

White Paper

Using Architecture Levels to Define the Opportunity and Deliver Better Outcomes

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Architecture levels defined by methodologies such as Zachman et al outline the Conceptual, Logical and Physical levels of detail available and for good reason. When modeling, if you mix your levels of detail and fail to articulate the important issues and potential responses, you risk losing your audience and diluting the value from your funding and Architecture perspectives.

In this White Paper, I will explore practical examples of:

- How using a Conceptual model supports positioning of a Business Strategy for Executives;
- Using a Logical model to enable business units to see how their tactical responses contribute value to the business strategy; and
- How Physical models better enable delivery of Projects with reference to current environment challenges, delivery of project scope and realization of benefits.

Whether you are strategizing, planning, supporting technology and business operations or delivering a project, the leveling and positioning of your architecture inputs and outputs is a critical first step to defining the real problems and achieving better outcomes. Let me introduce the levels I am referring to and how they can be applied.

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Levels	Domains				Methodologies			Data Examples
	Business	Data	Applications	Infrastructure	Zachmans	TEAF	FEAF	
Conceptual / Strategic	Function	Subject Area	Capability	Layer	Models	Planner, Owner	Enterprise	Strategy, Goals, Costs, Risks, Value,
Logical / Tactical	Process	Entity	Application	Domain	Diagrams	Designer	Segment	Benefits, Domain Scope,
Physical / Operational	Activity	Attributes	Modules	Server	Specifications	Builder	Solution	Milestones, Use Cases, Data Interfaces,

Figure 1: Leveling Taxonomy

Figure 1 outlines key inputs and methodology responses at the various levels of detail.

Note that the table addresses the “What” architectural objects and does not account for “Services” i.e the “How” in support of a SOA approach. However, the leveling principles discussed in this white paper apply to both and establishing a “What or How” architectural approach should be determined on a company-by-company basis.

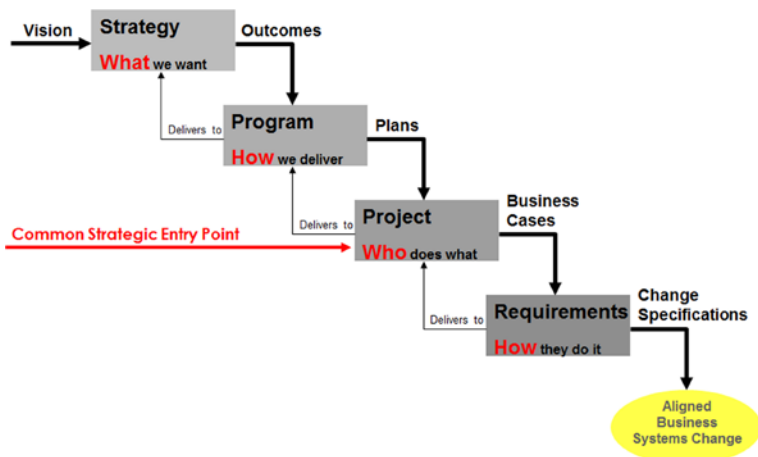


Figure 2: Organisational leveling

Figure 1 identifies three levels of inputs with the expectation that architecture models developed stay true to the level of detail required. Another view of the leveling requirement to support Architects is provided in Figure 2.

Designing a building requires specific rules and relationships to be adhered to, as does applying EA disciplines, and this White Paper aims to provide insight on how Architects can do this more effectively.

Conceptual

Applying Architecture at the Conceptual or Enterprise level provides the clearest indication of the company and its strategic objectives. The ability to represent the entire business on a page is powerful for consolidating multiple agendas and creating commitment and alignment to the business strategy.

If you are addressing Strategic Questions, it creates much confusion if you develop a model with a mix of physical and logical objects across different domains. Even within a domain it is important to not skip directly from Conceptual to Physical as the detail often hides the bigger picture of issues to be addressed.

Establishing the Conceptual touch points in a model also enables a far wider Executive discussion on each of the inputs rather than a focused discussion on minor points of detail.

