T-Shape Skills for Business Analysts

A report based on research conducted with the Business Analyst community.

T-Shape Skills for Business Analysts

July 2018

INTRODUCTION

This report outlines the results of a wide-scale analysis of skills used by Business Analysts involved in business and IT change. The outputs presented are a snapshot of the skills being utilised in the 2017-2018 period within UK organisations.

Workshops were conducted with 100 Business Analyst leaders from organisations based across the UK and representing a range of sectors. The research forming the basis for this report was gathered at three events:

- Workshops at the BA Manager Forum (London, May 2018) with 80 Business Analyst leaders in attendance
- Think Yorkshire (Leeds, October 2017) with 10 Business Analyst leaders in attendance
- An event at Lloyds Banking Group (Manchester, February 2018) with 10 Business Analysts in attendance

The objective of the exercise was to identify the skills and capabilities that were most used by Business Analysts working in Waterfall and Agile methodologies. Participants worked in small groups to identify and prioritise skills, with the resulting information compiled into a single picture.

The participants formed fourteen groups, with eight focussing on Waterfall skills and six on Agile skills. Groups comprised 5 to 10 people.

The groups were first asked to identify:

- **Core Business Analysis Skills**: Those skills they considered to form the basis for the Business Analyst discipline. These are generally accepted as specialist skills.
- **General Skills:** Those skills which were considered essential to the Business Analyst role but more generic, i.e. it is reasonable to expect other roles and disciplines to develop those skills too.
- **Skills Associated with Other Roles**: Those skills which are usually core to a different role or discipline, but where some knowledge is considered useful to Business Analysts.

Once skills were identified, the groups conducted a voting exercise to emphasise which skills they felt to be relatively more or less important. The resulting scores for each skill were used to create heat-mapped T-models for Business Analyst skills.

CONTRIBUTING BA TEAMS

The Business Analysts involved in this exercise represented a broad range of skills, business sectors and experience of applying Business Analysis skills and capabilities. The majority of participants were experienced Business Analysts in senior positions and able to meaningfully comment on the value and types of skills being used in their organisations.

The organisations represented included private and public sector organisations, charities, education, government departments and independent contractors working in Business Analysis. A full breakdown is provided later in this report.

WATERFALL vs AGILE EXPERIENCE

There was a broad split between Business Analysts who had experience of working in Waterfall environments (approximately 60% of the participants) and those with experience in Agile environments (approximately 40%, mainly with a Scrum background).

A very small number of participants did not consider themselves to work in either Waterfall or Agile environments, but their ways of working were more closely aligned to Agile. For the purposes of this exercise their views have been incorporated into the Agile results.

BA ROLE VARIATIONS

There was also a broad variation in the types of Business Analyst roles represented in the exercise, including IT Business Analysts (i.e. those with a closer alliance to the technology), Systems Analysts (those with significant technology knowledge and design skills), Business BAs (those with a closer alliance with their business stakeholders) and Function Leads (those who manage BA communities of practice).

Figure 1: Example Waterfall Ideas Board

Figure 2: Example Agile Ideas Board

THE T-SHAPE SKILLS CONCEPT

The T-shape concept was first proposed by David Guest in 1991[1]. The T-shape is described as having two elements.

- A vertical part, representing the core, specialist experience of the individual – the capabilities and skills that make them a specialist in their field.
- A horizontal part representing the broader skills the individual possesses, which allow them to take on other roles and work with different parts of their organisation.

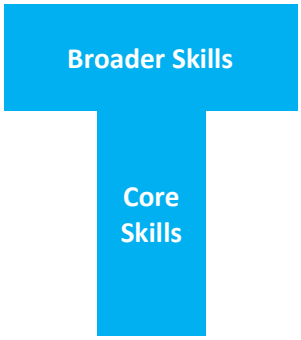


Figure 3: The T-Shape Skills Model

The T-shape concept was further developed in 2001 by Morten Hansen and Bolko von Oetinger [2] who proposed a T-shaped management model. They argued that the most effective company executives had both a deep core of specialist knowledge of organisational management (the vertical part of the 'T) and a broader, general knowledge of their business that allowed them to share knowledge and help other parts of their business to become more effective (the horizontal part of the 'T').

Hansen and von Oetinger also stated that managers must exist with the tension that the two branches of the 'T' shape and move effortlessly between them.

The concept of the T-shape skills profile has since been applied to a number of roles and many variations of the concept have been proposed.

In its current form the T-Shape model allows individuals to consider which skills are core to their role (the vertical branch) and which skills are general, or from outside of their core role (the horizontal branch). The skills on the horizontal part of the 'T' are those which allow the individual to move effectively into other roles on a temporary basis and to share their experience more widely across the team.

Other extensions of the T-shape profile have also been proposed including the 'Pi-shape' (an individual with two deep specialisms) and the 'Comb-shape' (an individual with three or more deep specialisms). This exercise focussed on the Business Analysis specialism only and consequently the results are presented as a T-Shape model.

THE NEED FOR T-SHAPING

Functional specialisms, where deep pockets of expertise focus on narrow tasks, are a significant cause of inefficiency. Individuals may be trained and even given tools like contracts and service catalogues to defend the boundaries of their role. Consequently they may refuse to do work which is outside of a narrow remit – even if that work creates value and is 'the right thing to do'.

In place of functional specialisms, Systems Thinking [3] promotes a focus on working on what matters and adds value. Instead of constraining the work, it frees individuals to do what is right. That might mean working outside of usual processes, and even developing skills outside of an immediate role.

The T-shaped skills model promotes a similar idea, where individuals with broader skills are able to adapt and deliver value in the face of a greater variety of demands.

[1] 'The Hunt is on for the Renaissance Man of Computing', The Independent, 1991

[2] 'Introducing T-Shaped Managers: Knowledge Management's Next Generation', Harvard Business Review, March 2001.

[3] See Vanguard – Command & Control vs Systems Principles. vanguard-method.net/library/command-and-control/control-and-control-vs-systems-principles/

EVOLUTION OF SKILLS PROFILES

The skills profile for Change professionals is constantly evolving and numerous models for skills have been proposed. The T-shape is a step on the path to developing specialist skills in more than one role.

