Setting up a **Business Analysis Centre of Excellence** in

Enterprise IT Programme Centre: Our Journey

ABSTRACT

Business Analysis (BA) was identified as a core competency for the DSTA Enterprise IT Programme Centre (EIT PC) to better support the Corporate IT business of the Ministry of Defence beyond the provision of technical solutions and project delivery. Staff equipped with professional BA competency add value to DSTA's customers by moving up the value chain to address their business needs through business and process transformation. A Core Team was commissioned to lay the necessary groundwork for a sustainable build-up of BA competency within the EIT PC. This article describes the journey of building up the BA competency in EIT PC and the lessons learnt. The article also shares the framework for the establishment of a BA Centre of Excellence (COE) as a key facility to promote the BA competency and develop it as a practice. The framework will serve as a reference for other groups who are also looking to set up COE initiatives in their respective communities.

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INTRODUCTION

The DSTA Enterprise IT Programme Centre (EIT PC) in DSTA manages and delivers end-to-end enterprise IT solutions to enhance the operational effectiveness and efficiency of the Ministry of Defence (MINDEF) and the Singapore Armed Forces (SAF). The EIT PC leverages the latest tools and methodologies and provides a wide spectrum of consultancy services in Application Architecture as well as Solutions and Integration, often with a focus on the innovative use of IT.

The EIT PC has identified a set of core competencies to better support the portfolio of projects of MINDEF Corporate IT (CIT). One of these core competencies is Business Analysis (BA). BA refers to the art and science of identifying user needs and determining solutions to meet them. BA is an important set of competencies for staff to better engage MINDEF CIT users beyond technical solutioning to recommend business or process transformation.

A BA Centre of Excellence (COE) was formed in the EIT PC to explore how BA can improve the EIT PC's delivery of IT projects. COEs bring an enterprise focus to many business issues (Geiger, 2006) by providing a centralised point of expertise and oversight control, integrating processes and practices, and reducing waste and re-work.

BACKGROUND

The International Institute of Business Analysis (IIBA®)[1] defines BA as the set of tasks, knowledge and techniques required to identify business needs and determine solutions to business problems. These solutions may include a systems development component, but may also involve process improvement or organisational change. BA work thus includes requirements planning, management, elicitation, analysis, and communication, as well as the validation of changes to business processes, policies and information systems. Requirements can be from the perspective of the business (i.e. higher-level statements of the goals, objectives or needs of the enterprise), or the user (i.e. statements of the needs of a particular stakeholder or class of stakeholders). The requirements may be functional (i.e. pertaining to specific tasks or behaviour that the solution must support) in nature (International Institute of Business Analysis, 2006).

In addition to BA, the EIT PC also identified Enterprise Architecture (EA) as another key competency to support projects of the MINDEF CIT portfolio. Enterprise architecting is akin to enterprise-level or strategic business analysis, and refers to the process of business blueprinting to enable Business-IT strategy alignment.

The MINDEF CIT EA programme was set up in 2006 by the DSTA Masterplanning and Systems Architecting PC to provide the overall framework, architecture and governance structure to align IT investment to meet strategic business goals. To guide and integrate future developments, EA involves the development of the Enterprise Business Architecture, Enterprise Information Architecture, Enterprise Solution Architecture and Enterprise Technical Architecture.

Of these four EA components, Enterprise Business Architecture is key to driving the rest of the EA components. Developing the business architecture requires not only in-depth knowledge of the business domains, but also good analytical methods and skills to diagnose and improve the business processes. BA is a complementary competency required to help business users clarify and transform their current processes.

Practising good BA can lead to better project delivery, less re-working, increased efficiency and greater customer satisfaction. Staff who

possess professional BA competency add value to customers by moving up the value chain to address their business needs through business and process transformation. A Core Team was thus commissioned to lay the groundwork for a sustainable build-up of BA competency within the EIT PC.

CENTRE OF EXCELLENCE SET-UP FRAMEWORK

Adopting a COE set-up framework helped the Core Team to plan its activities methodically. A good set-up framework should facilitate COE planners in defining the envisioned state of the COE, determining the necessary support structures and focusing their resources on developing the key elements to operationalise and sustain the COE.

