

TOWARDS A THEMATIC APPROACH TO RESEARCH WITHIN A TAUGHT POSTGRADUATE PROGRAMME IN CONSTRUCTION AND PROJECT MANAGEMENT: A NORTHERN IRELAND CONTEXT

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The recent changes within Northern Ireland, the improved political climate, the drivers on the public sector and the response from the construction industry, have led to the need to maximize the effectiveness and efficiency of postgraduate research in Northern Ireland. Our response to these pressures is detailed including a discussion on the introduction of an overarching research theme coupled with the use of an international best practice framework. The taught postgraduate programme in Construction and Project Management at the University of Ulster, a full and part time programme, has been at the forefront of local work-based construction management research since 1988. The research and dissertation component of the course represents one third of the credits required for successful attainment of the Master's qualification. Whilst the MSc course committee is prepared to accommodate student choice in terms of topic selection, increasingly urgent and important topics are emerging from the dynamic of political stability, unprecedented economic growth and the need for the construction industry to play its part in the prosperity of Northern Ireland 'PLC'. A theme that pervades a significant amount of research work has been the need to improve organizational performance to deliver both 'efficiency gains' and project based 'whole life value' for Northern Ireland's society. The organizations themselves are both in the public and private sectors, either in the role of construction client and /or as providers within the supply chain. Using the 'Excellence' concept as a best practice framework, a number of studies have been conducted into the delivery of high levels of performance across the following research areas: public sector departments or private firms as a whole, programmes, procurement and, of course, projects in particular. Some examples of research projects are given and the benefits of taking a thematic approach are discussed.

Keywords: Northern Ireland, organizational performance improvement, research theme.

INTRODUCTION

Northern Ireland has only recently emerged from over three decades of conflict with the final piece of the jigsaw falling into place this May: political stability through the establishment of a local government - the Northern Ireland Executive (NIE). Coupled with this, a root and branch change is taking place within all public sector organizations. With the anticipation of peace, considerable private investment has been made that in itself has created an environment for sustainable growth. In conjunction with the UK Government, the Republic of Ireland, the European Community and the USA have also invested in the future of the province. Public

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sector funding and peace dividends have been channelled into addressing many economic and social shortfalls. Construction has benefited through increased expenditure on roads, water and sewerage infrastructure, healthcare, public housing and schools and colleges. Prices within the residential property sector have dramatically risen to reflect this confidence. The construction sector is currently booming with all of the advantages and disadvantages that this brings.

The major construction client in Northern Ireland is the public sector either directly through its various departments, agencies or indirectly through publicly funded voluntary sector organizations. The public client, which itself is undergoing significant change, is demanding much from the industry and from those institutions who educate and train personnel. They are also asking these institutions to carry out research that can quickly have tangible benefits that fit with their vision, aims, objectives and the methods they use to deliver them. The introduction of an overarching research theme within our taught MSc quickly provided significant stakeholder benefits.

THE CAPITAL INVESTMENT PROGRAMME FOR NORTHERN IRELAND

The perceived deficit in NI public sector investment resulted in NIE's Reinvestment and Reform Initiative (RRI) being introduced in 2002. This in turn led to the initiation of a company, limited by guarantee and owned by the Office of the First Minister and Deputy First Minister (OFMDFM). The resultant Strategic Investment Board (SIB) is tasked with facilitating, through advice and expertise, the strategic issues relating to all projects or programmes implemented under the Investment Strategy for NI (ISNI) 2005/2015 (SIB 2005). The ISNI (SIB 2005) sets out the range of infrastructure investment (up to £16 billion) required across the public sector - distributed across the 11 central government departments - to allow for policy implementation and modernization strategies. Figure 1 illustrates the budget allocation over the time period 2005 to 2015. However, there is a key issue of affordability which will depend partly on funds being raised from the release of surplus capital assets and the revised capital allocation (ISNI 2) due for publication in the autumn of 2007.

