

21. A Framework for Identifying the Intangible Capital Value of ICT Investments.

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Abstract: *Adequately considering the intangible value of Information and Communication Technology (ICT) investments has been problematic for as long as organisations have been making ICT investment decisions. This paper presents a framework for considering the intangible capital value of ICT investments. The framework applies the tripartite model of intangible resources, as proposed by the Australian Society of Knowledge Economics. The development of the framework was commissioned by the Australian Government Information Management Office (AGIMO) to inform the Australian government's Business Case Initiative process and its ICT Investment Framework. The concepts, models and frameworks presented in this paper provide a fresh approach to IT investment strategy and governance by supporting the consideration of the intangible capital value of one ICT investment vs another when making ICT investment decisions. In addition to taking a systems perspective they are grounded in emerging best practice concerning the consideration of intangible capital value as adopted by the accounting profession and academia.*

Keywords: Tripartite model, ICT investments, Intangible Capital, Evaluation

Introduction.

Over the past century, national economies have witnessed major transformations in the factors of economic production. The industrial economy (making tangible goods) has largely been superseded by the service economy (delivering knowledge solutions). In contemporary times, many organisations and national economies derive their competitive advantage from intangible, knowledge intensive resources (Boedker et al. 2007). Managing relationships, business structures and processes, information systems and technology, and human capital is critical to organisational wealth and sustainability in the knowledge era. ICT projects enable change and contribute to the creation of tangible and intangible value. However, most ICT evaluation methods do not adequately consider the intangible value of ICT investments.

This study stems from a request by the Australian Government's Information Management Organisation's (AGIMO) to: 'Extrapolate the standardised language and approach required to describe structural, relational/social and human capital elements of information, communication and technology (ICT) investments, such that the language and approach can be used for preparing business cases by Australian Government agencies'. The study applies the Tripartite Model of intangible resources, as proposed by the Australian Society for Knowledge Economics (SKE), which is emerging, internationally and nationally, as an accepted framework for conceptualising and managing intangibles (Boedker et al. 2007), to the consideration of intangibles in the evaluation ICT investments.

It is proposed that in order to adequately evaluate both the financial and non financial performance of ICT investment, one needs to understand the types of intangibles that could be operating in such an environment. This study finds that a balanced approach is most

appropriate – one that is neither absolutely financial nor intangible, quantitative nor qualitative, especially for ICT investments, which are notably different from more traditional capital investments. ICT investments introduce notions of uncertainty, change, value creation and new knowledge which need to be understood in their unique context, especially given that benefits or losses accruing from such investments may not necessarily be quantified only in dollar terms. Rather an ICT evaluation approach that captures the full extent of the impact these investments have within a department, organisation or system (e.g., whole of government) is required so as to assess the value of the investment to relational, structural capital and human capital elements.

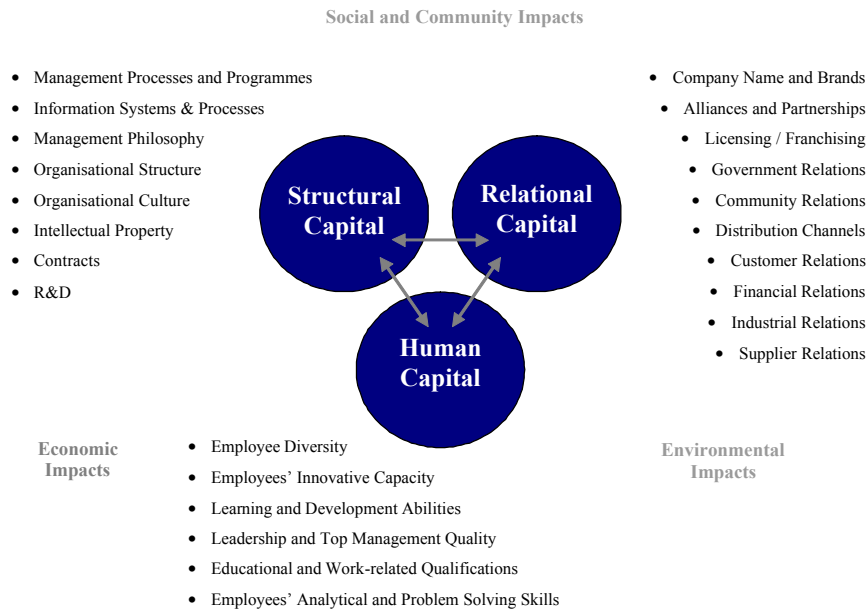
The paper proceeds as follows: the second section introduces the Tripartite Model of Intangible Resources; the third presents the results the literature review into existing ICT investment methods; the fourth presents the results of the research being a number of models derived from the literature, which describe the ICT investment process and the proposed ICT Investment Framework. The report concludes with a discussion concerning the further development of the framework.

