Using Business Architecture in Conjunction with BIAN Service Domains to Drive Business Value

A Business Architecture Guild® White Paper

A best practices approach to using the Business Architecture Guild's financial services reference model in conjunction with the BIAN service landscape

Authors	**Andrew Semple, Kelley Eckmayer, Thomas Bata, Teresa Garcia**
Contributors	**Business Architecture Guild® Financial Services Industry Reference Model Team**
Reviewers	**Ivan Blinov, William Ulrich, Whynde Kuehn**

Date: February 2021

Contents

Prologue

In financial services, there are two industry architecture models that are emerging as industry standards and gaining strong attention and interest. These models are the Financial Services Industry Reference Model, as developed by members of the Business Architecture Guild® ("Guild"), and the BIAN Service Landscape and accompanying Business Capability Model, developed by members of Banking Industry Architecture Network ("BIAN"). Both of these models have their respective focus, scope, merits, and value.

This whitepaper explores and compares these two reference models in order to provide an objective assessment and aid financial services organizations in the choice of how to use one or both of these models. This paper will further illustrate important similarities and differences between the business architecture model as defined by the Guild and the BIAN Service Landscape, with particular emphasis on the BIAN Business Capability model, introducing ideas and best practices for using these models collaboratively.

1. The Value of Reference Architectures Within the Financial Services Industry

Many organizations, including those in the financial services industry, are struggling to introduce the practice of business architecture. There is an understanding that business architecture will provide an advantage in guiding and executing transformation. According to a Standish Group study, approximately 70% of all corporate change initiatives have significant challenges, including being late, over budget, underdelivering, or failing outright, due to a disconnect between strategy and execution[1]. Business architecture provides an opportunity to improve these dismal statistics.

What is business architecture and how can it help? According to Federation of Enterprise Architecture Professional Organizations (FEAPO), business architecture is defined as:

> *"Business architecture represents holistic, multidimensional business views of: capabilities, end-to-end value delivery, information, and organizational structure; and the relationships among these business views and strategies, products, policies, initiatives, and stakeholders".*[2]

The primary purpose of business architecture is to provide a framework for understanding, informing, evaluating and translating business direction with the goal of ensuring alignment between strategy and the execution of that strategy.

Business architecture enables innovation, transformation, and the successful deployment of solutions by providing a framework for establishing an abstract representation of a business ecosystem. A comprehensive, end-to-end view of a business ecosystem, as viewed through business architecture, stimulates innovative thinking and transformative investments from ideation through to realization, enabling multiple disciplines along the way. While agile approaches can help to meet customer and related business needs quickly, unless the right needs are identified and strategies aligned, investment decisions may be misinformed. Decision-making and related investments become risky in complex environments without a comprehensive view of the affected business ecosystem.

In summary, business architecture provides the following key benefits:

- Translates strategic objectives into clearly targeted courses of action and initiatives
- Facilitates alignment of initiatives to strategy
- Guides investment prioritization across a portfolio of business initiatives

The Guild identifies the lack of shared common perspective as a root cause of an organization's inability to effectively deal with a growing list of challenges; escalating costs, channel access constraints, regulatory compliance, functional and technical redundancy, aging infrastructure, and inability to leverage new technology (Business Architecture Guild, 2019).[3] To help the financial services industry, the Guild has developed a business architecture, financial services industry reference model that accelerates and enhances a financial institution's ability to adopt and utilize business architecture.

Likewise, the (BIAN states the primary reason for the difficult transformation and modernization of the technology landscape is because components are tightly coupled. This challenge drives up integration costs and hinders innovation.[4] To help the financial services industry, BIAN has defined a

componentized Information Technology (IT) architecture framework which accelerates efforts to transform the legacy IT landscape to support the required rate of change.

Both the Guild reference model and the BIAN framework have the objective of improving the likelihood, and reducing the time required, for an organization to deliver business value. However, it is of critical importance that business and technology perspectives are aligned. The business architecture provides an abstraction that accurately reflects the organization providing a concise business perspective upon which to base software design.[5]

This whitepaper illustrates important similarities and differences between the business architecture model as defined by the Guild and the BIAN Service Landscape, specifically and with emphasis on the BIAN Business Capability model, and introduce ideas and best practices on using these two models collaboratively. The paper explores and compares these reference models in order to provide an objective assessment and aid financial services organizations in how to maximize the use of these models in a coordinated fashion.

2. Industry Standard Reference Models for Financial Services

Many organizations have started from scratch when creating the baseline business architecture view of their business. Until recently, at least for financial services organizations, this approach was the only option available. However, over the last couple of years several reference models have emerged and become readily available. None of these models are intended to be used "off-the-shelf" (or "as-is") for any specific business, but the models can help accelerate creating a unique architectural model for a specific organization. If an organization already has a business architecture model, an industry model offers value by providing a point of reference for comparison and validation.

In financial services, there are two industry business architecture models that are emerging as industry standard and gaining a lot of attention and interest. Namely, the Financial Services Industry Reference Model as developed by members of the Guild and Business Capability Model as developed by members of BIAN. Both of these models have their respective focus, scope, merits, and value. These two reference models will be explored and compared in order to provide an objective assessment and to aid in a financial services choice of how to use one or both of these models.

2.1 Business Architecture Guild®

The Guild is an international, not-for-profit, member-based professional association that provides valuable resources to business architecture practitioners and others interested in the profession with the goal of advancing, standardizing, and educating on business architecture practices. Formed in 2010, the Guild's primary purpose is to "promote best practices and expand the knowledge-base of the business architecture discipline"[6].

