, T, H. and Harris, J. G. (2007), *Competing on Analytics: The New Science of Winning*
<http://creativecommons.org/licenses/by/4.0/>