The Core Team took reference from the ESI International[2] COE Set-up Framework developed by Glenn R. Brûlé, Executive Director of Client Solutions at ESI International and Vice President of Chapters at IIBA®. This framework provides a comprehensive list of the essential elements which we have adapted for our environment (see Table 1).

The EIT PC BA COE Set-up Framework consists of four disciplines under a Charter. The Charter documents the vision, mission and strategies of the COE and will serve as guiding principles for its sustenance. The four disciplines are briefly described:

a. **Best Practices.** The Best Practices discipline helps COE planners put in place a common approach for staff to conduct business analysis activities within the organisation. This discipline includes the Standards & Methodologies, Metrics & Tools and Knowledge Management elements. A sound Best Practices discipline ensures professional practice of BA and continued success.

b. **Operating Environment.** The Operating Environment defines the space in which the COE exists in the organisation. This discipline outlines the organisation's capacity to examine the current state of business analysis to determine its future state. The Operating Environment discipline comprising the Operating Model, Governance and Assessment elements will ultimately lead the COE to grow and mature.

c. **Human Resources.** This refers to both the support the COE provides to the rest of the organisation and the support it provides to the business analysts within the group to grow BA as a practice.

DISCIPLINES	Enterprise IT Programme Centre Business Analysis Centre of Excellence CHARTER – Vision, Mission, Strategies			
	BEST PRACTICES	**OPERATING ENVIRONMENT**	**HUMAN RESOURCES**	**BUSINESS ALIGNMENT**
Business Analysis COE Elements	Standards & Methodologies	Operating Model	Competency Definition	Enterprise Analysis
	Metrics & Tools	Governance	Training & Development	Stakeholder Relationships
	Knowledge Management	Assessment	Career Development	

Table 1. EIT PC BA COE set-up framework
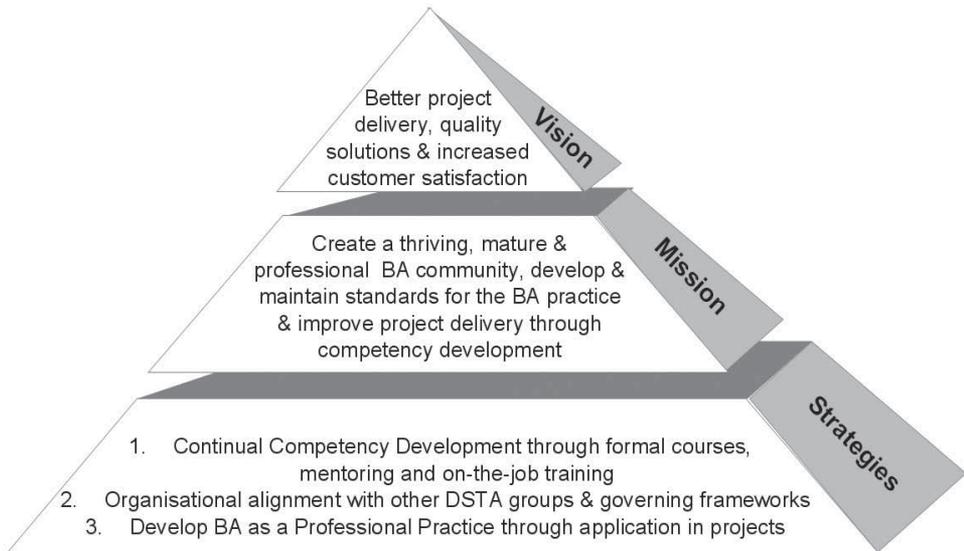*(adapted from the ESI International COE Set-up Framework)*

Figure 1. The BA COE Charter: Vision, Mission and Strategies

It includes the elements of Competency Definition, Training & Development and Career Development.

d. Business Alignment. Business alignment ensures that the COE adequately addresses the needs of the EIT PC's business, including the needs of our customers, MINDEF and the SAF. It represents the movement of professional BA practice from tactical to strategic organisational contributions. It includes the elements of Enterprise Analysis and Stakeholder Relationships.