A key Guild offering is *A Guide to Business Architecture Body of Knowledge®* (*BIZBOK® Guide*)[7], which is a principle-based guide for business architecture practitioners and other professionals seeking to leverage the discipline. The *BIZBOK® Guide* formalizes the business architecture discipline, defines sets of guiding principles, documents best practices, formalizes techniques, and establishes an execution framework for business architecture. In addition, the *BIZBOK® Guide* provides a complete picture of

business architecture, while tying together various concepts, models, disciplines, and best practices into an overall framework.

Business architecture is framed around ten formally defined domains as shown in Figure 1. These ten domains form the basis for establishing, applying, and managing business architecture. There are four core domains, as illustrated in the center circle. These provide the foundation for a business architecture.

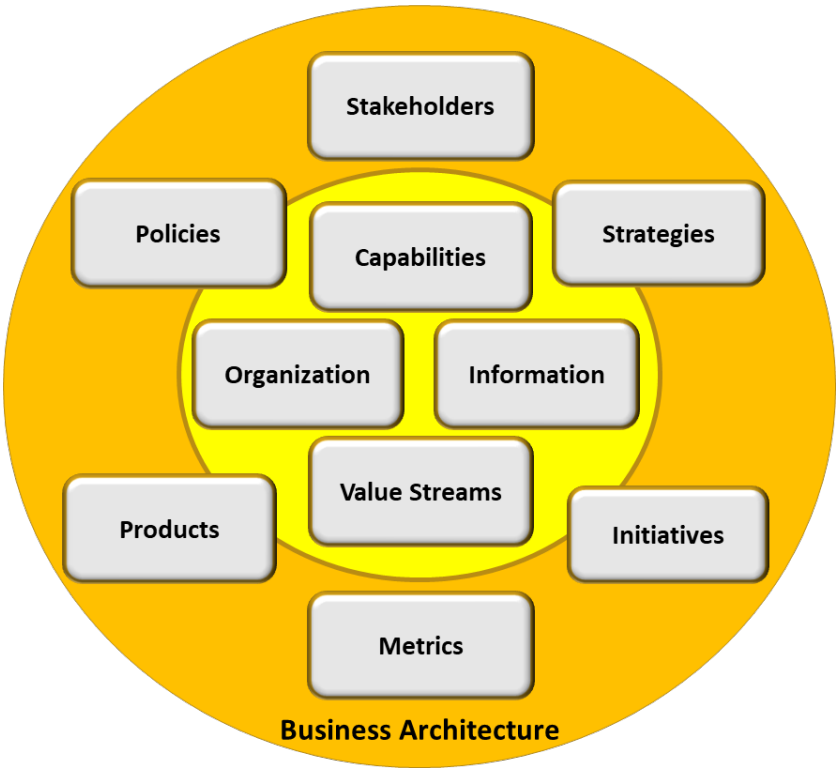

Figure 1: Business Architecture Core and Extended Domains

The Guild has published and continues to maintain a set of industry-specific business architecture reference models. Several industry models, currently available and being continuously enhanced, include financial services, manufacturing, transportation, insurance, government, and healthcare. There is also a common reference model that can be used as a basis for any industry and is the foundation for the Guild industry-specific models. Use of a common reference model provides the basis for reference model interoperability. For example, a full-service financial and insurance company may wish to integrate the insurance and financial services models. Commonalities, such as the ability to manage people, work, brands, products, finances, facilities, and other shared business perspectives, streamline the ability to integrate and deploy a business architecture that represents that business ecosystem that spans multiple industry sectors.

These models support the Guild's primary purpose and are aligned with and adhere to the business architecture standards and principles as detailed in the *BIZBOK® Guide.* Therefore, these reference models contain at least the four core domains shown in figure 1: capabilities, value streams, information, and organization. Certain reference models contain extended domains, such as stakeholders. In general, the Guild reference models will continue to expand in depth and breadth, with incremental updates being posted on an ongoing basis.

2.2 Banking Industry Architecture Network

The BIAN is a global, not-for-profit association of banks, solution providers, consultancy companies, integrators, and academic partners with the shared aim of defining a semantic standard for the banking industry, covering almost all of the well-known architectural layers. BIAN's expectation is that a standard definition of the business functions and service interactions that describe the general internal workings of any bank will be a significant benefit to the industry.[8]

Central to the BIAN standard is the Service Domain. BIAN breaks all financial service activities down into a collection of discrete "business capacity building blocks" called BIAN service domains. (BIAN, 2019). A BIAN Service Domain can be thought of as the "capacity to do something to something". Service domains are focused on an action done to a business object. BIAN service domains are atomic, meaning that they "represent the smallest practical capacity or functional partition that can be service-enabled ". In other words, a service domain will encapsulate the smallest practical piece of business functionality suitable to be encapsulated into a service.

The BIAN framework also contains additional artifacts to support the Service Domain definition, including the Business Object Model, Business Scenarios, and Wireframes. Over the past several years, the BIAN membership has developed a business capability model, referred to as the B3CM BIAN Banking Business Capability Model. This model was developed to present a more business-focused view of the banking industry. The ultimate goal is to define the relationship of business capabilities to the BIAN Service Domains and where appropriate other BIAN artifacts. The objective is to narrow the gap between the business perspective and the technical perspective of the banking industry. The BIAN service landscape is primarily a service architecture and is not intended to be a full business architecture model.

2.3 Comparing and Contrasting the Architecture Models

The business architecture reference model and BIAN service landscape offer very different perspectives on a financial services business. BIAN does not claim to represent a full business architecture (at least not from the *BIZBOK® Guide* definition), nor does the Guild claim to define a service architecture. From a pure business architecture perspective, BIAN has defined one type of formal business architecture domain, namely business capabilities. There is the possibility that other business domains will be added to the model, the most likely being value streams. There are similarities and parallels across the content within these models. There are BIAN components that can be loosely compared and aligned with business architecture components. The following table depicts the artifacts from each model with the comparable artifact from the other model. The table in figure 2 is not meant to suggest that these artifacts are equal, but only that there are similarities or practical correlations between them.

