Maximising benefits from ICT in Federated/Hybrid organisation models and balancing the roles of CIO & CPO function in Higher Education

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1. Summary

The objective of the paper is to share a simple governance framework to discuss the skills, competencies and structures required to meet the demands of federated and hybrid ICT models. There are multiple ways in which ICT organisations can seek to provide value to the business. The paper shows four different types of ICT organisation models driven by the complexity of business and ICT's role. For each model, efficiencies and business value is typically sought after with different approaches, such as driving standardisation, managing business complexity, or enhancing the agility of IT. The paper also illustrates example structures for ICT for demonstrating the differences between the common models – Centralised, Federated, Hybrid. The second part of the paper dives deeper into how commercial benefits are driven for different ICT organisation models. Higher education institutions with their complex business structure provide an example for the federated and hybrid models.

2. DIMENSIONS AFFECTING THE ICT ORGANISATION

The purpose of the ICT organisation is to add value to the business with technology. The structure and operating principles of the ICT function depend on several factors, but the following two dimensions often influence design choices:

1. **What is the role of ICT for the organisation?** If the role of ICT is to be an invisible enabler, the ICT organisation has often only a loose connection to the rest of the business and is seeking efficiencies through standardisation. However, if the role is to support digital transformation in the business, ICT activities have tighter links to the business and the focus is on agility and business alignment.
2. **How complex or diverse is the business to be supported?** If the business has a clear focus on a single core, the ICT infrastructure and the supporting organisation are typically centralised and there is a focus on standardisation. However, if the business is diverse and requires heterogeneous ICT solutions, efficiencies can only be achieved if the heterogeneity and the complexity is managed properly.

Depending on the above choices, the source of efficiencies and the focus area for the ICT organisation can be very different. This is illustrated in Figure 1.

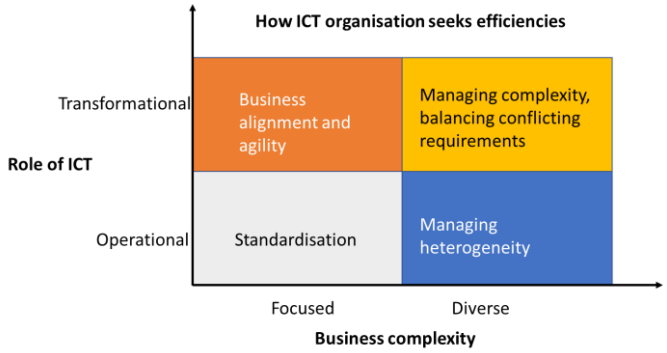

Figure 1. Sources of efficiency for ICT organisations.

The way ICT organisation seeks efficiencies in turn leads to very different approaches for managing ICT in an organisation. The reality, of course, is not black and white and, consequently, most organisations have their focus in one of the four corners while they also use elements of the other three areas.

One of the key elements for finding efficiencies in all four areas is the **ICT procurement capability** (Kahkipuro, 2017). This has been acknowledged in most ICT frameworks such as COBIT (ISACA, 2018) and Business Technology Standard (Business Technology Forum, 2020). The purpose of this paper is to provide a practical framework for implementing those efficiencies.

3. SOURCE OF EFFICIENCIES AND THE ORGANISATION STRUCTURE

As illustrated above, the source of efficiencies and the focus of the ICT organisation depends on the role of information and communications technology and on the complexity of the business. Consequently, the most suitable structure of the ICT organisation also depends on these factors. This is illustrated in Figure 2.

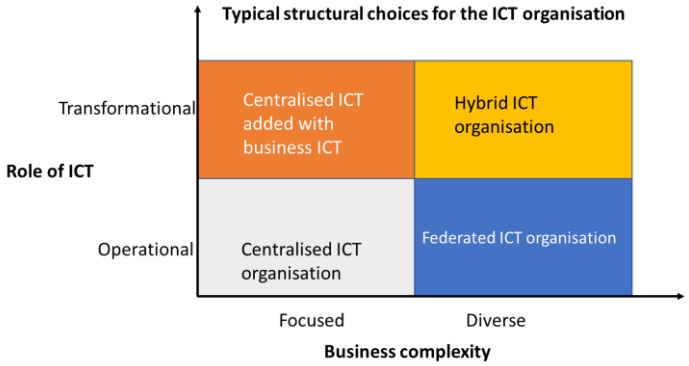

Figure 2. Structural choices based on the role of ICT and business complexity.