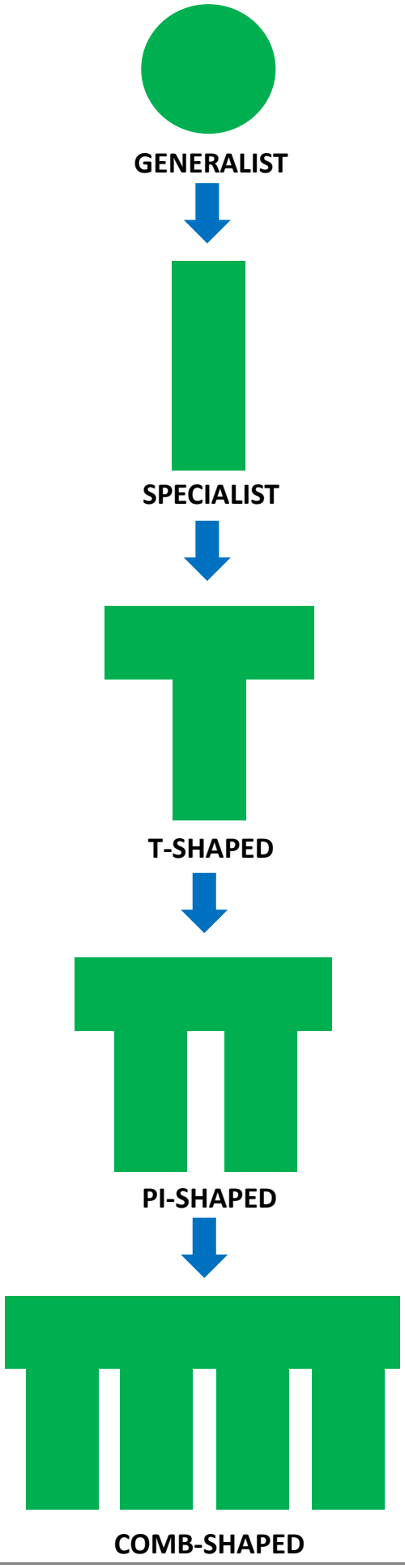
Generalists are individuals with a range of skills and experience but no defined specialism. They tend to do parts of all of the jobs required in change but their experience may be high-level in all areas.

Generalists can evolve into **Specialists**, who have formed a deep specialism in a change skill-set. Specialists have built deep vertical experience, but in a narrow field, to form an 'I' shaped skills profile. Specialists are quite common in Waterfall environments where individual roles have little overlap and work within closely defined parameters.

As specialists start to develop broader skills, outside of their immediate specialism, they become **T-Shaped**. The demand for T-Shaped change professionals is much greater in Agile, for example in Scrum Teams. A Scrum team typically has between 3 and 9 people and must contain all of the skills to perform effective change. For this reason, the ability to spend some time working outside of an immediate role (using skills in the horizontal part of the 'T') is highly valuable.

Those who have developed two deep specialisms might be considered to have a **Pi-Shaped** skills profile. In this case they can move between two specialisms quickly and adeptly, while possessing other skills that allow them to spend time performing roles for which they have a small amount of expertise.

A further evolution of the model is the **Comb-Shaped**[4] profile, where the individual has mastered three or more specialist skills sets. These profiles are highly valuable and indicative of adaptable change professionals with a growth mindset, able to develop and shape their skills to meet new challenges.



[4] Kent Beck's description of 'Paint Drip People' offers another perspective on this concept.

HOW TO USE THIS MODEL…

The 'T' models outlined later in this report are designed to generate thought and discussion about the development of Business Analysis and associated skills in individuals and teams. They represent a snap-shot view of the skills being utilised across a broad range of industries and may provide a useful comparison when considering the development of your local BA capability.

Using this report:

- Review the skills for the method that you are working in (Agile or Waterfall) and assess whether there are any key skills missing from your personal or team profile that would be beneficial to develop.
- Start with the higher-emphasis skills on the model as these are likely to be more frequently used.
- Identify learning activities to help you achieve the desired skill level
- Identify opportunities to practice your new skills and help embed the learning
- If you are transitioning from Waterfall to Agile ways of working, consider both models. Look at the shift in emphasis for certain skills and any new skills you may wish to acquire

These models are not a replacement for industry skills models, but can provide a useful experience-based view that can be considered alongside formal frameworks.

… AND WHAT TO AVOID

The models in this document are not a target for all of the skills an individual BA should possess. They are an aggregate picture of Business Analyst skills across many individuals and organisations at a point in time and not intended as a line management tool for judging Business Analyst competence.

Each Business Analyst will have a different skill profile that evolves over time and this document does not propose a standard set of skills that all Business Analysts must possess.

Finally, as these models represent a snap-shot view of useful skills, they do not include all of the new and emerging skills that may become prevalent in the Business Analysis discipline in coming years. Awareness of industry trends in analysis is a useful overlay to both this model and existing industry skills frameworks.

EXPLANATION OF THE T-MODEL DIAGRAMS

The T-model diagrams in the following sections highlight all of the skills identified as important to Business Analysts in the workshops. The diagrams are split into 3 sections in this format:

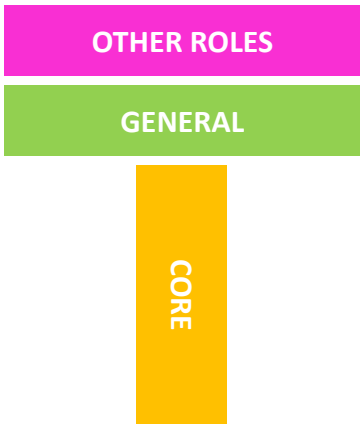


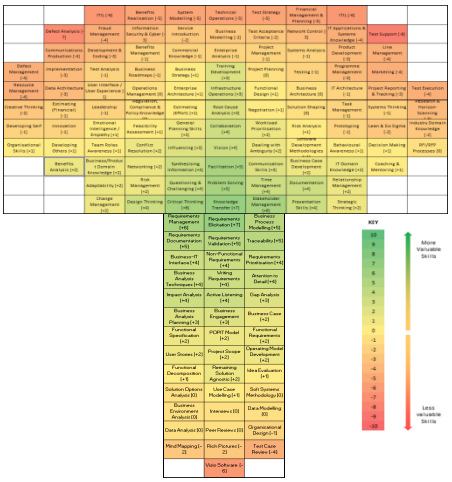
Figure 4: Structure of the T-model Diagram

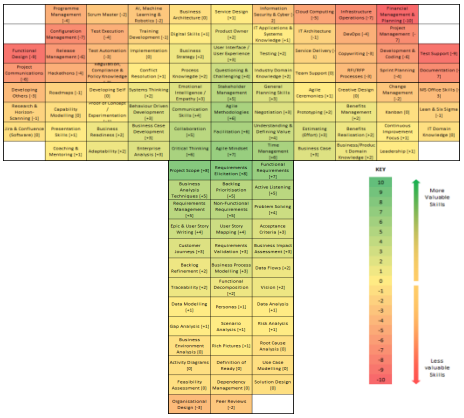
- The vertical section contains the core skills and capabilities that define the BA role.
- The lower half of the horizontal bar contains the general skills that are useful to Business Analysts
- The upper half of the horizontal bar contains the skills normally associated with other roles that a BA may find useful.