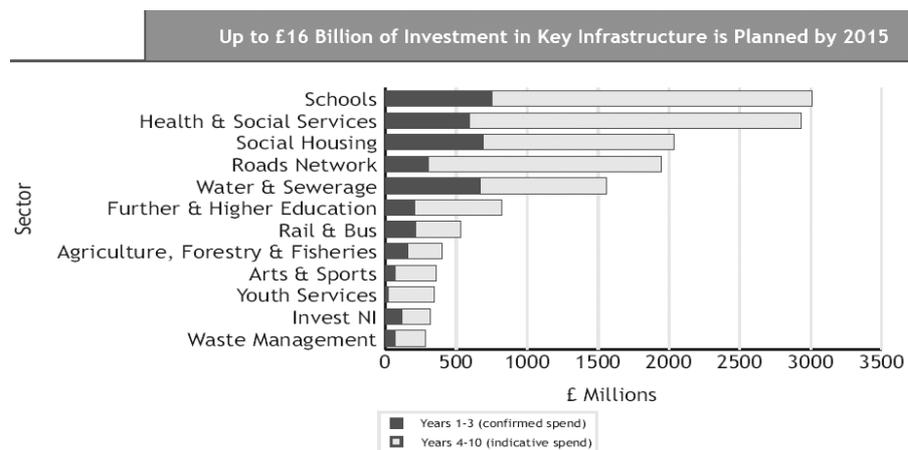


Figure 1: ISNI Key Investment Programme Allocation. Northern Ireland Audit Office. (NIAO 2006)

THE KEY CONSTRUCTION INITIATIVES - UK IN GENERAL

As an integral part of the UK, the Northern Ireland public sector had to respond to the many UK government initiatives and guides that were produced to improve the performance of the public sector client. The prime drivers are:

- Review of Civil Procurement in Central Government (Gershon 1999)
- Achieving Excellence in Construction (OGC 1999)
- H M Treasury Guidance No. 7 on Whole Life Value (HM Treasury 2000)
- Building for a Better Quality of Life (DETR 2000)
- The OGC Gateway Process (OGC 2004)
- Best Value in Local Government www.bvpi.gov.uk
- Modernizing Construction (National Audit Office, 2001)
- Independent Review of Public Sector Efficiency (Gershon 2004)
- National Audit Report :Improving Public Service through better Construction (NAO 2005)

THE KEY CONSTRUCTION INITIATIVES - NORTHERN IRELAND

Northern Ireland Civil Service embraced these initiatives and guides, and also undertook their own construction reviews. The prime drivers are:

- Strategic Review of Procurement Policy and of Purchasing Arrangements within the Northern Ireland Civil Service Departments (DFP 1999)
- The Achieving Excellence Initiative for Northern Ireland (GCCG 1999)
- Review of Public Procurement Policy (DFP 2001)
- Modernizing Construction Procurement in NI (NIAO 2005)

REVIEW OF PUBLIC PROCUREMENT POLICY

In May 2002, at a Department of Finance and Personnel, Northern Ireland meeting, the NIE agreed to implement a revised public procurement policy for all Northern Ireland Departments, their agencies, Non-Departmental Public Bodies and Public Corporations. This new policy (DFP 2001) is guided by a clear definition of ‘public procurement’:

“Public Procurement is the process of the acquisition usually by means of a contractual arrangement after public competition, of goods, services, works and other supplies by the public service”

The Review also recommended a number of new institutional arrangements including the establishment of a Central Procurement Board, to lead on procurement policy for the Northern Ireland Public Sector, and a network of Centres of Procurement Expertise (CoPES) through which all Northern Ireland public sector procurement should be channelled: a Central Procurement Directorate to provide both procurement advice and to implement policy plus the five Centres of Procurement Expertise – Water, Roads, Housing, Education and Health.

“Northern Ireland Public Procurement Policy requires that all public procurement be undertaken by a Service Level Agreement (SLA) with CPD or through another COPE” (CPD 2005).

The prime objective of the NI Executive’s public procurement policy is to achieve best Value for Money (VfM).