Guild Domains and Concepts	BIAN Artifacts and Concepts	Explanation
Capabilities	Business Capabilities	As these are the only two equivalent artifacts from each model, they will be explored in more detail in a following section.

Guild Domains and Concepts	BIAN Artifacts and Concepts	Explanation
Value Streams	Business Scenarios	Though a BIAN business scenario does not explicitly align with a value stream, they both try to describe and show how value (or some final result) is delivered. As the BIAN business scenarios are typically very specific, there are numerous BIAN business scenarios that could relate to a single value stream.
Information Concepts	Business Object Model / Information Architecture	The BIAN Business Object Model has a greater level of detail as it provides the basis for the service domain control record and the detail of the service APIs.
Organization		As BIAN is primarily a service architecture, there are no corresponding artifacts.
Stakeholders		
Strategies		
Products		
Metrics		
Initiatives		
Policies		
	Service Domain	The relationship of service domains to business architecture domains is discussed in greater detail in section 3.1 Business Capability to BIAN Service Domain relationship. As will be shown, service domains may correspond to one or more business capabilities, value streams, or value stream stages.
	API Specifications	One of the primary objectives of BIAN is to define a componentized IT architecture framework. Therefore, BIAN defines a set of detailed API specifications related to the service domains. There is no corresponding definition within the Guild model. However, section 6.5 of BIZBOK discusses the relationship of software services and business architecture.
Scenarios	Business Scenarios	The Guild scenarios, though not currently a formal business architecture domain, are a representation of one or more value streams for a specific business scenario. They provide insight to show and emphasize the capabilities, information, and other domains that play a significant role in a particular scenario. These scenarios align much closer to the BIAN business scenarios, which show the service domains that are involved in a particular scenario.

Figure 2: Business Architecture and BIAN Artifacts and Concepts

2.4 Business Capability Comparison – Detail

Since both the Guild and BIAN provide business capability maps as part of their reference models, it is fair to do a more detailed comparison of the two constructs. It is reassuring that there is a high degree of similarity and overlap in the business capabilities defined in both models, both of which are based on a business object/action format, confirming that both models utilize a similar set of principles and approach for defining business capabilities.

Both the Guild and BIAN models are based on a similar set of business objects, such as Customer, Partner, Channel, Product, Agreement, Order, Financial Instrument, Finance, Financial Transaction, Financial Account, and Payment; therefore, both models contain capabilities based on these business

objects. There are differences in the models with respect to the grouping or aggregating of some of these capabilities. For example, the Guild model has more capabilities aggregated under Finance Management, such as Payment and Financial Transaction, whereas the BIAN model has these capabilities represented as their own separate level 1 business capabilities. As expected, there are some naming differences for the same/similar business object across the two models. For example, the Guild capability called Financial Transaction Management roughly corresponds to the BIAN Money Movement Management capability.

Both models share commonalities in the detailed decomposition to lower-level capabilities. For example, both models generally have capabilities for Performance Management, Access Management, Risk Management, and Information Management. The BIAN model is sometimes less elaborated in these capabilities. Since both models are evolving, it is likely these differences are the result of model maturity rather than purposeful omission.

The BIAN model is also slightly less developed in some of the supporting business capabilities such as Incident Management, Language Management, and Location Management. This difference is not concerning as the focus of BIAN is on banking-specific capabilities.

One of the first differences that may be noticed in these models is the grouping of capabilities. The Guild model groups all capabilities into one of three "tiers", specifically Strategic, Core, and Supporting, as outlined in the *BIZBOK® Guide*. Whereas the BIAN model categorizes business capabilities into one of five categories: Enterprise Management and Controlling; Product and Service Enabling; Enterprise Enabling; Marketing and Sales; and Customer and Distribution. Though the categorization may help to prioritize or rate the relative importance of a capability, they are ultimately a means of organizing the capabilities; therefore, these grouping differences are essentially immaterial to the actual capabilities.

3. Value of Business Architecture for Software Design

Many organizations have found it challenging to achieve a true service-oriented architecture (SOA). Those organizations that try then struggle to achieve the degree of stability, maintainability, and scalability promised by its proponents. In his paper, "Defining the Role of Business Architecture in Software Design", William Ulrich states:

> "The philosophy of basing software designs on models or abstractions of the business is not a recent phenomenon. IT professionals have been seeking clear, concise business perspectives upon which to base software designs for decades".[9]

The Domain-Driven Design Community states that "Some of these design factors are technological, and a great deal of effort has gone into the design of networks, databases, and other technical dimension of software. Yet the most significant complexity of many applications is not technical. It is in the domain itself, the activity or business of the user."[10]

A poor representation of business leads to poor software design.

Business architecture provides the formal representation of the business, and the service-oriented architecture provides a design for creating the value required by the stakeholders as automated activities. Business value comes through the formal representation of the business that will lead to good software design which in turn will enable organizations to operate a stable, maintainable,

scalable and flexible IT architecture. The business architecture model provides a holistic view of all the important elements of the business that create value to a stakeholder and how these elements interrelate.

3.1 Business Capability to BIAN Service Domain Relationship

As stated earlier, it is of critical importance that the business and technology perspectives are aligned. Therefore, defining and understanding the relationship of service domains to business capabilities and other business architecture components will increase the likelihood that business goals and strategy are aligned with technical initiatives.

Relating BIAN service domains to business capabilities would at first appear to be a logical and simple endeavor. The BIAN service landscape and a business capability model both attempt to represent all that a financial services company does or can do. In fact, there are some service domains that have the same or very similar name of a business capability. However, these two models (service domains and business capabilities) segregate the business differently for dramatically distinct purposes. Service domains are a functional breakdown intended to provide a development/deployment framework[11]. Business capabilities represent distinct business abilities and are useful for developing and implementing a business strategy.