Each skill on the diagram is colour-coded along a Green to Red spectrum. This is the 'heat map' element of the diagram, with green skills (placed more centrally on the diagram) representing the skills which were considered to have greater emphasis, and red skills (placed towards the edges of the diagram) considered to be lower emphasis.

For accessibility and non-colour printing purposes, the score associated with each skill has also been added to the diagram, with scores towards 10 representing the skills which were considered to have greater emphasis, and scores towards -10 considered to be lower emphasis.

A high-resolution PDF copy of each diagram accompanies this report and is suitable for A3 printing.



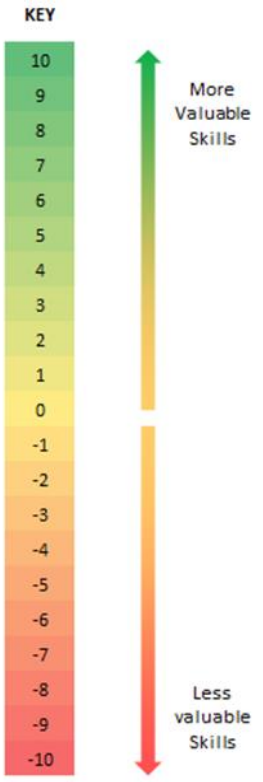


T-Model for Waterfall Business Analysis Skills

T-MODEL FOR WATERFALL BUSINESS ANALYSIS SKILLS

			Benefits Realisation [-5]	System Modelling [-5]	Technical Operations [-5]	Test Strategy [-5]	Financial Management & Planning [-5]	ITIL [-6]		
	Defect Analysis [-7]	Fraud Management [-4]	Information Security & Cyber [-3]	Service Introduction [-2]	Business Modelling [-2]	Test Acceptance Criteria [-2]	Network Control [-3]	IT Applications & Systems Knowledge [-4]	Test Support [-8]	
	Communications Production [-4]	Development & Coding [-3]	Benefits Management [-1]	Commercial Knowledge [-1]	Enterprise Analysis [-1]	Project Management [-1]	Systems Analysis [-1]	Product Development [-3]	Line Management [-4]	
Defect Management [-4]	Implementation [-3]	Test Analysis [-1]	Business Roadmaps [-1]	Business Strategy [+1]	Training Development [+3]	Project Planning [0]	Testing [-1]	Programme Management [-3]	Marketing [-4]	
Resource Management [-4]	Data Architecture [-3]	User Interface / User Experience [-1]	Operations Management [0]	Enterprise Architecture [+1]	Infrastructure Operations [+3]	Functional Design [+1]	Business Architecture [0]	IT Architecture [-1]	Project Reporting & Tracking [-3]	Test Execution [-4]
Creative Thinking [-2]	Estimating (Financial) [-1]	Leadership [-1]	Regulation, Compliance & Policy Knowledge [0]	Estimating (Effort) [+1]	Root Cause Analysis [+3]	Negotiation [+1]	Solution Shaping [0]	Task Management [-1]	Systems Thinking [-1]	Research & Horizon-Scanning [-3]
Developing Self [-1]	Innovation [-1]	Emotional Intelligence / Empathy [+1]	Feasibility Assessment [+1]	General Planning Skills [+2]	Collaboration [+4]	Workload Prioritisation [+2]	Risk Analysis [+1]	Prototyping [-1]	Lean & Six Sigma [-2]	Industry Domain Knowledge [-2]
Organisational Skills [+1]	Developing Others [+1]	Team Roles Awareness [+1]	Conflict Resolution [+2]	Influencing [+3]	Vision [+4]	Dealing with Ambiguity [+2]	Software Development Methodologies [+1]	Behavioural Awareness [+1]	Decision Making [+1]	RFI/RFP Processes [0]
	Benefits Analysis [+2]	Business/Product Domain Knowledge [+2]	Networking [+2]	Synthesising Information [+4]	Facilitation [+5]	Communication Skills [+3]	Business Case Development [+2]	IT Domain Knowledge [+2]	Coaching & Mentoring [+1]	
		Adaptability [+2]	Risk Management [+2]	Questioning & Challenging [+4]	Problem Solving [+5]	Time Management [+4]	Documentation [+4]	Relationship Management [+2]		
		Change Management [+2]	Design Thinking [+4]	Critical Thinking [+6]	Knowledge Transfer [+7]	Stakeholder Management [+6]	Presentation Skills [+4]	Strategic Thinking [+2]		

Requirements Management [+6]	Requirements Elicitation [+7]	Business Process Modelling [+5]
Requirements Documentation [+5]	Requirements Validation [+5]	Traceability [+5]
Business-IT Interface [+4]	Non-Functional Requirements [+4]	Requirements Prioritisation [+4]
Business Analysis Techniques [+4]	Writing Requirements [+4]	Attention to Detail [+4]
Impact Analysis [+4]	Active Listening [+4]	Gap Analysis [+3]
Business Analysis Planning [+3]	Business Engagement [+3]	Business Case [+2]
Functional Specification [+2]	POPIT Model [+2]	Functional Requirements [+2]
User Stories [+2]	Project Scope [+2]	Operating Model Development [+2]
Functional Decomposition [+1]	Remaining Solution Agnostic [+2]	Idea Evaluation [+1]
Solution Options Analysis [0]	Use Case Modelling [+1]	Soft Systems Methodology [0]
Business Environment Analysis [0]	Interviews [0]	Data Modelling [0]
Data Analysis [0]	Peer Reviews [0]	Organisational Design [-1]
Mind Mapping [-2]	Rich Pictures [-2]	Test Case Review [-4]
	Visio Software [-6]	



WATERFALL MODEL BREAKDOWN: CORE BUSINESS ANALYSIS SKILLS

A summary of the core Business Analysis skills identified within Waterfall change models.

Requirements Management [+6]	Requirements Elicitation [+7]	Business Process Modelling [+5]
Requirements Documentation [+5]	Requirements Validation [+5]	Traceability [+5]
Business-IT Interface [+4]	Non-Functional Requirements [+4]	Requirements Prioritisation [+4]
Business Analysis Techniques [+4]	Writing Requirements [+4]	Attention to Detail [+4]
Impact Analysis [+4]	Active Listening [+4]	Gap Analysis [+3]
Business Analysis Planning [+3]	Business Engagement [+3]	Business Case [+2]
Functional Specification [+2]	POPIT Model [+2]	Functional Requirements [+2]
User Stories [+2]	Project Scope [+2]	Operating Model Development [+2]
Functional Decomposition [+1]	Remaining Solution Agnostic [+2]	Idea Evaluation [+1]
Solution Options Analysis [0]	Use Case Modelling [+1]	Soft Systems Methodology [0]
Business Environment Analysis [0]	Interviews [0]	Data Modelling [0]
Data Analysis [0]	Peer Reviews [0]	Organisational Design [-1]
Mind Mapping [-2]	Rich Pictures [-2]	Test Case Review [-4]
	Visio Software [-6]	

The highest emphasis core skills for Waterfall Business Analysts include some of the basics that most Business Analysts learn during their careers and which are covered heavily in BA training programmes.