The tripartite model of intangible resources.

The tripartite model of intangible resources proposes that intangible capital exists in three categories being *relational*, *structural* and *human*. The model defines the three categories of intangible capital as follows: *Relational Capital* refers to an organisation's relationships with external stakeholders be they suppliers, customers, the community or others; *Structural Capital* refers to the structures and processes employees develop and deploy in order to be productive, effective and innovative; and *Human Capital* refers to the skills, attitudes, abilities, competencies and qualities of an organisation's employees.

The model uses these categories to conceptualise and summarise the new factors of economic production in the knowledge economy as shown in Figure 1. In turn each category comprises potential intangible resource elements as summarized in Figure 1. These value elements provide a checklist for identifying sources of potential intangible capital drivers associated with an existing system (organisation etc) or proposed investment. In the business context intangible capital value is the difference between the market and tangible (aka book) value of a company. The tripartite model identifies but does not attempt to quantify the discrete sources of intangible capital value that combine to create an organisation's intangible capital value.

The tripartite model of intangible resources builds on the widely accepted foundation established by the European school of intangibles (Edvinsson et al. 1997; Roos et al. 1998; Sveiby 1997). This foundation has been extended by the Australian school (Boedker et al. 2005; Guthrie et al. 2000; Guthrie 2001). The model is further informed by the Society for Knowledge Economics' *Guiding Principles on Extended Performance Management – A Guide to Better Managing, Measuring and Reporting Knowledge Intensive Resources* (2005). As such the tripartite model of intangible resources represents a contemporary view of the drivers of intangible capital value which is gaining acceptance amongst the accounting, management and academic communities. For a more complete discussion of the Tripartite Model and global developments in the field of intangibles refer to "*New paths to prosperity: International trends and developments in extended performance management, measurement and reporting*" (Boedker et al. 2007)



Source: Society for Knowledge Economics, 2005, p. 25

Figure 1 - Tripartite Model of Organisational Intangible Resources

ICT evaluation methods: A review.

A literature review of existing ICT investment methods and case-studies was conducted to develop a view of the treatment of intangible value in contemporary ICT evaluation methods. This review of contemporary ICT evaluation, known more commonly as business case development methods provides a foundation for considering the value of intangible capital in ICT investments discussed in the section four. A number of ICT evaluation methods were critiqued¹ with a focus on their worth in accounting for the intangible value associated with ICT investments. The review included both academic and managerial sources. The evaluation methods identified in the review can be categorised into two groups: the first being traditional, financially based techniques; and the second being integrated or non-financial methods.

Traditional or financial techniques

The traditional evaluation techniques identified included: Discounted Cash Flow Analysis (DCF) (Clemons et al. 1990; Dos Santos 1991), Net Present Value (NPV) (Ballantine et al. 1998; Dos Santos 1991); Internal Rate of Return (IRR) (Bacon 1992); Payback Method (Murphy et al. 2001); Return on Investment (ROI) (Ballantine et al. 1998; Farbey et al. 1999); Cost Benefit Analysis (CBA) (Farbey et al. 1999; Murphy et al. 2001); Real Options Theory (Dos Santos 1994); Return on Management (ROM) (Farbey et al. 1999).

