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Introduction to Enterprise Architecture

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Introduction

Gartner defines enterprise architecture as a holistic and proactive process that enables organizations to identify and analyze change execution to achieve a desired business outcome and vision in response to disruptive forces[1]. It provides IT and business leaders with ready recommendations for transforming projects and policies to attain specific business objectives that leverage business disruptions to deliver value. In other words, enterprise architecture is a conceptual blueprint for defining organizational operations and structures.

The primary purpose of enterprise architecture is to define a company's operations curated to attain current and future business goals. Also, enterprise architecture drives an organization's digital, transformation initiatives. It integrates processes and legacy applications to achieve a seamless operational environment. While it rose to prominence in the 1980s due to a need to respond to rapid digital growth in business strategies, enterprise architecture has expanded beyond IT transformation to the entirety of an organization's business operations.

For example, enterprise architecture assists multiple company departments in understanding the wider business model and identifying business challenges or risks. Thus, enterprise architecture is vital in coordinating and unifying organizational-wide departmental processes. In addition, accessing and understanding the business capabilities assists organizations in identifying business gaps to make informed decisions.

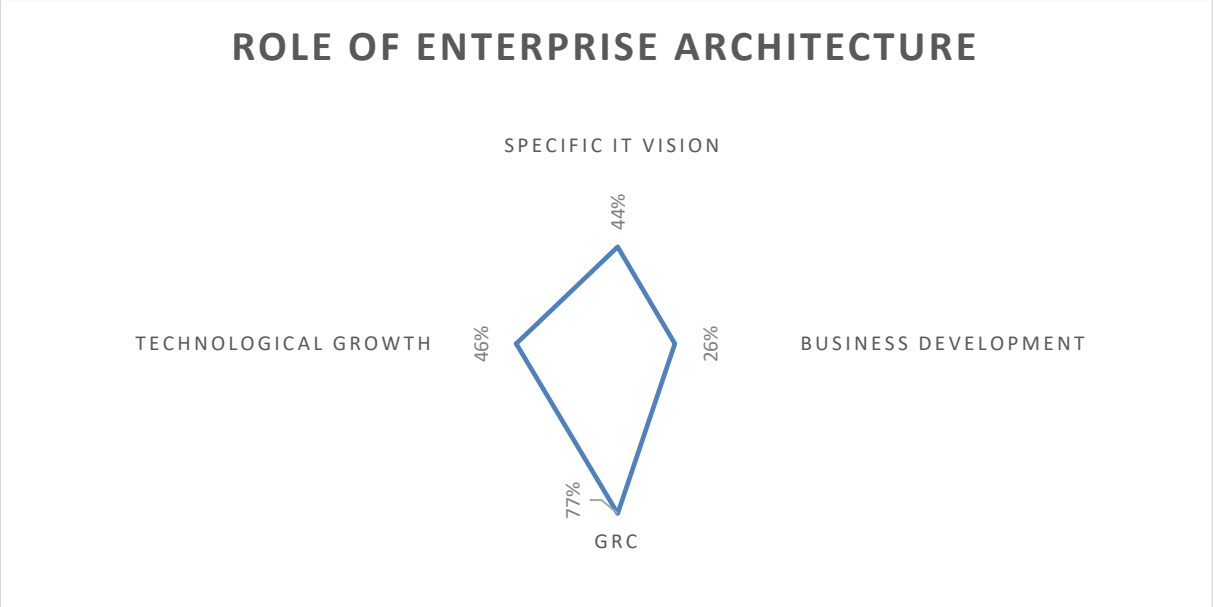
[1] https://www.gartner.com/en/information-technology/glossary/enterprise-architecture-ea#:~:text=Enterprise%20architecture%20(EA)%20is%20a,desired%20business%20vision%20and%20outcomes.

The Role of Enterprise Architecture

According to a 2022 survey, 44% of organizations consider enterprise architecture as the primary enabler for attaining a specific IT vision. Meanwhile, 26% of businesses said that they perceive enterprise architecture as a backbone for modern business development[2]. The survey also found that some collaborations between companies and enterprise architects focus on application development, security, and research & development, where enterprise architecture focuses on adding value.