Business Capabilities

Business capabilities represent a business-focused set of discrete conceptual abilities or competencies that a business has or needs to achieve a business outcome. These, along with other business architecture components provide an analytical framework for translating strategy into actionable initiatives.

Service Domains

Service domains represent a set of discrete, elemental (unique/non-overlapping) business functions that constitute the functional building blocks that make up any bank. They are used to provide a business functional framework for solution development.[12]

A business capability, at level 1, is based on or focused on a business object. As shown in Figure 3, lower-level business capabilities remain focused on the same business object but often indicates an action to achieve a capability outcome.

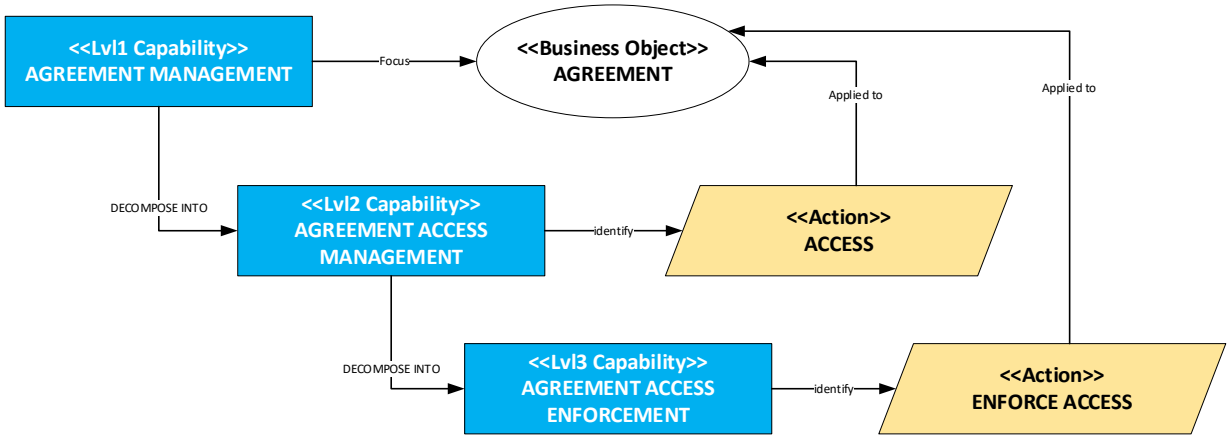

Figure 3: Relationship of Business Capability to Business Object

A BIAN service domain can be thought of as the "capacity to do something to something". These too are focused on an action done to a business object. BIAN's service domain are atomic, meaning that "represents the smallest practical capacity or functional partition that can be service-enabled. " In other words, a service domain will encapsulate the smallest practical piece of business functionality suitable to be encapsulated into an IT service.

In some cases, a service domain aligns directly (or nearly) to a business capability; however, since service domains are functionally oriented, they often relate to a value stream, or more often, a value stream stage (or part thereof).

Figure 4 shows the relationship of key business architecture perspectives to a software service.

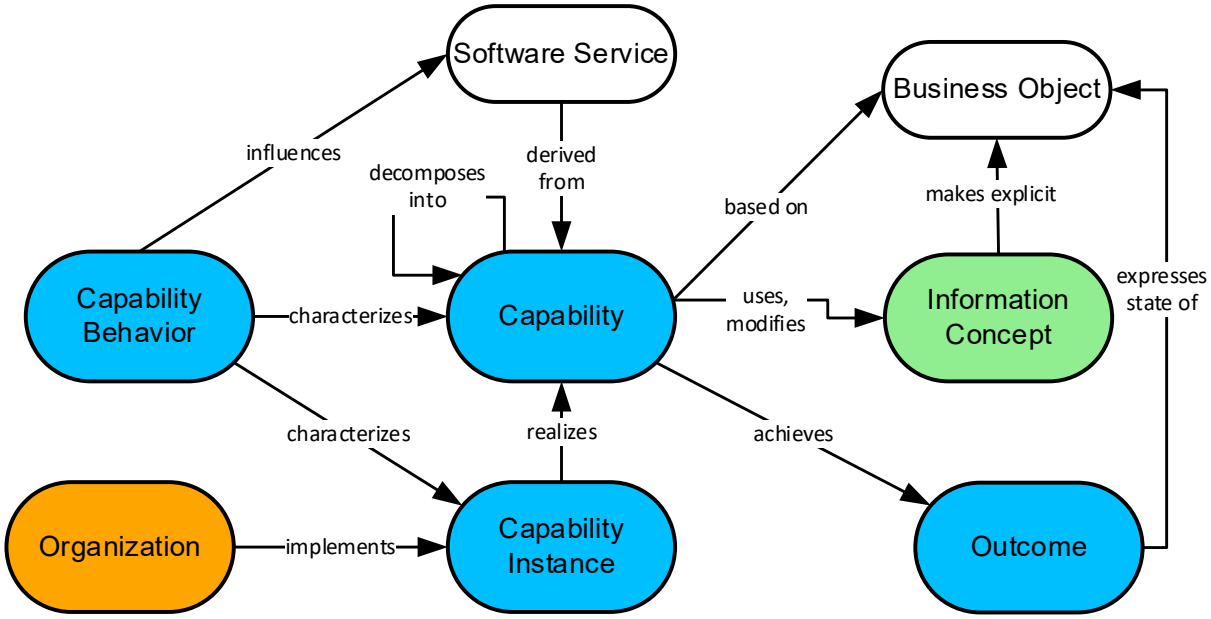

Figure 4: Capability's Role in Software Service Derivation [13]

The service-oriented model in figure 4 provides a detailed view on how to automate the necessary activities found in a bank that enables stakeholders to experience the value. The software service is based on the object and a corresponding action against that object defined by a given capability. The realization of a capability within a business ecosystem is called a capability instance. Depending on the implementation, the behavior of that capability may differ. For example, authenticating a customer at a teller window would differ from authenticating a customer over the phone, or in an online transaction. Each unique behavior is reflected in the above model and is likely to influence the software service or services used to automate that capability in context of a given instance.