ESTABLISHING THE CHARTER AND STAKEHOLDER RELATIONSHIPS

A Charter is essential to guide the COE implementation, and should be established early to give overall direction. The Charter documents the vision, mission and strategies of the COE.

To establish the BA COE Charter, the Core Team engaged stakeholder groups through a series of consultations and workshops. The resulting Charter (Figure 1) embodies this shared vision and the guiding principles to develop the COE elements.

The Core Team further identified key stakeholders of the BA COE. Figure 2 shows the three-layer stakeholder groups: i) Core Team, ii) Community of Practice (CoP), and iii) Sponsors.

The Core Team refers to the group which will drive the COE and administer its operations.

The CoP is a flexible and federated group of people who are interested in and contribute to the BA practice, and includes:

a. Active Contributors. Active Contributors are members of a community that owns, contributes and maintains the BA Body of Knowledge (BoK) which includes the BA Methodology and a BA Repository. Active Contributors will own, enhance and maintain BA artefacts and will validate the usage and currency of BA BoK.

b. Subject Matter Experts (SME). SMEs are the main providers of the BA COE's services. They are recognised SMEs in their respective domains or functional fields, and

should be able to synthesise their domain experience with the BA curriculum (i.e. techniques, tools and templates) and put BA in the context of their projects. They contribute during coaching, mentoring and sharing sessions and provide consultation and input to the BA BoK.

c. Collaborative Groups. Collaborative Groups are other groups in DSTA whose work has synergies with, or who will impact or be influenced by the BA COE's work. These groups will work together with the BA COE to ensure alignment and spearhead collaborative opportunities. They have a symbiotic relationship with the BA COE. Currently, the collaborative groups identified include EA and Business Excellence Quality Management System (QMS) Groups.

Sponsors are the higher management and include:

a. Supervisory Board. Supervisory Board refers to the EIT PC management. They do not participate directly in the COE's operational activities, but can represent the BA COE to voice their initiatives to other executives to garner support.

b. Competency Owner. The Competency Owner has the overall accountability for the delivery and success of the BA competency. This sponsor makes decisions, provides direction, and gives executive support. He also approves resources, deliverables and budget, as well as ensures the alignment of BA frameworks and operating intent to the strategic objectives. He is responsible for providing executive support in terms of funding and manpower resources for the BA COE Core Team to run the COE.

c. Business Unit Owners. Business Unit Owners are owners of the Line of Businesses in the EIT PC e.g. sub-business units. They decide the adoption rate of BA in the projects of their respective Business Units, and also provide the commitment in terms of manpower and funding for the BA COE Core Team, Lead BAs and Project BAs where necessary. In the EIT PC context, business unit owners refer to the MINDEF Information Systems

Figure 2. Stakeholders of the BA COE

Department which is supported by the various Line of Businesses in MINDEF and the SAF.

LAYING THE FOUNDATION

To lay the groundwork for the BA COE, the BA Core Team sought the sponsorship of DSTA senior management for manpower. To build the business case for the BA COE and highlight BA's value proposition, the team referred to the Standish Group CHAOS reports on statistics which showed that the top causes of failure in Project Management included incomplete or erroneous user requirements.

In mid-2006, seed funding for innovation and new competencies was granted to the Core Team, and it spent the next two years developing key elements in the COE set-up framework to lay the foundation for a more mature COE:

a. Best Practices Discipline – Standards & Methodologies. A BA Methodology (BAM) which outlines a business analysis value chain based on the typical software development life cycle was developed in the context of DSTA. The BAM comprises step-by-step activities, tools, techniques and templates[3] and serves to guide the systematic conduct of BA. As activities can be taken out of sequence, the BAM can be modified and contextualised to each project. It was piloted and validated in projects, and later refined and updated. The BA COE recognises the importance of incorporating the BAM into DSTA's existing governing frameworks, such as the DSTA QMS manual based on the ISO 9001:2000 standard, and has engaged QMS stakeholders to ensure alignment. The team has also engaged the EA office to align and incorporate the BAM into the Integrated Methodology for Business

Transformation (iMBT)[4], formulated as part of the EA framework.