These include **Requirements Elicitation** (the activities involved in defining requirements through interaction with stakeholders) and **Requirements Management** (dealing with baselining and change to requirements) with **Business Process Modelling**, **Traceability**, **Requirements Documentation** and **Requirements Validation** all scoring highly. Each of these is a traditional part of the key BA skillset and the model reflects that position.

Also showing high emphasis are **Business Analysis Techniques**, **Business Analysis Planning** and **Requirements Prioritisation**.

Non-Functional Requirements, traditionally an area of difficulty within Business Analysis, was also given a higher score, emphasising its importance.

Moderate scores were given to traditional Business Analysis skills such as **Functional Requirements**, **Functional Specifications** and **Business Case** development.

Use Case Modelling is a widely used analysis skill but surprisingly in this model **User Stories** also features. User Stories are more traditionally aligned to Agile methods and are a different way of expressing what needs to be delivered by programmes of change. This may be indicative of Agile working practices being adopted by Waterfall projects, or perhaps a broader skillset being adopted by Waterfall BAs.

Lower emphasis skills that were seen as part of the core skillset included **Visio Software** (a Microsoft tool used widely by BAs for business process modelling). Test Case Reviews also had a low emphasis, reflecting their relative importance against the large set of common BA skills named in this part of the model.

Two techniques for representing ideas and information graphically – **Rich Pictures** and **Mind Mapping** – also scored at the lower end in this section.

WATERFALL MODEL BREAKDOWN: GENERAL SKILLS

A summary of the general skills identified as valuable to Business Analysts within Waterfall change models.

Creative Thinking [-2]	Estimating (Financial) [-1]	Leadership [-1]	Regulation, Compliance & Policy Knowledge [0]	Estimating (Effort) [+1]	Root Cause Analysis [+3]	Negotiation [+1]	Solution Shaping [0]	Task Management [-1]	Systems Thinking [-1]	Research & Horizon-Scanning [-2]
Developing Self [-1]	Innovation [-1]	Emotional Intelligence / Empathy [+1]	Feasibility Assessment [+1]	General Planning Skills [+2]	Collaboration [+4]	Workload Prioritisation [+2]	Risk Analysis [+1]	Prototyping [-1]	Lean & Six Sigma [-2]	Industry Domain Knowledge [-2]
Organisational Skills [+1]	Developing Others [+1]	Team Roles Awareness [+1]	Conflict Resolution [+2]	Influencing [+3]	Vision [+4]	Dealing with Ambiguity [+2]	Software Development Methodologies [+1]	Behavioural Awareness [+1]	Decision Making [+1]	RFI/RFP Processes [0]
	Benefits Analysis [+2]	Business/Product Domain Knowledge [+2]	Networking [+2]	Synthesising Information [+4]	Facilitation [+5]	Communication Skills [+3]	Business Case Development [+2]	IT Domain Knowledge [+2]	Coaching & Mentoring [+1]	
		Adaptability [+2]	Risk Management [+2]	Questioning & Challenging [+4]	Problem Solving [+5]	Time Management [+4]	Documentation [+4]	Relationship Management [+2]		
		Change Management [+2]	Design Thinking [+4]	Critical Thinking [+6]	Knowledge Transfer [+7]	Stakeholder Management [+6]	Presentation Skills [+4]	Strategic Thinking [+2]		

The higher emphasis general skills in Waterfall are dominated by communications and inter-personal skills such as **Stakeholder Management**, **Questioning & Challenging** and **Facilitation**, as well as solution-oriented skills such as **Critical Thinking**, **Design Thinking** and **Problem Solving**.

Highest emphasis, however, was given to **Knowledge Transfer**, another inter-personal skill.

A large selection of moderate emphasis skills were identified by the Waterfall groups, crossing areas such as personal development (**Developing Others**, **Coaching & Mentoring**), project skills (**Feasibility Assessment**, **Software Development Methodologies** and **Risk Analysis**) and personal skills (**Behavioural Awareness**, **Decision Making** and **Emotional Intelligence**).

Few skills with a low scores were identified in this category, however among the moderate-to-low emphasis skills were **Research & Horizon Scanning** (identifying trends and predicting future change), **Industry Domain Knowledge** (understanding the business domain outside of the immediate organisation) and **Lean & Six Sigma** (process improvement and defect elimination techniques).

WATERFALL MODEL BREAKDOWN: SKILLS CORE TO OTHER ROLES

A summary of the skills usually associated with other change roles that were identified as valuable to Business Analysts within Waterfall change models.

			Benefits Realisation [-5]	System Modelling [-5]	Technical Operations [-5]	Test Strategy [-5]	Financial Management & Planning [-5]	ITIL [-6]		
	Defect Analysis [-7]	Fraud Management [-4]	Information Security & Cyber [-3]	Service Introduction [-2]	Business Modelling [-2]	Test Acceptance Criteria [-2]	Network Control [-3]	IT Applications & Systems Knowledge [-4]	Test Support [-8]	
	Communications Production [-4]	Development & Coding [-3]	Benefits Management [-1]	Commercial Knowledge [-1]	Enterprise Analysis [-1]	Project Management [-1]	Systems Analysis [-1]	Product Development [-3]	Line Management [-4]	
Defect Management [-4]	Implementation [-3]	Test Analysis [-1]	Business Roadmaps [-1]	Business Strategy [+1]	Training Development [+3]	Project Planning [0]	Testing [-1]	Programme Management [-3]	Marketing [-4]	
Resource Management [-4]	Data Architecture [-3]	User Interface / User Experience [-1]	Operations Management [0]	Enterprise Architecture [+1]	Infrastructure Operations [+3]	Functional Design [+1]	Business Architecture [0]	IT Architecture [-1]	Project Reporting & Tracking [-3]	Test Execution [-4]

For Waterfall BAs, lower emphasis was given to many of the skills core to other roles. None were given significantly high emphasis, indicating low overall value being placed in these skills.

Knowledge of **Infrastructure Operations** was given a high priority, possibly indicating that many BAs get involved in infrastructure IT change.

Training Development (creating materials and processes for user/customer training) also scored highly.

A range of non-core skills were given moderate emphasis by the groups.

These included a variety of skills associated with typical Waterfall project roles, such as **Testing** and **Test Analysis** skills, **Project Management**, **Project Planning** and **Service Introduction**.

IT Architecture, **Business Architecture** and **Enterprise Architecture** were also given moderate importance.