3.2 Comparing Guild Reference Model Domains to BIAN Domains

Figure 5 below depicts the relationship of BIAN service domains and other components of the framework to corresponding business architecture components, where the business architecture domains are shown in blue and the strictly BIAN components are shown in orange.

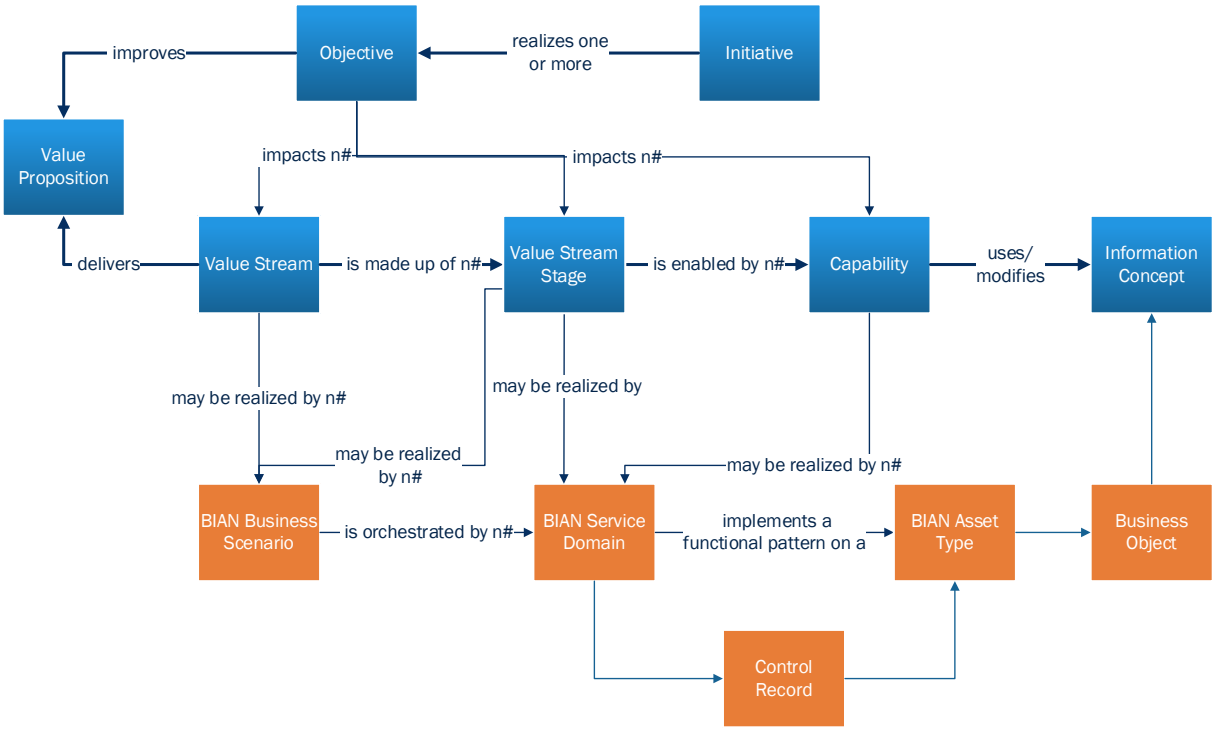

Figure 5: Relationship of Business Architecture Domains to BIAN Service Landscape Components

The table below provides some examples of service domain relationships with one or more business architecture domains from both the Guild and BIAN models.

Service Domain	Related Guild Business Architecture Domain	Related BIAN Business Capability
Product Design	Capability: Product Design	Capability: Product Design
Account Reconciliation	Capability: Financial Account Reconciliation	Capability: Financial Account Reconciliation
Recruitment	Value stream stages: Source Individuals, and Evaluate Individuals from Onboard Human Resource value stream Capability: Human Resource Management, Job Management and Competency Management	Capability: Candidate Sourcing Management, Candidate Suitability Determination
Credit Card Transaction	Value Stream: Execute Financial Transaction	No corresponding BIAN capabilities

Figure 6: Service Domains and Related Business Architecture and BIAN Domains

Though figure 6 highlights just a few simple examples, it illustrates that sometimes there may be a one-to-one association, or a many-to-many association of a service domain to a business capability. These examples also illustrate that some service domains relate better to one or more stages of a value

stream. When evaluating the relationship of a service domain to a business architecture component, it is recommended that the functional pattern, asset type, and generic artifact type, that scope and define a service domain, are examined.

4. Best Practice: Using These Two Models Collaboratively

What should a financial services company do, given the availability of these two industry reference models? The answer to that question largely depends on the state of the business and technology architecture practices with that company.

The Guild and the BIAN industry reference models can add value and be useful for a financial services company. However, neither should be adopted or used without a clear objective and purpose. Whichever model or models you decide to adopt, the primary objective is to provide *immediate* value to the business. The ability to identify, prioritize, and justify business initiatives should be the key consideration.

4.1 Business Architecture Model Development

Business architecture can provide a framework for strategic planning with business capabilities being a fundamental element of the framework. Since both BIAN and the Guild provide a comprehensive business capability model these can be useful in your business architecture practice. It should be noted that neither BIAN nor the Guild would expect a company to outright adopt their model as-is. The models are intended as a reference or launch point. Any reference model needs to be tailored to the nuances and terminology of a specific business, while maintaining the principles under which those reference models were designed and built.