b. Best Practices Discipline – Knowledge Management. Knowledge management includes knowledge creation, sharing and governance. A BA Portal[5] was set up to provide a one-stop avenue for staff to share and obtain information on BA, as well as access the BA BoK. The BA BoK includes the BAM, BA case repository, BA 101 training materials and an online forum for knowledge sharing. The portal also maintains a directory of BA SMEs.

c. Human Resources Discipline – Competency Definition. Competency is defined as knowledge, skills and attributes. In terms of knowledge and skills, the Core Team has defined and described six elements of the BA competency – Market Research, Feasibility Analysis, Business Case Analysis, Requirements Management, Business Process Analysis and Change Management. Four attributes of BA are also established, with the following definitions:

i. **Business-Savvy** – Thinking 'business before solution', and understanding the business perspective

ii. **Empathetic** – Being sensitive to the needs, difficulties and concerns of others and thus communicating appropriately

iii. **Articulate** – Being able to communicate one's ideas clearly and effectively

iv. **Adaptable and Resourceful** – Being able to respond quickly to changing business needs and working styles of clients

d. Human Resources Discipline – Training & Development. There was an initial competency build-up drive where the Core Team developed BA 101 training materials and conducted the course for nominated EIT PC staff. There were also two Speaker Series sessions where Glenn R. Brûlé was invited by DSTA to share on the BA professional practice and its importance. Monthly 'Office Hours Consultation Clinics' were set up where senior staff with experience in the practice of BA set aside time to mentor anyone who approached them with questions on BA. These sharing and consultancy sessions encouraged tacit knowledge sharing. An overall Training Roadmap for BA Competency Development was also charted for staff.

e. Business Alignment Discipline – Enterprise Analysis. The Core Team recognised the synergy between EA and BA to ensure strategic organisational contributions and complementary competency development. Through close collaboration with the DSTA EA Office, the Core Team aligned the two in competency development and methodology.

To generate publicity and interest for the activities organised as part of the BA competency build-up effort, the BA COE was featured in DSTA's internal monthly newsletter – *dstavista* Volume 80 (April 2008).

MATURING THE BA COE – BA COE OPERATING MODEL

In late 2008, after the foundations for critical COE elements had been laid, it was necessary to mature the BA COE and ensure its sustenance through an operating model. This operating model depicts how the BA COE would function to allow for continued BA competency build-up while meeting the organisation's demands for BA practice. The operating model was designed in consultation with various stakeholders.

The BA COE will be staffed by a Core Team of approximately 10 part-time staff, as the EIT PC works on a matrix organisation model. The Core Team will comprise staff from all sub-business units within EIT PC, in order to drive ownership in the adoption of the BA practice and the development of the BA competency. The Proficiency Levels (PL) in DSTA are: 1 – Learn, 2 – Understand, 3 – Apply, 4 – Coach and 5 – Expert. The Core Team will be staffed by those who have a PL of at least 3 in BA practice (See Figure 3).
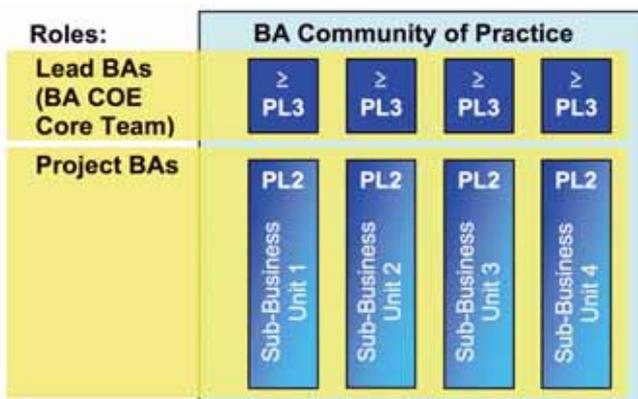