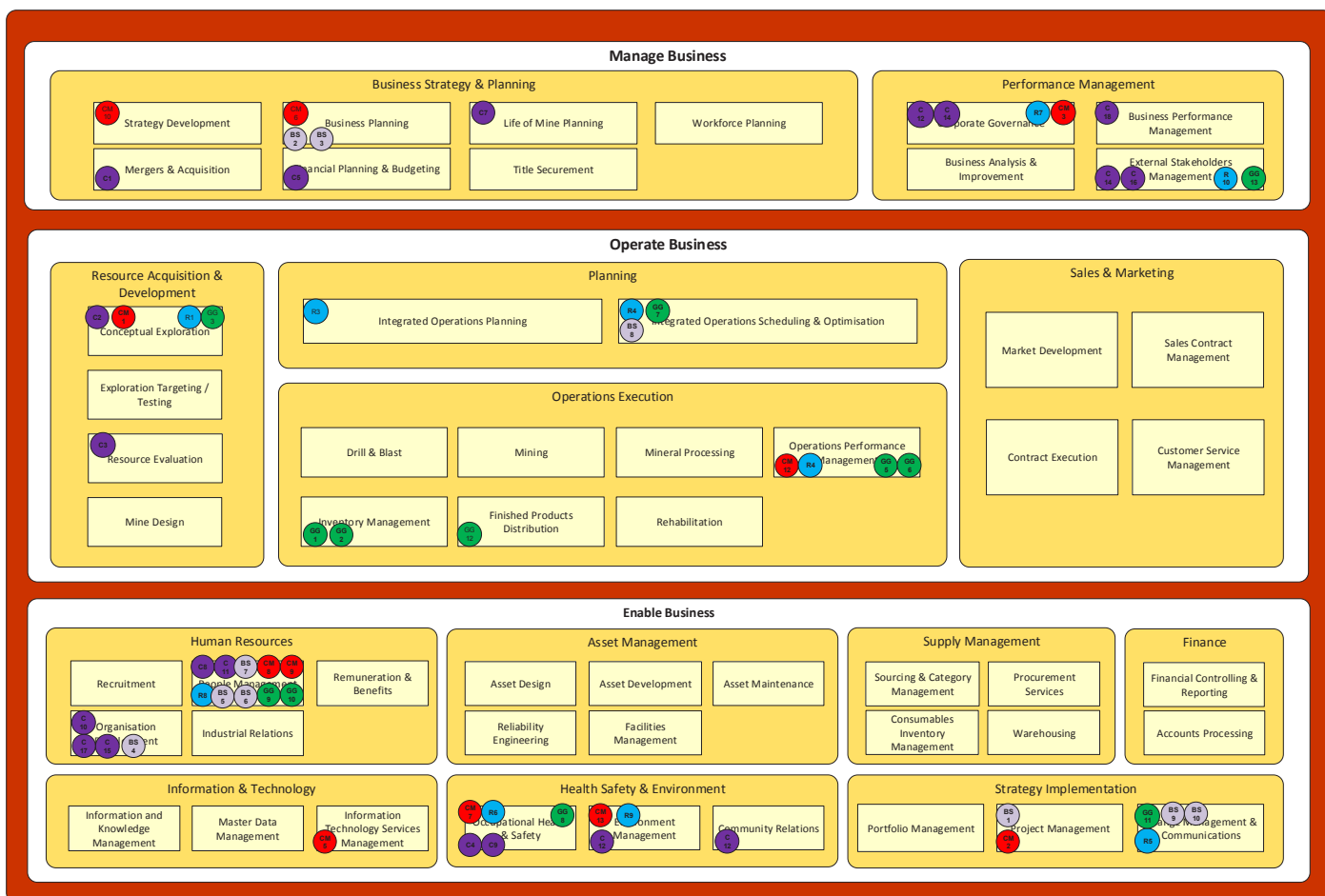


Figure 3: Mining Capability Model with Project focus mapped to capabilities

A clear line of site between investments made, business challenges and divisional contributions to the organizational strategy on a page is the best way of engaging and winning the hearts and minds of Executive teams. It also encourages and drives debate from a single reference point on the potential decisions and funding options available.

Case Study

A large multi-national bank spent a significant amount of time and money after a merger trying to integrate various functions and applications to improve its efficiency and agility. The problem was they started bottom up with significantly detailed documentation and divisional inputs which created huge complexity and confusion for the Steering Committee. Poor Governance practices also contributed to the confusion.

Starting top down from the organizational strategy and objectives and mapping various inputs against the Capability model enabled a more focussed analysis of capability, (including Functions and Supporting Applications) business issues and requirements and creation of clear investment choices. A simple heat map assessment of capabilities enabled inputs to be grouped and domain analysis identified capabilities requiring greatest uplift and transition options to be compared, thus simplifying the consolidation journey.