“...Best Value for Money is the optimum combination of whole life cost and quality (or fitness for purpose) to meet the customer’s requirement”

Paragraph 2.16 of the Procurement review states;

‘The concept of best ‘value for money’ is central to public procurement policy, but it is often misunderstood. Sometimes, it appears to be used as reflecting only “effectiveness” or “efficiency”. We understand it in a wider, more encompassing sense as summing up the 12 principles we consider below. When a procurement process results in these principles, being satisfied to an acceptable extent, we can say that the process has resulted in “best value for money”.

These twelve principles are:

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|-----------------------|-----------------------------|
| 1. Transparency | 7. Responsiveness |
| 2. Integrity | 8. Informed decision making |
| 3. Competitive supply | 9. Consistency |
| 4. Effectiveness | 10. Legality |
| 5. Efficiency | 11. Integration |
| 6. Fair-dealing | 12. Accountability |

Many of these principles are interdependent and failure to satisfy one will result in failure to satisfy others. Additionally, three further performance drivers have appeared that influence our research theme.

VALUE FOR MONEY AND PROCUREMENT EFFICIENCY GAINS

In October 2004 the Procurement Board agreed a target with DFP of £250m in Value for Money (VfM) gains from the procurement of goods, services and works across the public sector from 1 April 2005 to 31 March 2008. There is also a £250m Procurement Efficiency Gains (PEGs) target included in the Government’s Priorities and Budget 2005-2008 Efficiency Plan of which £150m is to be delivered by the Northern Ireland Civil Service (NICS) and £100m by the wider public sector.

CPD (2005) produced a Guidance Note on Procurement Value for Money and Efficiency Measurement in response to this. This guidance then confirms that there are 4 main categories of procurement improvement that exist within these procurement scenarios that will activate value for money savings and/or a procurement efficiency gains:

- negotiating an improved deal with a supplier;
- aggregating demand and collaborating to exert greater leverage on suppliers;
- reducing process or transaction costs;
- improving contract and asset, project management.

CPD concluded that these will lead to ‘genuine’ VfM and PEGs from paying a better price or obtaining a better quality product; reducing process or transaction costs; or decreasing ongoing management costs.

However, National Audit Office research states that VfM and PEGs decisions within public sector construction investment and procurement must be undertaken on the

basis of, not just lowest capital or even whole life cost but on the broader criteria of 'value' (NAO 2004). CPD policy states;

'... it is crucial to ensure that only 'genuine' VfM and procurement efficiency gains are identified, and that quality is maintained' (CPD 2005).

WHOLE LIFE VALUE

'Cost' is not a reliable measure of 'value', since it takes no account of how well buildings perform (NAO 2004). Whole Life Value (WLV) principles look to maximize the benefits delivered by a project by satisfying or exceeding the needs of various stakeholders whilst minimizing the use of resources i.e. Value = Benefits/Resources. WLV represents the optimum balance of stakeholders' objectives (functional requirements of building), the financial commitment that this built asset entails while minimizing environmental pressures that this built asset will impose (Bourke 2005). WLV entails achieving compromise and synergy between three different sets of values: social, economic and environmental. WLV assesses the 'value' of a built asset over its entire life by applying various aspects of sustainability to the design, construction, operation, deconstruction and re-use of this built asset (Waterman and Bourke, 2004).

RESEARCH THEME – IMPROVING ORGANIZATIONAL PERFORMANCE

Over the last three years within the Masters Programme, we have piloted a refinement in our research framework by the introduction of an overarching theme i.e. organizational performance improvement. We aim to serve the public sector, industry, business and communities across the province by focussing upon solving real world problems and issues, idea generation, performance improvement and hence making a contribution to building prosperity, growth and sustainable built environment solutions. In doing so we have used the 'Excellence' concept to improve performance at various levels: industry, firm/public sector department, programmes, procurement and projects.