Depending on the state of your business capability map or model, three possible usage scenarios of the industry models are described below:

Scenario 1

If your organization has no defined or has a poor or underdeveloped capability map or model, then perhaps the best approach may be to use both reference models as input for creating your own business capability map or model. Where the two models have the exact match of capabilities would be a good indication that these are fundamental and necessary capabilities, at least at a level 1. For capabilities that are similar but not exact matches, these would need to be vetted with business stakeholders to determine which model better resonates with your business. In these reviews, pay attention to capability mapping principles that are not strictly adhered to. Every real business capability model will likely have some of these departures from guiding principles, but they need to be recognized and determined if this aberration is justified in the context of your business.

Scenario 2

If your organization has a defined business capability map or model, then these two reference models can be used to validate and test your map or model. As the Guild model is based on the *BIZBOK® Guide* principles, it is particularly useful to determine the extent to which your own model is adhering to those principles.

Scenario 3

If your organization has adopted or is contemplating adopting and/or adhering to BIAN service domains, then the BIAN business capability model would provide an advantage as the association to service domains becomes more fully defined. This will enhance the ability to link strategy to implementation. Given that the Guild capability map and BIAN capability model have a number of similarities, you could then adopt the Guild value streams, information concepts, and other domain mappings that are intended to align to and work with the Guild capability map. This scenario represents a true integration of the Guild and BIAN models.

Some organizations limit their business architecture viewpoints to just business capabilities. Though these are important, the value delivered by a capability can only truly be seen in the context of value streams and in relation to other business architecture domains. In addition, many organizations have initiated a business architecture practice and spent months building a *perfect* business architecture, but then failed to use it anywhere in the business to add value. This approach is a huge mistake and generally leads to the failure of a business architecture practice to achieve its intended business outcomes. It is more practical and productive to use the reference models and to focus on a particular business problem or initiative and mature the business architecture as needed over time. By demonstrating value to key stakeholders, there will be a greater chance of success in building a business architecture practice.

4.2 Business Architecture Driven Technology Initiatives

As previously stated, many initiatives fail or severely underperform. In many cases, these results are due to the disconnect between initiative implementation and business strategy. Business architecture can help in this area. Even when an organization uses business architecture to help develop and refine strategy and define initiatives, if there is no connection between the impacted business architecture perspectives and the implementation components, then there is a greater risk of failure. Since many initiatives involve an Information Technology change, relating the IT components to the business architecture components could greatly improve the likelihood that an initiative will meet its intended business objective.

By using a principle-based business architecture reference model and a related principle-based IT model, such as the BIAN service landscape, there can be a clear linkage between business strategy and implementation.

Business architecture helps to translate strategies and ensure the organization is aligning resources, time, and investments into initiatives focused on delivering value that aligns with its strategic goals and objectives. Before an organization designs its technology solutions, essentially “how” they want to build their technology platforms, they need to first understand the “why” and the “what”. Business architecture is used to articulate the “why”; that is whether the organization’s energy and focus is aligned to its strategies. It is also used to convey the “what”, identifying the components of the organization that may require improvement from enabling capabilities; policies that influence behavior; products and services that provide value to the organizations; and stakeholders, both internal and external, that will be impacted. Business architecture provides transparency to the full landscape/ecosystem of “what” needs to be invested in to realize those strategic objectives.

BIAN was created to establish, promote, and provide a common framework to improve the interoperability of banking institutions to address past issues with and support emerging technologies. This framework helps to reduce the tremendous amount of complexity with interchanging information within the banking industry and address the challenges with IT integration and collaboration within and across financial institutions. BIAN's strength is in identifying "what" technology solutions to invest in and "how" to design and build those solutions in a common, efficient, and optimal manner.

Figure 7 below depicts the relative use and benefit of business architecture and the BIAN service landscape from strategy formulation through solution deployment.

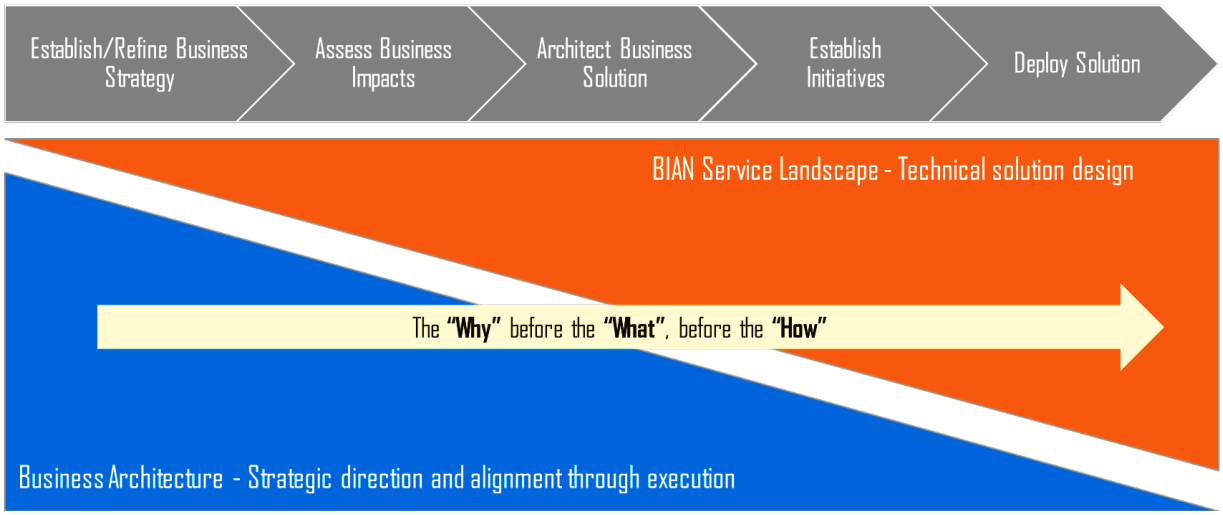

Figure 7: Relative Use and Benefit of Business Architecture and the BIAN Service Landscape

As illustrated in figure 7, both business architecture and the BIAN service landscape can provide value throughout the entire solution deployment lifecycle. Business architecture tends to provide greater relative value during strategy alignment and assessing business impact, whereas the BIAN service landscape provides greater relative value as one gets closer to solution deployment.