These are primarily financial models in that they attempt to translate the benefits associated with a given ICT investment into cash flow or financially recognisable and recoverable forms. In terms of use, Ballantine & Stray (1998) studied what percentage of their respondents have used a number of financial techniques in their most recent projects. They found that 72% Cost Benefit Analysis, 60% use a Payback method, 73% used a Productivity Index. They also found that 64% of respondents did not use an IRR based method, 66% did not use an NPV calculation and 66% did not use the ROM method. The Bacon (1992) study found that 75% of surveyed organisations used what the traditional methods of valuation as mentioned above.

¹ A complete copy of the critique can be obtained by contacting the lead author.

The reviewed models are 'generic' financial models in that they can be applied to the evaluation and comparison of any type of investment i.e., they were not specifically designed to evaluate ICT investments (Bannister 2001). The scope of these models is often limited in terms of the time considered for the payback or value to be realised from the investment, and the organisational or stakeholder scope of the financial benefits considered. For the most part the scope is limited to the consideration of financial benefits that will accrue to the organisation (or sub-organisational unit) making the investment (Zee Han 2001). The methods do not specifically acknowledge or accommodate qualitative benefits unless they have been converted into financial form (Hallows 2005; Van Grembergen 2000). Intellectual capital was not identified as a model for considering intangible benefits.

Integrated or non-financial methods

Weighted Scoring Methods, Information Economics (Farbey et al. 1999; Lin et al. 2001; Wiseman 1992) , Categorisation Methods, Multi-Criteria Methods (Stewart et al. 2002), Multi-Objective – Multi Criteria Methods (MOMC) (Farbey et al. 1992), Multi-criteria Decision Making (MCDM) (Limayem et al. 2000) and Application Portfolio approaches (McFarlan 1984; Ward 1990), represent a range of evaluation methods used to consider the qualitative associated with any given ICT investment. In the main the methods appear to have been developed or embraced by ICT organisations in an attempt to quantify, or at least take into consideration, what are commonly referred to as secondary or qualitative benefits (Hochstrasser 1990). These methods are either 'generic' models in that they were not specifically designed to evaluate ICT investments, or are models developed and proposed by the ICT community as ways that their value could be assessed. The methods do not explicitly refer to intangibles, intellectual capital or its value.

A number of authors proposed approaches for turning qualitative benefits into quantified benefits in order for the benefits to be considered in the financial techniques. These approaches include 'Partially Objective' techniques (Remenyi et al. 2000): Relative competitive performance; Work study assessment; Economic Assessment; User Utility Assessment; Value-Added Analysis, and 'Fully Subjective' techniques (Remenyi et al. 2000): Strategic match analysis and evaluation; Value chain assessment; User Attitudes; Proportion of management vision achieved; Value for Money.

The review identified a number of weaknesses with existing ICT evaluation methods in their treatment of intangibles and/or intellectual capital including: their focus on tangible benefits and their financial nature (i.e., they attempt to translate the benefits associated with a given ICT investment into cash flow or other financial forms); their inability to adequately address intangibles (Willcocks 1996); issues of scope and value driver attribution; and scepticism about the proposed methods in the financial and investment evaluation communities. These observations are discussed below in the context of the generic ICT evaluation process model. The review was unable to identify any existing method which adequately addresses intangibles or considers the 'intangible value of the system itself'. The research did not identify a model that can accommodate intangibles as it is considered they should be expressed.

Results.

The results of the research are presented in the following subsections. Subsection 4.1 presents the application of the tripartite model to ICT investments. It starts with a version of the ICT investment lifecycle developed during the literature review, then proceeds to build on this conceptual model by taking a systems view of the effects of any given ICT investment

and using the tripartite model as a lens through which to view and assess this value. This is followed a discussion and illustration of the ICT investment framework developed in this study.

A generic ICT investment lifecycle

A prototype model of the ICT investment lifecycle developed as a result of the literature review is illustrated in Figure 2. The model was developed to assist the discussion of current ICT evaluation practices and to position the use of the tripartite model in this process. The generic model appears to be used in one form or another in both commercial and public sector organisations. Several of the weaknesses identified with this contemporary model are discussed. These weaknesses are then addressed in creating a more complete model for considering the intangible value of ICT investments.