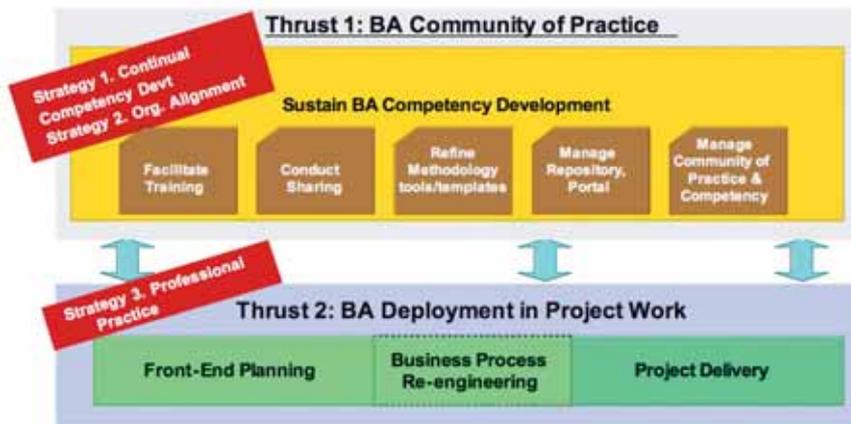*Figure 3. Operating and Staffing model of the BA COE*

Figure 4. Operationalising BA Strategies through two main thrusts

The Core Team aims to operationalise the three broad strategies defined in the BA COE Charter through two main thrusts (see Figure 4):

• **Thrust 1: Sustain BA Competency Development.** The Core Team will fulfill the role of a central executive body and will be actively involved in the operational activities of the COE. They are also the custodians of the BA BoK and will adopt an EIT-level view of COE.

• **Thrust 2: BA Deployment in Project Work.** The Core Team will be deployed as 'Lead BAs' in projects, where they will provide the leadership and guidance for 'Project BAs' to apply BA professionally from the Front-End Planning phase to the Business Process Re-engineering phase of projects. The Lead BAs will thus mentor Project BAs to follow through and lead in the BA work during the subsequent Project Delivery phase. It is important to deploy Lead BAs especially to projects which involve transformation of a new business area, as Lead BAs will integrate knowledge across different business functions.

As the Core Team is actively engaged in project delivery while driving and facilitating the various activities of the COE, they will continually refine the BA BoK through their various projects and mentoring experiences. This will allow the overall practice of BA in EIT PC to thrive and mature over time.

TOWARDS BA COE SUSTAINABILITY AND EXCELLENCE

Upcoming activities for the BA COE will focus on maturing the professional application of BA in projects, and developing the BA competency among EIT PC's staff. The BA COE will also develop the rest of the elements in the COE Set-up Framework (see Table 2): Metrics & Tools, Governance, Assessment and Career Development.

The BA COE aims to demonstrate tangible value in the professional application of BA in project delivery within the EIT PC, and thereafter to promulgate this competency to the larger DSTA community.

LESSONS LEARNT

For the Core Team, the journey to establish the BA COE in EIT PC has been an opportunity to apply the BA discipline in thinking 'business value' and satisfying stakeholder requirements. For readers who are setting up a BA COE in their organisations, we offer some of the key lessons learnt from our journey:

Legend:

◆ Establishing a Charter & Stakeholder Relationships (2006-2008)

■ Laying the COE Foundational Elements (2006-2008)

▲ Maturing the BA COE (2008-2009)

● Towards BA COE Sustainability & Excellence (2009 & Beyond)

Table 2. EIT PC BA COE set-up framework

a. COE Set-up Framework. The Core Team leveraged ESI International's COE set-up framework as a starting point and adapted it to meet our operating environment (see Table 1). Other groups seeking to set up their COEs can consider and refer to our framework and its principles and adapt it to their needs.

b. Business Alignment. Business alignment is a critical success factor to the sustainability of any COE. The BA COE had to identify relevant touch points with working groups within DSTA and work towards the alignment of existing methodologies and frameworks. This increased the relevance of the BA to the working groups and improved stakeholders' buy-in.

c. Stakeholder Relationships. Having a clear picture of who our key stakeholders were was pivotal in helping the team shape the competency build-up approach. The early identification and continual engagement of stakeholders and to understand their requirements for the BA COE was essential to ensure that the team delivered what the organisation required.

d. Team Composition. Having a committed and competent team that is self-motivated and passionate about its work is important in a COE staffed by part-timers in a matrix organisation. The COE work thrives on the dedication of its core members to continually improve its practice and drive activities.

e. Demonstrate Value. For continual sustainability, it is key to demonstrate the real value of the COE and its work to the organisation. While real tangible value to the organisation may take years to assess, we are not without means – one can turn to industry best practices and trends to help build the business case for the COE set-up.