A centralised ICT organisation drives efficiencies through standardisation of technologies and processes. This propels economies of scale, better cost control, reduced operational risks and simplicity of operations. These are typically enabled by frameworks such as CMMI, Six Sigma, Code factory, and ITIL.

In a **centralised ICT organisation with added business ICT capability**, there is an amalgamation of business and ICT activities to support the use of digital technologies to enhance existing business and to generate new business. This is often implemented with cross-functional teams using agile methodologies to ensure alignment with the business. The activities remain centralised to maintain the benefits of standardisation.

A **federated ICT organisation** adopts to the diversity of the business through separate ICT units in business areas. There is often an overseeing CIO role in the organisation, but solid line reporting from the separate ICT functions stays within the business area in order to have full local control.

A **hybrid ICT organisation** combines the characteristics of centralised and federated ICT organisations. Typically, there are central elements for dealing with common services and devolved elements for coping with local needs. This introduces additional tasks for coordinating the different aspects.

High-level structures in Figure 3 illustrate typical organisational structures for each of the above four models.

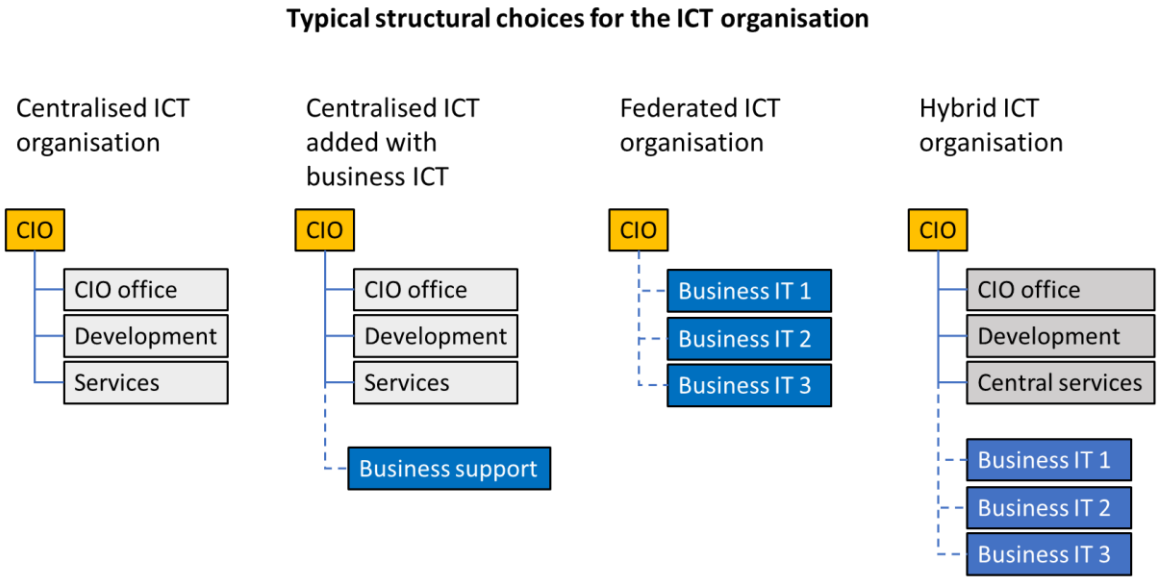

Figure 3. High-level structural choices for the ICT organisation.

In the rest of the paper, we will focus on deriving best commercial value in the ICT organisation and how the **procurement aspect** can be managed in the best possible way.

4. Optimising the commercial value with a Centralised ICT organization

The key levers used to drive procurement benefits in a centralised organisation is by (1) harmonising the operations and (2) by using standard IT products and services. Supplier management is mainly driven by scale benefits using buying tools to maximise uptake.

5. Optimising the value in Federated ICT

Some of the areas where procurement gets involved in a federated ICT organisation are:

- Low volume Standard & Non-Standard ICT present limited commercial opportunities due to lack of scale. The returns on central ICT contracts is typically low, and a federated operating model is often used. However, to keep track of overall spending a **common streamlined process** is needed.
- High volume Standard ICT items can present opportunities. Ideally, these items should be procured through a **centrally supported self-service/automated approach**. Lack of central remit on buying services may cause leakages from central deals.
- Procurement resources are typically engaged on **projects of strategic importance** which are non-repetitive in nature. Strong Procurement professionals engage closely with the Chief Information Officer (CIO) and Chief Procurement Officer (CPO). The main role of Procurement

professional is balancing the demands of business with CIO drivers (e.g. Security, Architecture) while enhancing commercial opportunities.