77% of companies said that security departments recognize enterprise architecture as a high-added value in governance, risk, and compliance (GRC) management. Additionally, 46% of companies considering enterprise architecture to drive technological growth allude to its

undeniable value in efficient IT cost management and data governance, including collection, confidentiality, security, prioritization, modification, and use.



Enterprise Architecture Methodology

Enterprise architecture is developed to map an organization's business processes and IT assets. An enterprise architecture is a map of governing principles that drive continuous business discussion strategies and how the strategies can be expressed through technology. The earliest enterprise architecture concepts date back to the 1980s, and numerous frameworks and principles have emerged. However, all enterprise architecture frameworks and methodologies involve four primary domains:

- **Data architecture:** A documentation of a company's structure of the physical and logical data assets, including additional data management resources.
- **Technology architecture:** Describes network infrastructure, hardware, and software programs that support the deployment of mission-critical enterprise applications.
- **Application systems architecture** provides a conceptual blueprint for deploying and managing individual systems. These include application systems interactions and their associated relationships with the necessary business processes.
- **Business architecture:** It defines the organization, primary business strategies, standards and governance, and key business processes.

Some of the modern enterprise architecture frameworks include The Open Group Architecture Framework (TOGAF)[3]. Such a framework provides tangible solutions beyond technology by integrating enterprise domains like business needs, applications, technology infrastructure, and general business strategies. In addition, it removes communication barriers between stakeholders and team members.

Roadmap to Achieving a Sustainable Enterprise Architecture

1. Mapping Business Capabilities

Developing a map of the organizational business capabilities is essential to achieving a successful enterprise architecture. They encapsulate the current business processes and objectives required to implement the set strategy. The first level description should capture the most critical capabilities, and the deeper levels should describe the parent capabilities without overlapping.

2. Gartner IT Application Portfolio

Reliable data about the organization's IT landscape forms the baseline of future processes. When gathering IT application portfolio data, inspect the current data sources and remove irrelevant and outdated information. Then, upload the refined data to the enterprise architecture inventory for testing. Existing data extraction tools have features that simplify inventory development and management.

3. Analyze the Application Portfolio Data

The evaluation of the application portfolio data should focus on assessing its technical and functional fit and business criticality. Business criticality identifies the mission-critical applications, functional fit identifies whether the data is insufficient or perfect, and technical fit determines whether it is necessary to replace hardware, software, or services related to current or future business requirements.

4. Communication and Collaboration

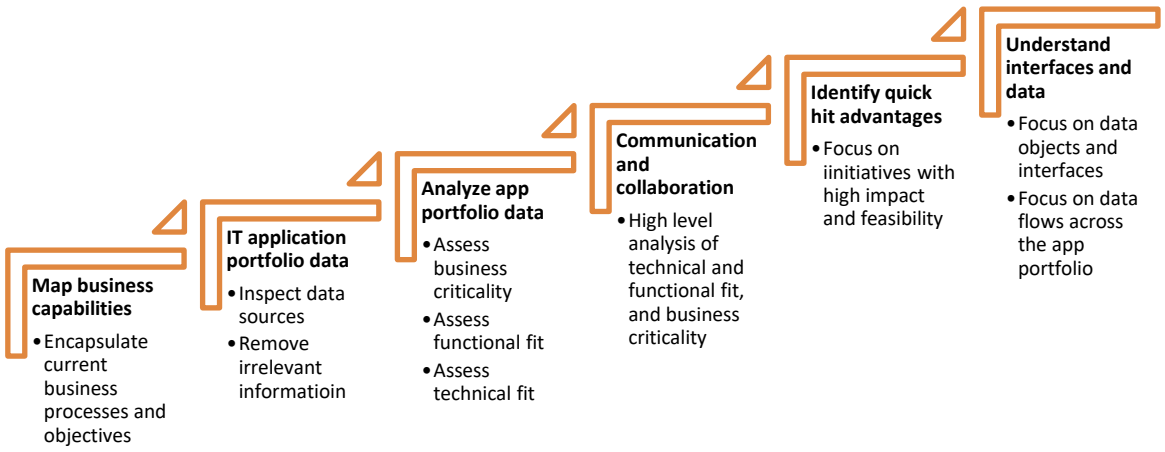
Effective communication and collaboration are vital as they ensure that all stakeholders are kept in the loop. A high-level analysis of technical fit, functional fit, and business criticality enables the organization to identify improvement areas. For example, adding lifecycle information to the technologies and applications outputs a roadmap of the expected IT landscape.