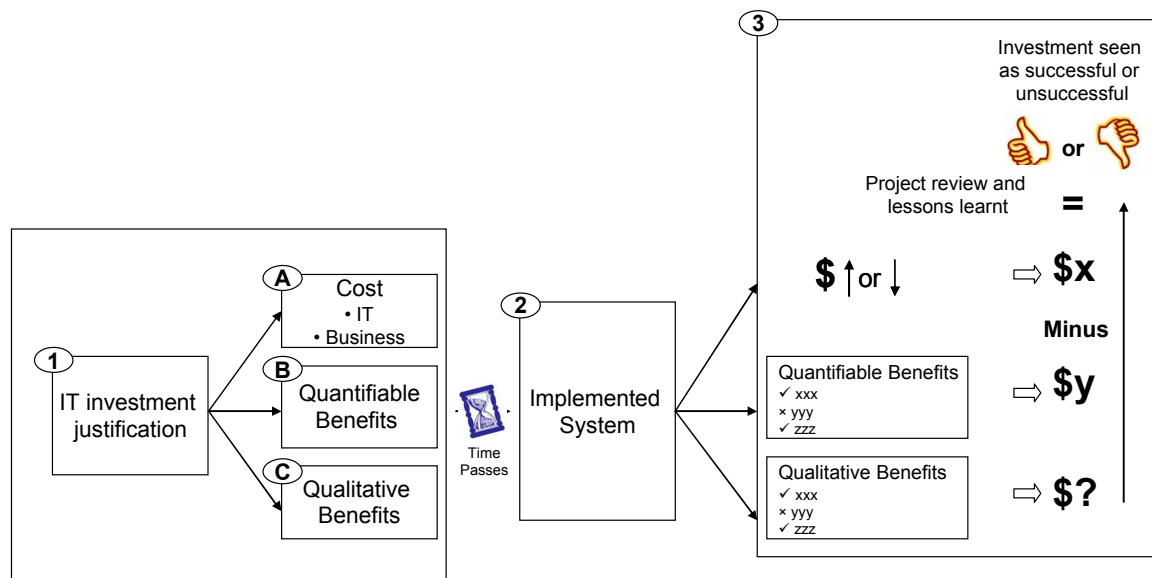


Figure 2 – Conceptual Model of the ICT Investment Lifecycle

The main elements of the prototype model have been numbered to assist with the following explanation of the model:

[1] All ICT investments require some form of justification. The form of the justification, its scope and detail, will vary with the type of ICT investment being considered. Remenyi, Money and Twite (1995) are representative when they propose the following hierarchy of the different types of ICT investments mapped to investment purpose: Business survival; Improving efficiency; Improving effectiveness; Competitive leap; Infrastructure. The discussion in this study applies to ICT investments whose purpose is non ‘Business Survival’ (i.e., non ‘Must do’, investment types).

[A] The justification, or business case, for a given ICT investment is built in varying stages throughout the ICT planning process. The justification invariably results in a cost and benefits/value equation and a comparison with competing investments/proposals. The cost elements will almost certainly include the ICT costs of hardware and software acquisition and staff involved in the design, development and delivery of the system. The costs to the business of implementing the system, for example, changes to processes, staff training, potential disruptions to service, etc., are variably taken into account. The benefit/value element of the investment equation comprise of quantifiable and qualitative benefits.

[B] Quantifiable benefits are benefits, value or changes to the organisation that can be realised in financial terms. Typical quantifiable benefits include: improvements in efficiencies for example, headcount reductions, reductions in inventory holdings, improved cash flows, etc.

[C] Qualitative benefits are often considered secondary or 'soft' benefits. Examples of qualitative benefits include: improvements in customer service; systems standardisation; processes aligned with best practice; supporting rapid decision making, etc.

[2] Assuming the cost/benefit equation for the investment meets the organisation's evaluation criteria and succeeds versus competing projects, the investment/project proceeds. Once an investment decision has been taken, the project is commenced and invariably completed. There is often little rigour applied to the review of 'in process' investments with few investment decisions revisited and even fewer changed once the project has begun.