The federated model is typical for Higher Education institutions where the business has been divided into autonomous colleges or schools.

6. OPTIMISING THE VALUE IN HYBRID ICT

Hybrid ICT is the most common structure used to maximise business benefits and achieve optimal ICT Standards, especially in complex and diverse business such as Higher Education. Commercial success hinges on careful balancing of CIO & CPO roles and responsibilities. The governance model needs to balance importance of business requirements and the standard IT & Procurement Standards. The key elements of a successful model are

- **Central supplier management** of common products and services employed across the organisation. However, acknowledge that different organisations may have specialist requirements which will be addressed locally.
- **Robust processes and tools** embedded into the standard operating procedures. This ensures the benefits of Procurement deals are used across the organisation without compromising critical IT requirements e.g. data protections.
- **Strong business partnering** and clarity of responsibilities between CIO and CPO organisation.

Figure 4 illustrates a typical procurement structure for a hybrid ICT organisation.

Typical CIO , CPO and Business units in a Hybrid ICT organisation

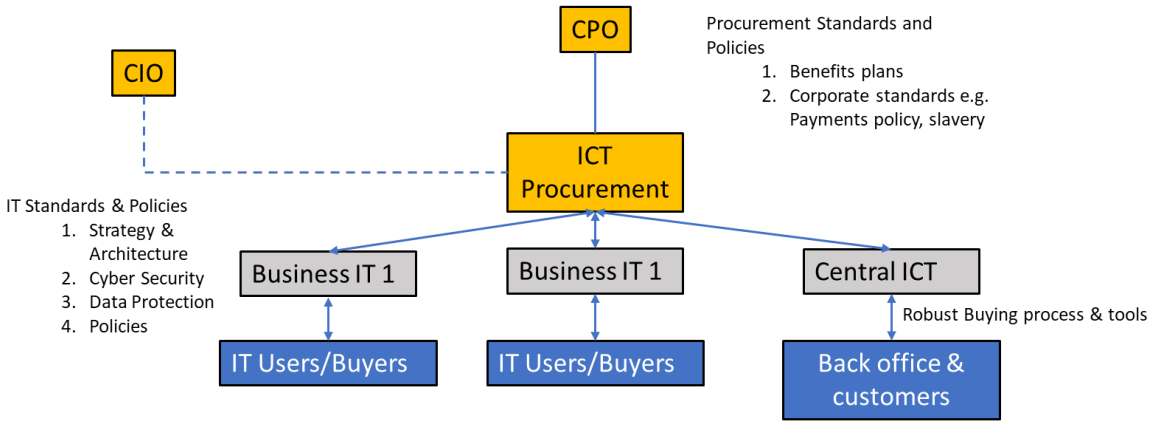

Figure 4. Typical procurement structure for a hybrid ICT organisation.

The hybrid model is typical for those Higher Education institutions that are seeking value through centralised operations in selected areas while also preserving the unique nature of each section of the business.

7. SUMMARY

Structural choices, skills and tools can be used to ensure that ICT delivers great value to business. ICT's structure is driven by how ICT is tasked to manage organisational complexity and weather the role is primarily operational or transformational. Mature ICT organisations play a crucial role in

managing business complexity and balancing conflicting requirements. Strong ICT provides the certainty of smooth-running secured back office services with the agility to support business changes. Procurement is playing an increasingly important role in ensuring good commercial value is delivered by ICT. Careful balancing of CIO & CPO organisations and clear roles and responsibilities is critical.

In this paper, we have provided a framework of four value creation models for ICT based on the role of information technology and on the complexity of the business. For each model, there is a typical way of organising the ICT function: centralised, centralised with business ICT, federated, and hybrid. In each case, the value drivers are different, and we have illustrated how this affects the organisational structure and the value creating processes. For each model, it is particularly important to find the optimal way for the CIO, CPO and the business units to operate successfully together.

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9. AUTHORS' BIOGRAPHIES

Ravi Prakash is a Cost Transformation Leader who regularly advises on Strategic Procurement challenges. He has significant experience helping CxO suite to improve operational effectiveness while delivering cost transformation. He worked for several blue-chip consulting organisations before co-founding Adeptthinking Ltd. Ravi completed his MBA from HEC Paris in 2006.

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