4.3 Relative Benefits of Business Architecture and BIAN Framework for Various Business Use Cases

Depending on the business case or challenge that requires attention, the use of business architecture and the BIAN framework can add value. The table below lists several common business use cases and describes the uses and relative benefits that one could derive from leveraging business architecture and the BIAN framework. Figure 8 outlines the role of business architecture and the role of the BIAN framework in the context of various business use cases.

Business Use Case	Business Architecture	BIAN Framework
Investment Analysis	Use strategy/initiative, initiative/capability and initiative/business unit cross-mapping to align investments with strategic objectives. Look for overlapping capability investments across organizations/business units.	There are no strategy or initiatives in the framework, however the Service Landscape map to applications can be used to identify redundant investments.

Business Use Case	Business Architecture	BIAN Framework
New Product/ Service Demand	Identify or create the value streams needed to establish and maintain the new product/service. Identify the enabling capabilities and assess for fit. Map strategies to new products to ensure alignment with the organization's objectives.	Determine services needed for the new product/service and identify the related wireframes and business scenarios. Identify functional patterns needed to establish and maintain the product. BIAN's How-to-Guide-Design Principles-Techniques refers to the Service Landscape as being the bridge to business strategy. • Why: The Enterprise Business Model • What: The Business Architecture • How: Implementation Designs Nothing available to determine if a product/service aligns with objectives.
Merger & Acquisition Assessment	Compare and reconcile strategies, metrics, business units, policies, capabilities, products/services, and value streams from each organization, and assess overlap, gaps, differences Note: May need to create business architecture artifacts for the new organization being acquired.	Compare and reconcile services, capabilities, wireframes/business scenarios and evaluate service domain costs between the two organizations.
Outsourcing Determination	Select potential capabilities to outsource considering whether they are customer-facing, strategic, or supporting. Review related organizations and value streams connected to the capabilities for negative impacts and risk.	Select potential services to outsource and identify associated wireframes/business scenarios and assess for negative impact and risk.
Regulatory Impacts	Identify impacted capabilities through the capability/policy cross-mapping. Use other similar mappings to assess impacts. Organizations with risk and controls inventory can demonstrate relationships to policies and metrics for enhanced impact assessment.	Identify and assess impacted service domains and business scenarios.
Digital Transformation	Identify the strategies and objectives that drive the need for digital transformation, the underperforming metrics and related capabilities, and value streams. Determine and prioritize which capabilities would have a positive effect by being digitally transformed.	Identify the service domains and related business scenarios that are candidates for digital transformation. Leverage the open library API exchange.
Organization Efficiency	Identify efficiency related metrics, map the value streams tied to metrics and their capabilities and organizations. Look for duplicated capabilities between organizations and assess capability effectiveness.	As BIAN is primarily a service architecture, there are no corresponding artifacts.

Business Use Case	Business Architecture	BIAN Framework
Technology Assets Rationalization	Map capabilities and value streams to applications to identify redundancies.	Map service domains to applications to identify redundancies. Use wireframes, business scenarios, service domain specifications, functional patterns, and API definitions to standardize.
Open Banking	Leverage the capability map and information map to define a common language with value streams for the business value context.	Leverage the API specifications to build and deliver industry standard capabilities.

Figure 8: Business Use Cases in Business Architecture and BIAN Framework

It should be noted that figure 8 represents just a few business use cases for these two reference models, with many other potential uses that may be considered. The table in figure 8 provides some ideas of how best to collaboratively utilize these reference models and ideally serves as the basis for organizations to surface similar ideas.

5. Summary

Business architecture enables innovation and transformation, and the successful deployment of solutions by providing a framework for establishing an abstract representation of a business ecosystem. An industry standard reference architecture can provide benefit by accelerating and validating an organization's own architecture. The Guild's Financial Services Reference Model and BIAN Reference Model are two reference models that coexist for financial services.

Business architecture helps translate strategies and ensure that organizations are aligning resources, time, and investments into initiatives focused on delivering value that aligns with its strategic goals and objectives. Business architecture is used to articulate the "why", that is, whether the organization's energy and focus is aligned to its strategies. It is also used to convey the "what", identifying the components of the organization that may require improvement from enabling capabilities; policies that influence behavior; products and services that provide value to the organizations; and stakeholders, both internal and external, that will be impacted.

Business architecture provides transparency to the full landscape/ecosystem of "what" needs to be invested in to realize those strategic objectives. BIAN's framework helps reduce the tremendous amount of complexity with interchanging information within the banking industry and address the challenges with IT integration and collaboration within and across financial institutions. BIAN's strength is in identifying "what" technology solutions to invest in and "how" to design and build those solutions in a common, efficient, and optimal manner.

Using either the Guild or BIAN reference models independently can provide benefit, but using them collaboratively can provide even greater benefit. Used together they can offer a greater linkage between business strategy and technical implementation, thereby increasing the probability of initiatives delivering greater business value.

Appendix A: Glossary of Terms

The following glossary provides definitions for certain terms used in this paper. The terms are drawn from the *BIZBOK® Guide*, Appendix A: Glossary[14] and from the BIAN Semantic API Practitioner Guide V8.1.