CONCLUSION

The Core Team took reference from the ESI International COE Set-up Framework and adapted it to DSTA's operating environment and needs. The COE set-up framework provided a methodical checklist for the Core Team to establish necessary support structures and focus resources to build up BA competency to ensure sustenance.

The build-up of BA competency in the EIT PC is a journey. The BA COE Operating Model was designed to ensure that BA competency would be developed in a sustainable manner, while meeting the demands of BA practice in the organisation through project delivery. Nonetheless, the eventual success of the BA COE requires continual commitment and support from our stakeholders – from the management who will support the BA COE's vision and programmes, to individual staff who will take ownership and drive their own BA competency development

A mature BA practice in the EIT PC is strategic to DSTA's long-term goals as MINDEF and the SAF's key business partner. Staff equipped with professional and mature BA competency add value to our customers by moving up the value chain to better address their business needs through business and process transformation, thus moving beyond pure project delivery and technical solutioning.

ACKNOWLEDGEMENTS

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ENDNOTES

[1] IIBA® is an independent, non-profit professional association serving the growing field of Business Analysis. http://www.theiiba.org/am/

[2] ESI International is the recognised leader in innovative project management, contract management, business analysis, sourcing management training and business skills training. The company has served Fortune Global 500 companies worldwide and nearly every major agency of the US government. ESI provides complete integrated solutions designed to help clients improve business performance.

[3] Templates include SWOT (Strengths, Weaknesses, Opportunities & Threats), RACI (Responsible, Accountable, Consulted or Informed) Stakeholders, and Pareto Analysis, which help project teams in requirements analysis and gathering.

4   iMBT is a systematic and holistic approach to help business owners determine their desired future states along a structured and disciplined four-phase stage journey that anchors on Discovering Value, Defining Value, Realising Value and Sustaining Value.

5   BA Portal can be accessed on DSTA intranet at https://ehabitat.dsta.gov.sg/Community_Hub/DSTA_CoP/BA/index.jsp.

BIOGRAPHY

Angela Ho Wei Ling is an Engineer with a portfolio spanning across Enterprise IT (EIT) and DSTA Masterplanning & Systems Architecting (DMSA). In EIT, she has a key role in facilitating the Business Process Transformation and Enterprise Architecture for large-scale EIT projects of the Ministry of Defence and the Singapore Armed Forces (SAF). In DMSA, she is a key driver in developing Systems Architecting Methodologies. A recipient of the DSTA Overseas Undergraduate Scholarship, she graduated with a Bachelor degree in Computer Science (Honours) with a focus on Human-Computer Interaction from Carnegie Mellon University, USA in 2004. She also obtained a Master of Science degree in the Technology Policy Programme, with a focus on Aeronautics and Human Factors, from the Massachusetts Institute of Technology in 2006.

Gerald Tham Zhi-Choong is an Engineer (Enterprise IT). He is involved in systems integration initiatives for Corporate IT and Command and Control Systems of the SAF. Gerald plays a key role in facilitating the requirements development, overall architecture and solution delivery of these initiatives. He is an active member of the Business Analysis (BA) Centre of Excellence in its genesis and contributes by refining the BA methodologies and organising its knowledge-sharing activities. Gerald was awarded the DSTA Scholarship in 2003 and graduated with a Bachelor degree in Computing (First Class Honours) from the National University of Singapore (NUS) in 2007.

Ng Yuk Tong is a Programme Manager (Enterprise IT). She oversees the business development and planning programmes in EIT. Yuk Tong plays a key role in the IT development of the Ministry of Defence's (MINDEF) Corporate IT and is currently leading a line-of-business transformation project. She managed and implemented several MINDEF Human Resource (HR) sytems in the 1990s. She also led the front-end study of the MINDEF HR Transformation project which spanned 2002 to 2006, leading to the implementation of the new Enterprise HR system. She was the pioneer of MINDEF's initiative to reach out to Full Time and Operationally Ready National Servicemen through the Internet. Yuk Tong obtained her Bachelor degree in Computer Science from NUS in 1990.