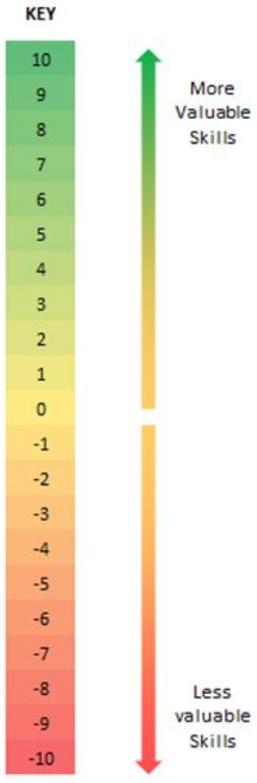
Among the lower emphasis skills were several relating to Testing activities, including **Defect Analysis**, **Test Support**, **Test Execution** and **Defect Management**. There is no indication why these skills had lower emphasis than general Testing and Test Analysis skills.

T-Model for Agile Business Analysis Skills

T-MODEL FOR AGILE BUSINESS ANALYSIS SKILLS

		Programme Management [-4]	Scrum Master [-2]	AI, Machine Learning & Robotics [-2]	Business Architecture [0]	Information Security & Cyber [-2]	Cloud Computing [-5]	Infrastructure Operations [-7]	Financial Management & Planning [-10]	
	Configuration Management [-7]	Test Execution [-4]	Training Development [-1]	Digital Skills [+1]	Service Design [+1]	IT Applications & Systems Knowledge [+1]	IT Architecture [-1]	DevOps [-4]	Project Management [-7]	
Functional Design [-9]	Release Management [-6]	Test Automation [-3]	Implementation [0]	Business Strategy [+2]	Product Owner [+2]	Testing [+2]	Service Delivery [-1]	Copywriting [-3]	Development & Coding [-6]	Test Support [-9]
Project Communications [-6]	Hackathons [-4]	Compliance & Policy Knowledge [-3]	Conflict Resolution [+1]	Process Knowlegde [+2]	User Interface / User Experience [+3]	Industry Domain Knowledge [+2]	Team Support [0]	RFI/RFP Processes [-3]	Sprint Planning [-4]	Documentation [-7]
Developing Others [-3]	Roadmaps [-1]	Developing Self [0]	Systems Thinking [+2]	Emotional Intelligence / Empathy [+3]	Stakeholder Management [+5]	Questioning & Challenging [+4]	General Planning Skills [+3]	Agile Ceremonies [+1]	Creative Design [0]	Change Management [-2]
Research & Horizon-Scanning [-1]	Capability Modelling [0]	Proof of Concept [+1]	Behaviour Driven Development [+3]	Communication Skills [+4]	Agile Methodologies [+6]	Negotiation [+3]	Prototyping [+2]	Benefits Management [+2]	Kanban [0]	MS Office Skills [-3]
Jira & Confluence (Software) [0]	Presentation Skills [+1]	Business Readiness [+2]	Business Case Development [+3]	Collaboration [+5]	Facilitation [+6]	Understanding & Defining Value [+4]	Estimating (Effort) [+3]	Benefits Realisation [+2]	Continuous Improvement Focus [+1]	Lean & Six Sigma [-1]
	Coaching & Mentoring [+1]	Adaptability [+2]	Enterprise Analysis [+3]	Critical Thinking [+6]	Agile Mindset [+7]	Time Management [+6]	Business Case [+3]	Business/Prod Domain Knowledge [+2]	Leadership [+1]	IT Domain Knowledge [0]

Project Scope [+8]	Requirements Elicitation [+8]	Functional Requirements [+7]
Business Analysis Techniques [+5]	Backlog Prioritisation [+5]	Active Listening [+5]
Requirements Management [+5]	Non-Functional Requirements [+5]	Problem Solving [+4]
Epic & User Story Writing [+4]	User Story Mapping [+4]	Acceptance Criteria [+3]
Customer Journeys [+3]	Requirements Validation [+3]	Business Impact Assessment [+3]
Backlog Refinement [+2]	Business Process Modelling [+3]	Data Flows [+2]
Traceability [+2]	Functional Decomposition [+2]	Vision [+2]
Data Modelling [+1]	Personas [+1]	Data Analysis [+1]
Gap Analysis [+1]	Scenario Analysis [+1]	Risk Analysis [+1]
Business Environment Analysis [0]	Rich Pictures [+1]	Root Cause Analysis [0]
Activity Diagrams [0]	Definition of Ready [0]	Use Case Modelling [0]
Feasibility Assessment [0]	Dependency Management [0]	Solution Design [0]
Organisational Design [-3]	Peer Reviews [-2]	



AGILE MODEL BREAKDOWN: CORE BUSINESS ANALYSIS SKILLS

A summary of the core Business Analysis skills identified within Agile change models.

Project Scope [+8]	Requirements Elicitation [+8]	Functional Requirements [+7]
Business Analysis Techniques [+5]	Backlog Prioritisation [+5]	Active Listening [+5]
Requirements Management [+5]	Non-Functional Requirements [+5]	Problem Solving [+4]
Epic & User Story Writing [+4]	User Story Mapping [+4]	Acceptance Criteria [+3]
Customer Journeys [+3]	Requirements Validation [+3]	Business Impact Assessment [+3]
Backlog Refinement [+2]	Business Process Modelling [+3]	Data Flows [+2]
Traceability [+2]	Functional Decomposition [+2]	Vision [+2]
Data Modelling [+1]	Personas [+1]	Data Analysis [+1]
Gap Analysis [+1]	Scenario Analysis [+1]	Risk Analysis [+1]
Business Environment Analysis [0]	Rich Pictures [+1]	Root Cause Analysis [0]
Activity Diagrams [0]	Definition of Ready [0]	Use Case Modelling [0]
Feasibility Assessment [0]	Dependency Management [0]	Solution Design [0]
Organisational Design [-3]	Peer Reviews [-2]	

The highest emphasis core skills for Agile Business Analysts include some of the basics that most Business Analysts learn during their careers and which are covered heavily in BA training programmes.

These include **Requirements Elicitation** (the activities involved in defining requirements through interaction with stakeholders), **Functional Requirements** and **Non-Functional Requirements** (understanding and structuring the requirements that define new processes, functions and performance within a system) and **Business Analysis Techniques** (a series of tools and techniques used by BAs to complete analysis tasks).

Agile-specific activities such as **Backlog Prioritisation** (the structuring and ordering of User Stories to be delivered in Agile sprints) and **Epic & User Story Writing** (creating and structuring Agile requirements artefacts) also appear in the model with a higher emphasis.

Moderate emphasis was placed on skills such as **Traceability** (mapping requirements from source through to delivery). This activity is much more inherent in Agile processes rather than being the standalone activity it often appears as in Waterfall projects.

Data Modelling and **Data Analysis** are skills becoming more prominent in digital transformation activities. Agile skills such as **Personas** (creating models for customers of a system to help better understand their behaviours and needs) also appear with moderate emphasis.