BIAN Service Domain
A BIAN Service Domain is defined to be responsible for implementing one pattern of control to instances of just one type of asset.

BIAN Control Record
Every BIAN Service Domain specification defines a single associated operational artifact called its "control record". This is simply the mechanism it uses to control or trace the execution of one occurrence of it performing its business role for a complete lifecycle. The control record contains most of the key information that is likely to be referenced and exchanged in service operations between the Service Domains.

BIAN Business Object Model (BOM)
The BIAN Business Object Model (BOM) is a conceptual data model that provides a consistent definition of the control record content and the exchanged business information passed by services between the Service Domains.

Business Architecture
Represents holistic, multidimensional business views of capabilities, end-to-end value delivery, information, and organizational structure; and the relationships among these business views and strategies, products, policies, initiatives, and stakeholders.[15]

Business Ecosystem
One or more legal entities, in whole or in part, that exist as an integrated community of individuals and assets, or aggregations thereof, interacting as a cohesive whole toward a common mission or purpose.[16]

Business Object
A representation of a thing, including at least its business name and definition, attributes, behavior, relationships, and constraints, which may represent, for example, a person, place, or concept.[17]

Business Unit
A logical element or segment of a company (such as Accounting, Production, or Marketing) representing a specific business function and a definite place on the organizational chart under the domain of a manager. Also called Department, Division, or Functional Area.[18]

Capability
A particular ability or capacity that a business may possess or exchange to achieve a specific purpose or outcome.[19]

About the Business Architecture Guild®

The Business Architecture Guild® is an international, not-for-profit, and member-driven professional association that provides valuable resources to business architecture practitioners and others interested in the profession. Formed in 2010, the Guild's primary purpose is to promote best practices and expand the knowledgebase of the business architecture discipline. The Guild is the source for *A Guide to Business Architecture Body of Knowledge®* (*BIZBOK® Guide*), the go-to guide for business architecture practitioners and other professionals seeking to leverage the discipline.

The Guild is active in industry standards programs and partners with related professional associations to further its purpose. In addition to the *BIZBOK® Guide*, the Guild offers a Business Architecture Maturity Model® (BAMM®), Business Architecture Tool Evaluator™, and a suite of industry reference models for industry sectors that include financial services, healthcare, insurance, government, manufacturing, transportation, and a common industry reference model. The Guild adds additional industry reference models as members engage to create those models. In addition to these resources, the Guild has a vendor partnering program, a Guild Accredited Training Partner® (GATP®) program, and an academic program.

For more information and more details, visit: www.businessarchitectureguild.org.

References

[1]S & F Team, "A Look at 25 Years of Software Projects: What Can We Learn?", *Speed & Function*, July 3, 2017, https://speedandfunction.com/look-25-years-software-projects-can-learn/.

[2] Federation of Enterprise Architecture Professional Organizations (FEAPO), Taxonomy Working Group, 2017, https://cdn.ymaws.com/www.businessarchitectureguild.org/resource/resmgr/docs/feapo_adopted_architecture_d.pdf.

[3] *The Business Architecture Quick Guide*, Business Architecture Guild®, 2019, https://www.amazon.com/dp/0929652606/.

[4] *BIAN edition 2019 A framework for the financial services industry (*Zaltbommel: Van Haren Publishing, 2019).

[5] William Ulrich, "Defining the Role of Business Architecture in Software Design", 8/30/2020, Retrieved from Tactical Strategy Group, https://secureservercdn.net/72.167.230.230/7n9.892.myftpupload.com/wp-content/uploads/2020/12/Defining-the-Role-of-Business-Architecture-in-Software-Design-1.pdf.

[6] Business Architecture Guild®.

[7] *A Guide to the Business Architecture Body of Knowledge®,* Business Architecture Guild®, 2020.

[8] *BIAN edition 2019 A framework for the financial services industry* (Zaltbommel: Van Haren Publishing, 2019).

[9] William Ulrich, "*Defining the Role of Business Architecture in Software Design", 8/30/2020,* https://7n9.892.myftpupload.com/wp-content/uploads/2020/12/Defining-the-Role-of-Business-Architecture-in-Software-Design-1.pdf.

[10] "*What is domain driven design?,* 9/7/2020, Retrieved from Domain Driven Design Community, https://dddcommunity.org/learning-ddd/what_is_ddd/.

[11] *BIAN edition 2019 A framework for the financial services industry (*Zaltbommel: Van Haren Publishing, 2019).

[12] *BIAN edition 2019 A framework for the financial services industry (*Zaltbommel: Van Haren Publishing, 2019).

[13] William Ulrich, "*Defining the Role of Business Architecture in Software Design", 8/30/2020,* https://7n9.892.myftpupload.com/wp-content/uploads/2020/12/Defining-the-Role-of-Business-Architecture-in-Software-Design-1.pdf.

[14]*BIZBOK® Guide*, Appendix A: Glossary, www.businessarchitectureguild.org.

[15] Federation of Enterprise Architecture Professional Organizations (FEAPO), Taxonomy Working Group, 2017, https://cdn.ymaws.com/www.businessarchitectureguild.org/resource/resmgr/docs/feapo_adopted_architecture_d.pdf.

[16] *BIZBOK® Guide*, Part 1, Introduction, https://www.businessarchitectureguild.org/page/publications.

[17] Business Object Designer, http://docs.imis.com/15.2.0/index.htm?turl=whatisabusinessobject2.htm.

[18] *BIZBOK® Guide*, Appendix A: Glossary, https://www.businessarchitectureguild.org/page/publications.

[19]Ulrich Homann, A Business Oriented Foundation for Service Orientation, 2006, https://cdn.ymaws.com/www.businessarchitectureguild.org/resource/resmgr/homann_article_on_capabiliti.pdf.