An agreed business capability model with an external orientation provides a consistent reference point and a wide range of data can be mapped against the model to support stakeholder engagement. The Mining industry example (*Figure 3*) highlights where strategic focus and funding is currently allocated and where gaps, duplication and dependencies may exist.

A case study (left) outlines how the capability model can be used to present and level these inputs at the Conceptual level.

In summary, completing a document assessment and leveling of inputs is a powerful tool for positioning organizational maturity, awareness of its challenges and a focus on

next steps. Keeping your inputs strategic enables clear visibility and agreement of direction, isolates low importance issues and generates greater value from your architectural outputs.

Delivery Note: If you don't find any documentation on specific business issues, then it is a fair assumption that it is not critical to the operation of the business and it may only be lip service provided by Executives. A true gauge of pain being felt by an organization is when resources, time, documentation and analysis have been allocated to define the problem and potential courses of action have been assessed.

Logical

A logical leveling of inputs is also a powerful tool for positioning and prioritizing investments and gaining funding support. The leveling principles applied will depend on your experience and exposure across different company environments. Some key filters that will support your leveling approach include Strategic Intent, Risks, Skillsets, Scope, Competitors, Vendors, Capability, domains such as Business, Data, Applications and Infrastructure, Revenue, Cost, Value, Maturity etc.

We all know the power of data, information, insight and knowledge as a game changer to engage customers, understand their behaviour and create competitive advantage. Often companies, in my experience are unsure which steps are required to get closer to the customer. Creating a 1-2 year project to build a data warehouse does not address the real pain if you can't access data and understand the customer now. Using the customer and an "Outward In" architecture approach will enable the key tactical options to be established and prioritized.

Once the process flow basics have been proven from accessing customer data to analysis to insights to segmentation, product development, market testing, channel management and revenue uplift then more strategic issues can be addressed. Where a company already has a proven go to market model and has more mature challenges such as data storage, access, integration or accuracy issues then a larger investment will optimize and leverage the information assets.

Figure 4 is a summary of potential leveling choices in this Information Management example.

	Business issues	Sample Responses
Conceptual / Strategic	Want to get closer to customer Not organized around the customer	Balanced scorecard of customer metrics Change organization structure
Logical / Tactical	Don't understand customer behaviour Run company using MS Excel	Create Analytics capability with resources, tools and processes
Physical / Operational	Can't access customer data / analysis paralysis Data is inaccurate	Small analytic efforts to improve go to market Data clean-up to improve insight

Figure 4: Information Management Leveling example

Each of these responses requires different levels of investment and is designed to address specific problems. Logical leveling of your response will provide a best fit to the business issues to be addressed.