[3] When completed 'post-implementation' reviews of the project may be conducted to establish lessons learned and to determine if the forecast business case has, at least in part, been achieved. The post investment evaluations tend to refer to the original business case and compare actual costs against the fully or partially realised costs and possibly also benefits. Where the equation remains positive the project is deemed successful (in business case terms). Where it is not, the review is completed with varying recommendations on how to improve the process for future ICT investments and the steps the organisation should take to realise some or all of the forecast benefits.

There are a number of weaknesses with the contemporary IT evaluation process. First, quantifiable benefits are often considered the 'primary benefits' associated with an investment. In our experience a significant number of organisations build business cases only using quantifiable or tangible benefits. Once a business case has been established using quantifiable benefits, the secondary benefits associated with a given investment are variably listed for 'completeness' sake or to support the subjective aspects of any approval process. As a result these benefits are not often taken seriously by the organisation and little effort is expended to realise or quantify these benefits once the project has been completed. This is a significant issue if one considers that the value able to be derived from the intangible value of ICT investments can be up to nine times the tangible value identified in the original investment case (Brynjolfsson et al. 1997).

Second, the question of attribution invariably arises in the investment lifecycle. The attribution problem has two dimensions. The first relates to the scope of benefit (i.e., most investment evaluation processes limit the scope of benefits to be realised to the organisation/entity, or sub-organisation, making the investment). This is particularly a problem for whole of organisation or whole of government initiatives. The second is attribution of the 'driver' of the benefit. This second problem appears more often in 'post investment' evaluations where other factors or management initiatives (normally non-ICT based) are attributed to driving the realisation of value originally identified in a given business case.

Third, there is a healthy scepticism regarding most IT organisations' ability to accurately estimate both the costs and schedules of ICT investments. This scepticism appears to be at best linear with the size of the ICT investment. This scepticism flow through to the development of the original business case and needs to be acknowledged and accounted for in

any discussion of the Intangible Capital value of ICT investments as part of an ICT investment evaluation methodology.

Fourth, the evaluation models used to assess ICT investments have been based on the 'construction industry' model which assume predictability of decomposition and estimates, whereas ICT investments are by nature uncertain and may be more like 'research and development' projects.

Finally, once the system is operational there is rarely any serious or prolonged effort put into fully realising the forecast quantifiable benefits and there is even less effort expended to realise the forecast qualitative benefits. Most organisations have immature benefit realisation processes with the benefits/value used to justify a given investment seldom included in forward budgets.

The identification of these weaknesses led to the consideration and application of the Tripartite Model to ICT investments as described in the following section.

The tripartite model applied to ICT investments

This section introduces the tripartite model into the generic ICT investment lifecycle introduced above. This extended model considers the intangible value inherent in ICT investments and provides a fresh perspective to the question of considering intangibles in the evaluation of ICT investments.

Most methods reviewed in the preceding sections discuss qualitative benefits without considering or determining the characteristics of the system, its specific and inherent intangible value, which enables their evaluation. Intangible value models, such as the tripartite model, may provide this missing link. Figure 3 illustrates a model of the ICT investment lifecycle which considers the intangible capital value of ICT investments in two dimensions: that of the investment and that of the system of which the investment will be part.

The logic supporting the extension to the earlier model and the use of the tripartite model is as follows:

A - The system, which results from the original ICT investment, when developed will have intangible value in its own right. The 'system' in this context includes all parties and stakeholders; IT, partners, the business, its customer and the broader community etc, as well as all components; processes, applications, software and hardware infrastructure etc, which comprise the ICT system. The value of the 'system' can be tangible or intangible.

B - The system changes and becomes part of, or enables, a 'bigger system'². As it does it changes and hopefully enhances the value of this 'bigger system'. In the public sector this 'bigger system' could be part or whole of government or extend to all stakeholders as in a national level system. It may also enables new and bigger systems.

² The 'bigger system' is analogous to the collaborative effect and benefit of ICT investments.