The Excellence Concept

In recent years performance management has seen increased focus due to the competitive nature of markets, as they become increasingly global. The need to achieve competitive advantage has led organizations (Wongrassamee *et al.* 2003) to seek improvement beyond the standard practice of financial performance. This has led to the development of literally scores of models and frameworks through which the improvement of intangible performance can be achieved. (Robinson *et al.* 2005)

Improving performance is vital for the UK government to ensure best value for the taxpayer's money. This has led to a joint venture by the Audit Commission and the Improvement and Development Agency who produced the improvement through Performance Management, Measurement and Information project (PMMI) (IDeA 2005). This project produced a Review of Performance Improvement Models and Tools report evaluating key initiatives such as Total Quality Management, Balanced Scorecard, Business Process Re-engineering, Investors in People, Charter Mark and Kaizen.

Arguably, the leading organizational performance initiative, since 1992, has been the European Foundation for Quality Management –Business Excellence Model® (EFQM)

2007). A project specific model (Westerveld 2003), has subsequently been developed from it i.e. the Project Excellence Model ® which the IPMA (International Project Management Association) have adapted to assess Project Management excellence within their annual awards scheme. These internationally recognized best practice models are highly relevant as appropriate performance measurement frameworks within which to position research topics.

An excellence model is separated into Enablers (Success Factors) and Results (Success Criteria) that allows an internal or external consultant to assess an organization and to benchmark its performance against others. Its foundations reflect a set of beliefs /values that the managers of an organization should use or aspire to if high levels of performance are to be achieved and evidenced. Many of our topics may be incorporated into the following research performance improvement areas.

Construction Industry Performance

The publication of the Latham and Egan reports demanded a new conceptual thinking, this emerged as that of ‘construction excellence’. In summary, the subsequent UK construction changes are: adversarial attitudes were replaced by co-operation and partnering; competitive tendering by alternative procurement pathways; tenders awarded on lowest price replaced by multiple criteria including quality; discreet construction cycle phases replaced by a holistic approach based on whole life value principles; replacement of the simplistic ‘iron triangle’ measurement of project success with more embracing indicators.

The Northern Ireland Centre for Construction Excellence, which is based within our School, facilitates these changes.

Research topics have included: industry competitiveness, inward investment, strategic partnering, joint ventures, benchmarking, client satisfaction, contract management, e-tendering, sustainability, affordable housing, conflict resolution and issues relating to migrant workers.

Company /Departmental Performance

Research is on-going into the use of the EFQM (Business) Excellence Model to enhance business performance within the private sectors of industry. Additional topics have included – change management, performance management, knowledge management, facilities management, client charter, continuous improvement, programme and project maturity, integrated management systems and project information portals.

Programme Performance

Procurement Performance

Research is on-going into developing a Procurement Excellence Model for construction in the public sector. This is seen as an essential first step in allowing further research to develop.

Project Performance

Research is on-going into the use of the International Project Management Association’s (IPMA) Project Excellence Model to enhance project performance within the public and private sectors of industry. Research topics have included: project success, whole life value, optimism bias, project risk and crisis management, leadership, group dynamics, team development, communication, earned value management and auditing and verification.

CONCLUSIONS

The recent changes within Northern Ireland has established significant drivers on both the public and private sectors of the construction industry, that have led to the need to maximize the effectiveness and efficiency of taught post graduate research in Northern Ireland. Whilst the MSc course committee is prepared to accommodate student choice in terms of topic selection, increasingly urgent and important research topics are emerging from the dynamic of political stability, unprecedented economic growth and the need for the construction industry to play its part in the prosperity of Northern Ireland 'PLC'.

A theme that pervades a significant amount of research work has been the need to improve organizational performance to deliver both efficiency gains and project based 'whole life value' for Northern Ireland society.

The benefits of an organizational performance improvement theme using the excellence concept at business, programme, procurement and project levels are numerous. By providing a robust, holistic best practice framework as a backdrop to their studies, students can relate their area of research to real world situations. In addition, the new knowledge can be conceptualized against the need to add value to organizational endeavour. Through allowing the student to relate analysis and synthesis against the dynamic of organizations and their macro environment, it can promote richer insights and a deeper understanding of the research issues. Additionally, it promotes the integration of ideas, concepts and theories whilst highlighting the managerial actions needed to enhance overall performance.

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