Few of the Agile Core skills are given a particularly low emphasis, however two skills fall into the lower end of the spectrum.

Peer Reviews (the action of reviewing colleague documentation and outputs for quality purposes) have a lower score, perhaps because the number of formal, written outputs can be lower in Agile and quality checks are only conducted where critical.

Organisational Design (creating team structures and defining roles) also appears with a slower score, perhaps because the nature of smaller-scale Agile deliveries means that a focus on larger-scale changes such as re-organisation of teams is not featured in work as often as it is in traditional Waterfall projects that deliver over longer periods.

AGILE MODEL BREAKDOWN: GENERAL SKILLS

A summary of the general skills identified as valuable to Business Analysts within Agile change models.

Developing Others [-3]	Roadmaps [-1]	Developing Self [0]	Systems Thinking [+2]	Emotional Intelligence / Empathy [+3]	Stakeholder Management [+5]	Questioning & Challenging [+4]	General Planning Skills [+3]	Agile Ceremonies [+1]	Creative Design [0]	Change Management [-2]
Research & Horizon-Scanning [-1]	Capability Modelling [0]	Proof of Concept [+1]	Behaviour Driven Development [+3]	Communication Skills [+4]	Agile Methodologies [+6]	Negotiation [+3]	Prototyping [+2]	Benefits Management [+2]	Kanban [0]	MS Office Skills [-3]
Jira & Confluence (Software) [0]	Presentation Skills [+1]	Business Readiness [+2]	Business Case Development [+3]	Collaboration [+5]	Facilitation [+6]	Understanding & Defining Value [+4]	Estimating (Effort) [+3]	Benefits Realisation [+2]	Continuous Improvement Focus [+1]	Lean & Six Sigma [-1]
	Coaching & Mentoring [+1]	Adaptability [+2]	Enterprise Analysis [+3]	Critical Thinking [+6]	Agile Mindset [+7]	Time Management [+6]	Business Case [+3]	Business/Prod Domain Knowledge [+2]	Leadership [+1]	IT Domain Knowledge [0]

Central among the general skills for Agile Business Analysts are an **Agile Mindset** (the ability to think and work within Agile principles).

Agile Methodologies, **Time Management** and **Critical Thinking** also feature as high-emphasis skills, particularly important in environments require rapid decision making and have change delivery occurring over short repeatable sprints.

Some of the essential soft-skills such as **Facilitation**, **Stakeholder Management**, **Questioning & Challenging**, **Collaboration** and **Negotiation** also feature strongly.

The skills with moderate emphasis contain many of the capabilities required for successful Agile working.

These include **Prototyping** (rapidly creating working models for learning purposes), **Behaviour Driven Development** (understanding desired customer outcomes with a view to improving customer experience and accelerating testing) and **Systems Thinking** (a holistic design approach that focuses on the interactions of the parts of a system).

While many of these techniques can equally be applied in Waterfall, they are commonly aligned with Agile change delivery.

Few skills appear with a low emphasis in the part of the model. Those with lower scores include **Roadmaps** (longer term delivery plans for systems), which perhaps have a lower emphasis in Agile due to the frequent changes of direction that the approach allows.

Change Management also has a lower score. Agile has Change Management built-in, as anything requiring an urgent fix or appearing as a new requirement can generally be prioritised to appear in an iteration of the work in a short timescale. Rather than being considered a 'change' it is viewed as a new piece of work in the backlog, to be prioritised against the others. Consequently there are not the formal change processes attached to these actions that are often seen in Waterfall.

Microsoft Office Skills feature with low scores. The adoption of Agile creates a shift away from traditional Word, PowerPoint and Excel documents in favour of new software for capturing project information (see the higher prominence of **Jira and Confluence** in this part of the model).

While important, **Developing Others** (setting and delivering training and upskilling) scores lower than **Developing Self** (taking personal ownership for development) and **Coaching and Mentoring** (a less formal way of developing others which ties in more strongly with self-development).

AGILE MODEL BREAKDOWN: SKILLS CORE TO OTHER ROLES

A summary of the skills usually associated with other change roles that were identified as valuable to Business Analysts within Agile change models.

		Programme Management [-4]	Scrum Master [-2]	AI, Machine Learning & Robotics [-2]	Business Architecture [0]	Information Security & Cyber [-2]	Cloud Computing [-5]	Infrastructure Operations [-7]	Financial Management & Planning [-10]	
	Configuration Management [-7]	Test Execution [-4]	Training Development [-1]	Digital Skills [+1]	Service Design [+1]	IT Applications & Systems Knowledge [+1]	IT Architecture [-1]	DevOps [-4]	Project Management [-7]	
Functional Design [-9]	Release Management [-6]	Test Automation [-3]	Implementation [0]	Business Strategy [+2]	Product Owner [+2]	Testing [+2]	Service Delivery [-1]	Copywriting [-3]	Development & Coding [-6]	Test Support [-9]
Project Communications [-6]	Hackathons [-4]	Compliance & Policy Knowledge [-3]	Conflict Resolution [+1]	Process Knowlegde [+2]	User Interface / User Experience [+3]	Industry Domain Knowledge [+2]	Team Support [0]	RFI/RFP Processes [-3]	Sprint Planning [-4]	Documentation [-7]

No skills in this part of the model have a significantly high emphasis. Featuring with positive scores are **User Interface / User Experience** (skills to design systems and interfaces with the best user experience in mind).

The Agile skillset of **Product Owner** also appears with a higher score. Product Owners have responsibility for the backlog of work on an Agile project and are often in close alignment with Business Analysts.

Broader **Process Knowledge and Industry Domain Knowledge** are seen as important for BAs, as are design and IT knowledge (**Digital Skills**, **IT Applications & System Knowledge** and **Service Design**).

Another Agile skillset of **Scrum Master** appears on the model with moderate emphasis – this appears to be aligned slightly less well to the BA role than Product Owner.

Testing skills around **Test Automation** and **Test Execution** have a moderate emphasis. While Test Automation is a relatively new principle, Test Execution was historically aligned closely with Business Analysis and many BAs still have this as part of their role.

A lower emphasis is placed on Agile techniques such as **Sprint Planning** (more aligned with Scrum Master activities) and DevOps (technical tools and processes to align development, operations and QA functions).

Featuring with very low emphasis were skills such as **Financial Management and Planning**, an activity with significantly lower prominence in Agile in general due to the different way work is funded and no requirement to carry out longer term financial estimation. Similarly **Project Management** skills are less necessary as many Agile projects dispense of the role entirely and planning is carried out as a team activity in shorter bursts.