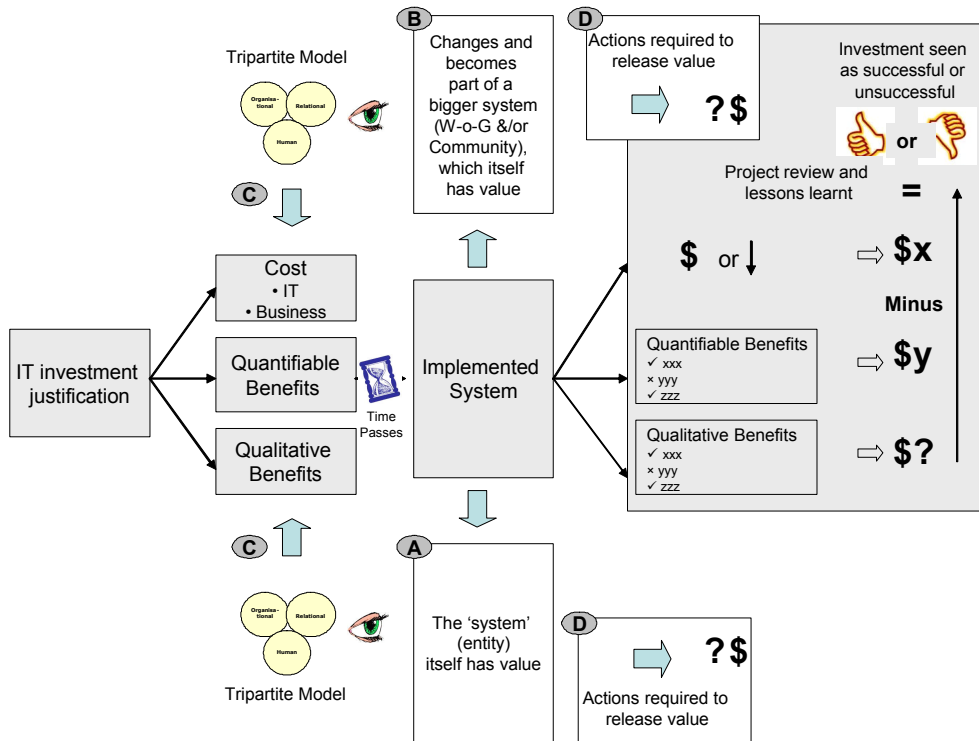


Figure 3 - ICT Investment Lifecycle Considering the Intangible Value of the proposed 'system'³

C - Building on these observations, if the elements of intangible value that exist in the system (at either level) when delivered can be identified prior to project initiation then these value elements can be incorporated, and considered, in the initial ICT investment justification and evaluation process. This consideration may be through attempts to quantify the future value of the intangible capital in financial terms or by creating indexes and/or weightings that allow comparisons between competing investments under consideration. The tripartite model provides a lens for viewing this value and identifying its intangible value elements. The elements of the future value of the system become a source of both quantitative and qualitative benefits in the justification for the ICT investment. As an example a given ICT investment may introduce a new ICT infrastructure – this infrastructure has an enabling benefit for the organisation initiating the investment in that it may allow the integration and provisioning of other services, a likewise additional benefit may exist if it can also be leveraged by other government departments as part of the 'bigger system'.

D - Actions are required to realise the intangible capital value of either the new system or the bigger system (Brynjolfsson et al. 1997).

The enhanced model allows the explicit consideration of future intangible value in the consideration of the proposed ICT investment.

ICT intangible value – The tripartite model view

This section presents the results of using the tripartite model as a lens to identify the future intangible value of ICT investments. Applying the tripartite model view resulted in the consideration and discussion of each element of the tripartite model in the ICT context. Each

³ The enhanced model builds on the generic ICT investment lifecycle model which has been shaded in grey to highlight the extensions.

of these elements is a row in the framework. An extract of the framework is provided in this paper for illustrative purposes (see, Table 1). The illustrative extract includes a sample from each of the tripartite categories. A complete copy of the framework (running to 15 pages) can be found at www.govdex.gov.au or obtained by contacting the authors.

