



# **ICT System Upgrades & Implementations**

## **Briefing Document**

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## Abstract

Upgrades and implementations of ICT (Information Communication Technology) systems have common elements and it is the shortcomings in addressing these elements that is often the cause of over runs, less than optimal implementations and weak business integration. The elements identified include:

- Resolution of business ownership and strategy.
- Understanding business operations.
- Identifying information flows.
- Definition of solution design.
- Development of the solution.
- Robust testing regime.
- Migration of data.
- Communication to stakeholders.
- Required training.
- Development of appropriate documentation.
- Integration into the business.

Of all of these elements, those of business ownership and business integration are the key elements because any ICT implementation or upgrade is done to meet a business need and is by definition, a business owned, championed and driven exercise.

Acting as a generic framework for ICT upgrades and implementations only (NOT a detailed list of steps, risks and issues), further details are presented in this document.



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# 1 Introduction

This Briefing Paper identifies some common elements around a replacement, upgrade of or an integration of an ICT (Information Communication Technology) system into the business. The purpose of the document is to provide a framework for assisting business to achieve a successful ICT implementation. The elements identified include:

- Resolution of business ownership and strategy.
- Understanding business operations.
- Identifying information flows.
- Definition of solution design.
- Development of the solution.
- Robust testing regime.
- Migration of data.
- Communication to stakeholders.
- Required training.
- Development of appropriate documentation.
- Integration into the business.

Of all the elements in this framework, business ownership and business integration are the key elements and the challenge often lies in bringing together all of the disparate areas to deliver a business integrated result. The following sections of this document address the elements.

**N.B.** This is a generic framework for ICT upgrades and implementations only and NOT a detailed list of steps, risks and issues.

## 2 Business Ownership & Strategy

Any ICT implementation is not done for the benefit of ICT but for the benefit of the business, e.g. lower costs or improved customer service. Therefore any ICT implementation needs to be owned by the business, driven by business need, meet business need and align to business strategy. When a decision was made to replace pencil and paper with calculators, this was seen as a business decision and as a business project. The same thinking should apply for any ICT implementations. ICT system upgrades and replacements are a business project owned and managed by the business for the betterment of the business. Therefore business ownership is required at the most senior levels of an organisation.

Aligned to business ownership is strategy. Any ICT system needs to be part of an overall business strategy, either as a tactical solution or part of core strategic infrastructure. Without a business strategy, an ICT strategy is ineffective and the value of any ICT systems is questionable.

Business ownership and strategy is the key element to success. The benefits of business ownership and strategy include:

- From resolution of ownership comes accountability and responsibility.
- Upgrades and replacements of ICT systems would then only proceed if the business were committed to them.



- The setting of the required priorities.
- Ensuring the proper allocation of resources.

### 3 Understanding Business Operations

The next element to address, is an understanding of current business operations. This is not what people think happens or what was drawn in a diagram some time ago but what actually happens now. Looking end-to-end as the customer interacts, the focus is on the core processes and making them a smooth assembly line, addressing the quality of hand-off issue in the processes.

The challenges in establishing the business processes are:

- Looking at the processes end-to-end as the customer interacts.
- Management to outcomes.
- Establishing what actually happens not what is on a page somewhere. This includes driving out all of the issues around operations including all of the spreadsheets and databases that were implemented as pragmatic solutions but form a major hidden cost and performance issue.
- Developing the standardised recipes, including the required information flow.
- Understanding the difference between how they do it now and how things should operate in the new environment.

It is important that current operations are not just duplicated in the new system. The conversation is around what they need to happen in terms of tasks and outcomes, NOT features.

### 4 Identifying Information Flows

From a resolution of how the business operates comes a definition of the actual work-flow and information flows. Consider roles, activities, authorisations and focus on the required outcomes. By carefully thinking about the flow of work and information, small and simple things can be readily identified and implemented that can be done up front to save significant work later realising lower costs and guarantee service delivery.

When addressing the flow of information, issues to consider include:

- What information is accessed;
- Where the information is accessed;
- What processing is done;
- Where the information is stored;
- To whom the information goes;
- Approvals required;
- Audit path;
- Archiving and recovery.

It is important that the information flow be tied to the business processes. The challenges related to this include:

- Getting beyond the main processes to the occasional and irregular activities, e.g. annual legal reporting.



- Tracking the changes to the data, e.g. company name changes where both old and new need to be supported.
- Resolution of required metadata (data about data) required to support the data.
- Integration of documents, with transactional data and database data with contact details and task management.
- Exceptions handling.
- Data feeds, e.g. linking to couriers.

## 5 Definition of Solution Design

Once the business processes and the information flow and management requirements are known, the solution can be designed. The solution is not a one size fits all, it is an integration of systems. Key will be the:

- Resolution of which parts of the system perform what roles ,
- Resolution of the quality of hand-off between elements ,
- Exceptions processing and management;
- Guarantee of service delivery between elements of the solution.

Key will be the approach of designing utility infrastructure and an assembly line for knowledge workers, rather than an ICT solution.

## 6 Robust Testing Regime

Any testing will be rigorous, especially the compliance and include:

- Unit testing – testing of an individual unit.
- System testing – testing of the system from end to end, including ensuring the changes have not impacted existing operation.
- Integration testing – testing the interaction of the system with all other related systems
- Performance testing – testing the operation of the system to factors such as load, response time etc.
- Acceptance testing – a statement of acceptance by the business that this is what they want and they want to take it into production.
- Stage testing – final testing in the staging environment before going into production.
- Useability testing – test the useability of a system from a user perspective.

The question to answer is this “can we conduct business as usual?”

## 7 Migration of Data

The migration of data is an important outcome but is often time consuming and takes longer than anticipated. In addition, to its importance and the time to complete being overlooked, the bad habit of not migrating all of the data and leaving concurrent systems open often occurs. This concurrent



system approach not only causes problems later but is a source of hidden costs and duplication of effort.

Proven experience shows that by including data migration as a core feature of the upgrade and linking into the information flows and processes, several advantages are seen including:

- Purging of redundant and duplicated data with subsequent performance gains;
- Resolution of important data and its role in service delivery;
- Facilitates the identification of ways to enhance business operation;
- Mitigates sources of error and consequence actions;
- Creation of a value-adding information source.

## **8 Communication to Stakeholders**

Aspects of the communication include:

- Sale of the project and business benefits.
- Sale of the project to the business, ICT and Vendors.
- Sale of the project to external stakeholders.
- Sale of the project to customers.
- Ongoing internal communication through out the change and during the implementation period.
- Ongoing external communication through out the change and during the implementation period.
- Special events.
- Brochures, Web site, e-mail, etc.

## **9 Required Training**

Extensive training to include:

- New policies, procedures and processes.
- New features and changes to work-flow.
- Changes to customers and other external stakeholders.
- Ongoing motivational and mentoring of staff.

Training to be ongoing during the implementation and post implementation support.

## **10 Documentation**

High calibre and comprehensive documentation needs to be an expected outcome of the project.

## **11 Integration into the Business**

There are many aspects to the implementation to cover off include:



- Establishing a clean operating solution.
- Migration of data.
- Decommissioning of old systems.
- Acceptance and compliance with standards.
- Business integration and training.
- Client management and stakeholder management.

A phased implementation is often the best approach.