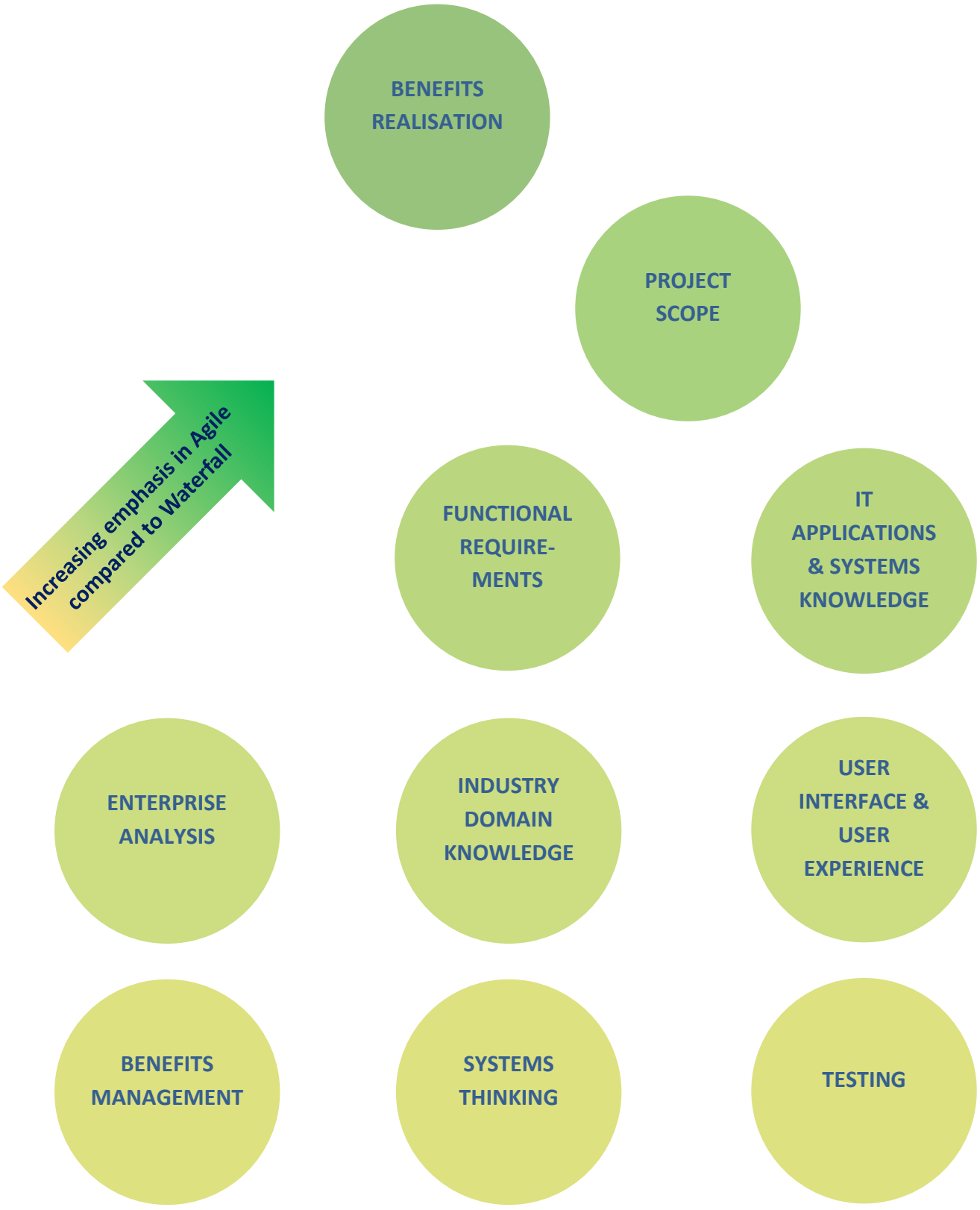
Technical and planning skills such as **Development & Coding**, **Hackathons**, **Infrastructure Operations** and **Release Management** have lower scores. These do not appear to align closely with the core Business Analysis skill set.

While some Testing related skills have a higher emphasis in this part of the model, **Test Support** has a significant low score. A focus on understanding and conducting testing appears to be more important than supporting others with the activity.

T-Model Comparisons

SKILLS WITH A GREATER EMPHASIS IN AGILE THAN WATERFALL

This section outlines some of the skills appearing in both Waterfall and Agile T-models, but where the emphasis and importance was deemed to be greater for Agile business analysis. Waterfall Business Analysts moving on to Agile projects may wish to consider further development of these skills.



SKILLS WITH A SIMILAR EMPHASIS IN AGILE AND WATERFALL

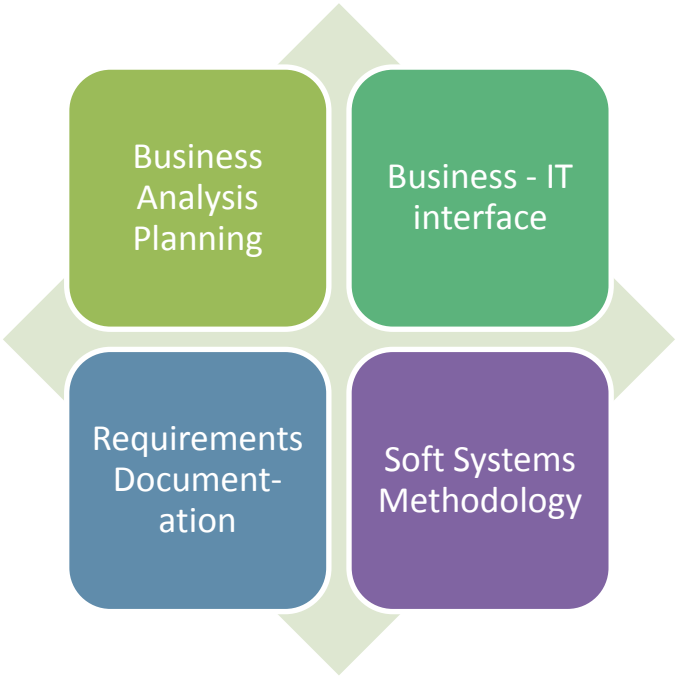
This section outlines some of the skills appearing in both Waterfall and Agile T-models, where the emphasis was similar for both Waterfall and Agile. This reflects the ongoing importance of each skill regardless of the change model being applied.

SKILLS WITH A LOWER EMPHASIS IN AGILE THAN WATERFALL

This section outlines some of the skills appearing in both Waterfall and Agile T-models, but where the emphasis and importance was deemed to be lower for Agile business analysis when compared to Waterfall. Agile Business Analysts moving on to Waterfall projects may wish to consider further development of these skills.