The first column of the table represents an intangible value element of the generic tripartite model. The second column provides a discussion of the tripartite model element in the ICT context. The discussion starts with a question that may be used to identify whether a given ICT investment has this intangible value element. This question is followed by a brief exploration of potential characteristics of this intangible value in the developed ICT system. The generic areas of benefit (both quantifiable and qualitative) identified in the literature review were mapped to the intangible value elements of the generic tripartite model as potential outcomes or benefits of these value elements. This mapping provides a seeding of the table which was then expanded and discussed based on the authors' experience. The third column maps the classes of tangible and intangible benefit 'outcomes' identified in the ICT evaluation literature discussed in the previous sections to these applied tripartite value elements – it is noted where there was no corresponding outcome or benefit identified in the literature. The fourth and fifth columns indicate whether the intangible value may exist at both a system for example, department level and/or at the 'bigger system' level, for example, a whole of government level or nationwide levels, that include citizens, service providers, multiple agencies and specialist (for example, healthcare, public security).

Not all of the identified value elements will be applicable to any given ICT investment or system. Some elements of the tripartite model fit more comfortably with ICT investments than others. Those considered by the authors as most applicable have been highlighted by shading the element of the tripartite model in the first column. A key reason for ensuring all the value elements described by the tripartite model are explicitly considered prior to investment is to avoid a decision by default – by ignoring them because they were not seen as "relevant" when in hindsight they may turn out to be key. The guiding principle applied is: Assume all the value elements are applicable to this investment until we explicitly decide to eliminate them from consideration.

Two additional observations can be made concerning the application of the generic model to a specific industry sector or investment type. Both relate to the flexibility of the model, which recognises that not all value elements may apply in any given application of the model and its

Table 1 – Illustrative extract of the framework

Tripartite Element	ICT Tripartite Value Element Discussion	Related Outcome/Benefit	Applies to the 'system'	Applies to the 'bigger system'
<p>Company Name and Brands</p> <p>(Relational Capital Example)</p>	<p>Does the ICT investment re-enforce, support or detract from the organisation's desired image?</p> <p>Any given ICT investment, however small, may have an affect on the image of the organisation. For example the use of a new technology may enable new and easier forms of services supporting an organisational image which is innovative, progressive and associated with good customer service, whereas a badly implemented IVR system may re-enforce a negatively 'bureaucratic' or 'impersonal' view of an organisation.</p>	<p>Improving organisational image</p> <p>Supporting branding, including repositioning and changes to customer perceptions.</p>	<p>Yes</p>	<p>Yes, if the result of the investment is also associated with other services, or parts of the 'extended' organisation.</p>

<p>Management Processes and Programmes</p> <p>(Structural Capital Example)</p>	<p>Does the ICT investment support management programs? Does the ICT investment re-enforce and/or capture the organisations processes? Does it provide staff with more instant and up-to-date information about the organisation’s policies and procedures?</p> <p>There are two parts to this value element – does the ICT investment further the implementation of or enable the organisation’s business strategy. The question of ICT enabling a business strategy is often addressed in the business case for the ICT investment. The question of the ICT investment positioning for the enablement of existing or future business strategy is addressed in the intangible value discussion of information systems and processes – especially when organisational agility and flexibility is enabled by architecture and business process. The business process dimension is discussed in the Business Process element of the Information System and Processes below.</p>	<p>Generically – support for business strategy: Market share, growth, competitive advantage, improved efficiency, improved effectiveness etc.</p>	<p>Yes</p>	<p>Unlikely unless there are shared or common management programs and processes.</p>
<p>Employee Diversity</p> <p>(Human Capital Example)</p>	<p>Does the ICT investment support the IS organisations need for employee diversity?</p> <p>In the ICT context this can for demographic diversity– especially if an IS organisation facing issues of aging workforces; and technology diversity – where an organisation wishes to create a portfolio of technology skills and lessen exposure to risks associate with legacy or potentially obsolescent technology skills. ICT may also help collaboration across geographies thus providing access to skills not accessible in local markets.</p>	<p>Increased technical skills and competencies Employee engagement and development.</p>	<p>Yes</p>	<p>Possible, if there is a mechanism for sharing staff between organisations.</p>