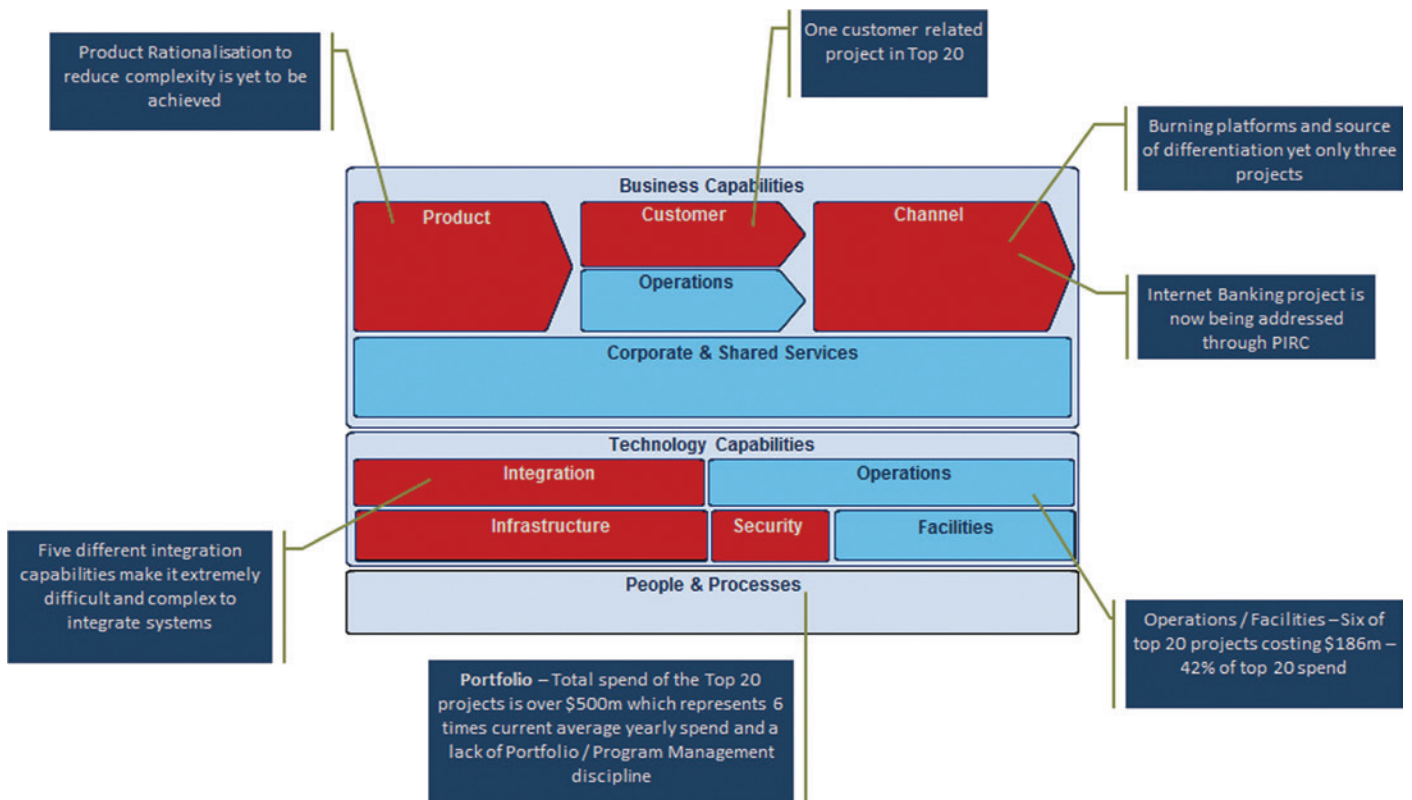


Figure 5: Capability Model with Logical Insights

Case Study

A large multi-national had an investment portfolio wish list of \$500m in projects but had only ever spent an average of \$80-90m per year over the last 5 years. The positioning of these project inputs against strategic goals and capability analysis highlighted significant project duplication, gaps in spend, dependencies and risks that were not yet visible and enabled a re-shaping of the Investment Portfolio.

Using Architecture tools such as Results Chains and mapping of Projects to Strategic Goals and Capability Models enabled a logical re-positioning of the project portfolio. An example of insights from the mapping of projects to a Capability model is shown in *Figure 5*.

Developing a line of sight from strategy to logical grouping of projects to tangible benefits also removes much of the political hardship in communicating the re-prioritized spend.

Another case study (left) highlights the use of a logical approach to addressing a key business problem.

In summary, simplifying your environment through applying logical filters to your data against the backdrop of your company strategy and existing capability enables many questions to be raised on the scoping, validity and value of the investment choices to be made.

Physical

The leveling of inputs is never more critical for an Architect than at the Physical / Project level. Most projects suffer scope creep in some shape or form and a clear Physical Architecture

created at the Concept or Design phase will go a long way to ensuring Sponsors and Project Managers can understand and deliver on the outcomes within the budget and timeframes they signed up for.

Detailed end-to-end Solution Architecture addressing all domain inputs (Business, Data, Application, and Infrastructure) provides a Roadmap for Project stakeholders and enables dependencies, risks and budget issues to be identified at the Concept and Design phase. The extra investment in time upfront pays dividends for justifying the project, improving Project

delivery and acts as a central communication medium for all Project stakeholders.

Tools such as Use Cases and Solution Architecture diagrams outlining inputs such as activities, actors, applications and data attributes also enable clear benefits to be tracked, project build and test activities to be streamlined and efficiencies to be created down the line.

Conclusions

Key conclusions to draw from this white paper are that your audiences are looking for guidance, clarity and direction and the Architect's role is to articulate and simplify the company DNA and delivery approaches in a way that is concise and easy to understand. The Architecture Function does itself a disservice if they are constantly debating architectural constructs and misrepresenting layers of detail as it dilutes architecture value for Executives and hinders progress.

Development of your firm's architecture library of artefacts is critical and adherence to some simple leveling rules will enhance your architecture value.

I will expand on the leveling scenarios in my next white paper where I will address the need for end-to-end visibility of inputs from all architecture domains to support your execution strength.

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