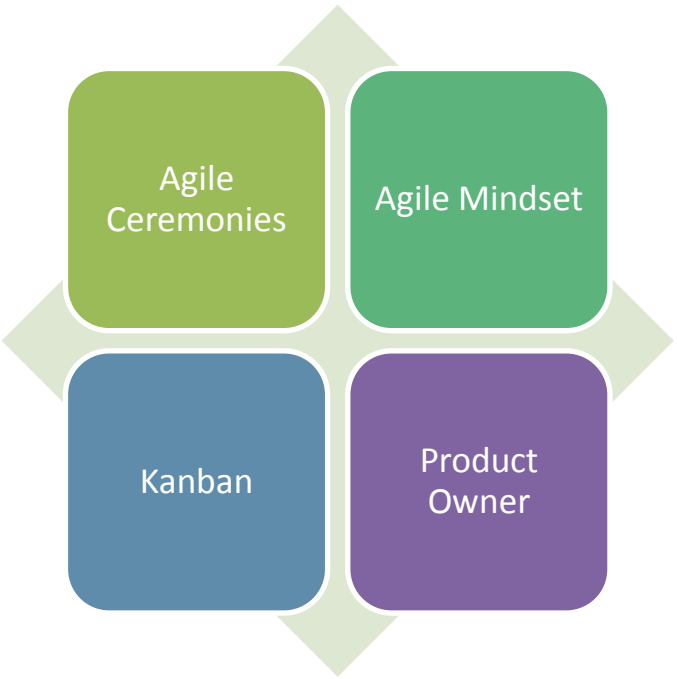
SKILLS ONLY PROMINENT IN WATERFALL

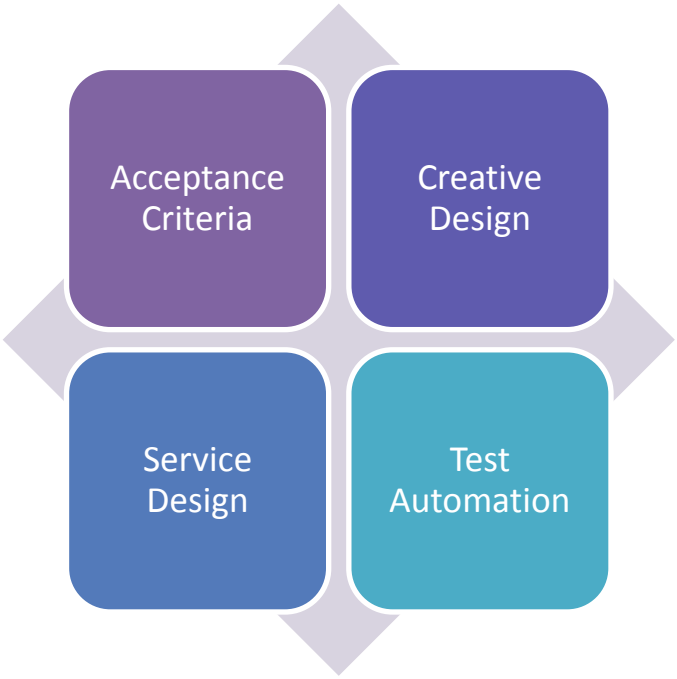
The section contains a selection of skills that were identified by the Waterfall workshop groups that were not identified by the Agile groups. This does not indicate that the skill is not used at all in Agile, however it is likely to be significantly less relevant to Agile change practice. In many cases the skills relate to Waterfall project activities such as **Project Planning** and **Requirements Documentation** which are not relevant or conducted in a completely different manner in Agile.



SKILLS ONLY PROMINENT IN AGILE

The section contains a selection of skills that were identified by the Agile workshop groups but were not identified by the Waterfall groups. This does not indicate that the skill is not useful within Waterfall, however it is likely to be significantly less relevant to Waterfall change practice. In many cases these skills are specific to Agile working practices, or are the 'Agile' version of a skill or capability that is used in Waterfall under a different guise. For example, **Backlog Prioritisation** identified in Agile is a similar task to **Requirements Prioritisation** in the Waterfall model. Both activities involve determining which stories or requirements take priority or should be delivered first.





CONCLUSION

The field of Business Analysis continues to evolve. This report highlights the change in type and emphasis of skills required by Business Analysts during the continued shift towards Agile delivery methods.

As new functional specialisms evolved from the Business Analyst role over time, some practitioners will have experienced certain skills and activities cease to be a requirement of the role. For example, in some organisations the role of Test Analyst evolved from a Business Analyst role that had a broader remit.

As shown in Figure 5, T-shaped analysts will see some of those former BA capabilities become valuable to the Business Analyst once again, alongside new skills previously outside of the BA role.

As the demand for T-shaped skills increases, the Business Analyst of tomorrow is likely to be faced with the question "What else can you do?"

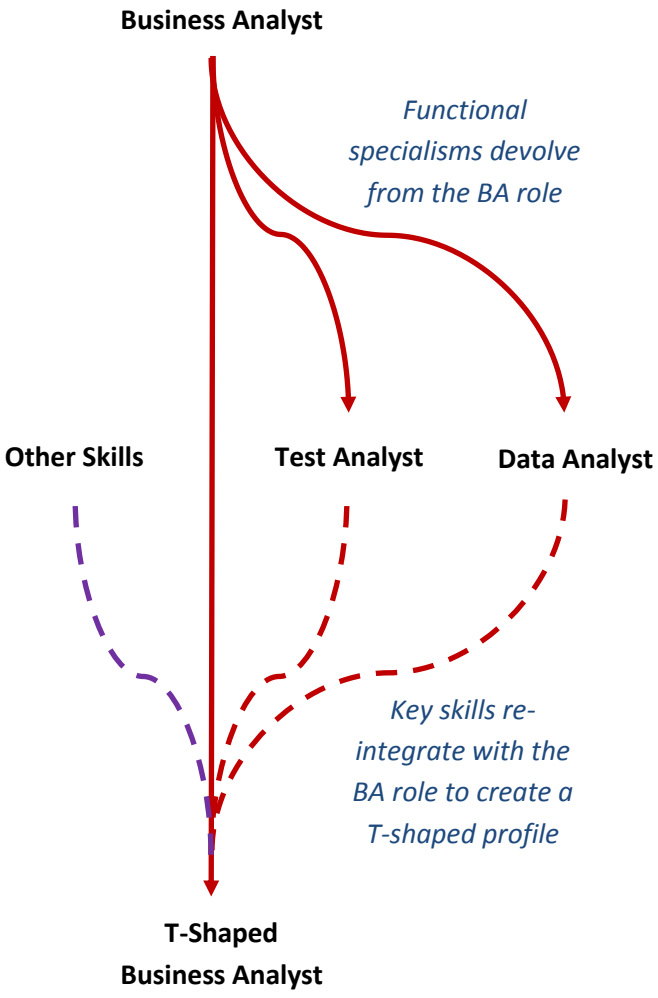


Figure 5: Example of devolution and reintegration of BA skills

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Please contact us with any questions about this report or the T-model exercise.

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