5. Identify Quick-Hit Advantages

The collected data provides various improvement ideas. For instance, consolidating the organization's application hosting, filling IT support gaps, and rationalizing the applications could be the short-term goals, and prioritizing their impacts informs the ability to execute. Therefore, an organization should only focus on initiatives with a high impact and feasibility.

6. Understand the Organization's Interfaces and Data

After identifying the key applications and urgent improvements to eliminate operational problems, a company should understand its data and its role in driving business operations. In addition, the organization should focus on the primary data objects and the interfaces they require to drive business operations. Evaluation helps identify the applications that access specific data types, understand the classified types of information, determine data that can be impacted by API changes, and which data can be migrated to the cloud easily. Additionally, a company should focus on data flows across the entire application portfolio and determine applications with an elevated risk of failing due to many interfaces.



How Enterprise Architects Assist in Developing Enterprise Architectures

1. Providing Enterprise Data View Landscape

Enterprise architecture identifies data silos to facilitate data integration needs in a cross-functional, end-to-end business map. However, poor data integration may result in data redundancies, and creating business maps identifies the challenges to ensure an organization views data improvement idea. Therefore, enterprise architects identify data integration opportunities to ensure an optimized enterprise architecture. Furthermore, enterprise architecture collaborates with organizational IT teams to provide quantifiable and tangible data improvement opportunities throughout the data landscape mapping journey.

2. Enhance and Scale Data Analysis Processes

Cumbersome decision-making and data analysis processes make it difficult to optimize data management practices. Also, data quality alone is insufficient to enhance agility, reduce costs, or increase revenue. In this regard, enterprise architects leverage data analytic technologies and tools to assist organizations in making informed business decisions. They assist in addressing questions like:

- Does the organization have adequate time to perform detailed data analysis?
- How many steps does an organization take to arrive at a data-driven decision?
- Does the organization have the tools and functionalities to perform the best data analysis?

- Do the relevant stakeholders have access to the necessary data?

3. Define Data Improvement Roles and Responsibilities

Although the organization's business models determine the enterprise architects' and IT teams' roles and responsibilities, it is crucial to define clear roles and, at the same time, focus on the success metrics and shared outcomes involved in decision-making processes. In addition, clear roles eliminate overlapping problems and foster collaboration. For example, enterprise architects can be responsible for information architecture and collaborating with IT teams in system functionalities and integration.

4. Support Relevant Business Analysis

Business challenges require actionable, contextual, and quantifiable insights that add enough value to the organization to justify enterprise architecture investments. Thus, it is prudent to reimagine data and analytics and blend business acumen with analytical expertise. That said, enterprise architects can partner with business leaders and other necessary stakeholders to address common data quality problems, such as timeliness and accuracy, to support business analysis.

Conclusion

We have reviewed and designed hundreds of high-level enterprise architectures and security plans and developed information security programs, process workflows, and technical controls. With us, you have options to choose from, depending on your company's needs. Your company will be brought up to the best enterprise architecture by leveraging our twenty-five-plus years of experience and knowledge across a diverse portfolio of customers in various industries. We shift left in the technical and solution design phases allowing us to inject security by design into your current and future technology projects and enterprise architectures. Using our Security Architects, we audit your attack surface - authentication and authorization, data flow, entry points, ports, SaaS, IaaS, and PaaS integrations, internet-facing assets, and more to keep your architecture, infrastructure, and people safe.