<p>Learning and Development Abilities</p>	<p>Does the ICT investment assist in the development of organisational and employee development and learning? Does it open up opportunities for knowledge flows between the organisation and external parties? Does it induce staff to engage in up skilling, possibly as a result of more easy and instant access to learning facilities (i.e. online education). Does it improve the efficiency and effectiveness of internal training and L&D programs?</p>	<p>Not explicitly identified in the literature review as either a quantifiable or qualitative benefit of undertaking an ICT investment.</p>	<p>Yes</p>	<p>Possible, if there is a mechanism for sharing staff between organisations.</p>
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ability to accommodate 'industry' specific extensions such as the more granular treatment of 'Information Systems and Processes' and the inclusion of additional value elements such as 'Domain Knowledge'. The more granular treatment of the tripartite element 'Information Systems and Processes' resulted in this element being subdivided in the following dimensions: Data; Information; User Interface; IT Architecture and Strategy; Infrastructure (H/W); Infrastructure (S/W); Infrastructure (Communications); Infrastructure (Development); Methodology; Improved Documentation/Capture of IP; and Standards.

The framework and its checklist can be applied at multiple levels to determine the potential change to intangible capital value that may result from any given ICT investment. These levels include the ICT organisation itself, the organisational unit implementing the investment or to the 'bigger system' of which the ICT investment is a part.

Summary.

In summary, in reviewing a number of ICT evaluation methods the paper identifies the emerging trend away from narrow traditional financial methods, due to their unsuitability for handling the intangible aspect of ICT investments. The research confirms the proposition that the tripartite model provides a framework for considering the intangible value associated with ICT investments and identifying this value to multiple levels of 'system'. In doing so it makes an original contribution to the development of the argument for considering the intangible value in ICT investments in the ICT investment evaluation process.

When viewed from a systems perspective, all ICT investments have intangible value which can be identified using the tripartite model. Further, we observe that projects have a potential to affect systems beyond their original intent. For both of these reasons, the authors recommend that it is worth including the tripartite model evaluation of intangible value in any organisation's current ICT evaluation methods. As the approach provides an additional lens for considering the intangible value of ICT investments it should be compatible when used in parallel with any financial based model. The enhanced investment model and the tables may also assist the ICT community in communicating discussion concerning the role of intangibles and their inclusion in making sound ICT investment comparisons and decisions. By using the tripartite model, which is gaining increased acceptance in the accounting, managerial and academic communities, the discussion of intangible value of ICT investments is moved to a new level (i.e., IT can expect increased acceptance by these communities of ICT evaluations grounded in this model).

The Tripartite model proves to be a structured yet flexible framework when applied in the ICT context and supports the identification of intangibles within a wider stakeholder engagement context, not just at the entity level. The study takes a particular stance on one of the many new resource categories underpinning economic production in the knowledge era, namely ICT – the approach used, the models and checklist developed in addressing this request are applicable to other industry sectors and investment types.

From Here?

The completed framework has been reviewed and accepted by AGIMO. AGIMO plans to incorporate the concepts and framework developed in this research in the Australian government's Business Case Initiative process and its ICT Investment Framework gradually over the next few Federal government budget/planning cycles. In order to support this effort AGIMO are keen to receive public comment and suggestions for the further enhancement and evolution of the ICT investment framework derived from the tripartite model. A discussion

forum has been established to facilitate this discussion please visit www.govdex.gov.au . The next iteration, based on this public feedback, of the framework will be published by the SKE as an example of the Tripartite Model applied to ICT investments. This publication is planned to be the first in a series of frameworks developed to demonstrate how the tripartite model can be used to support the evaluation of non-ICT investments. The model in its current and future form is available for use by industry and as a foundation for future research into the ICT investment and evaluation methods. Future research may include lessons learned as the government incorporates elements of the framework into their ICT investment evaluation processes. The authors, SKE and AGIMO welcome feedback, case-studies and learnings concerning the application of the framework to the evaluation of future ICT investments and/or the valuation of existing ICT investments.

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