Modeling the Business Model Canvas with the ArchiMate® Specification

Using the ArchiMate 3.0 Specification to model the building blocks of the Business Model Canvas

A White Paper by:

Ed Walters

May 2019

Modeling the Business Model Canvas with the ArchiMate® Specification

Copyright © 2019, The Open Group

The Open Group hereby authorizes you to use this document for any purpose, PROVIDED THAT any copy of this document, or any part thereof, which you make shall retain all copyright and other proprietary notices contained herein.

This document may contain other proprietary notices and copyright information.

Nothing contained herein shall be construed as conferring by implication, estoppel, or otherwise any license or right under any patent or trademark of The Open Group or any third party. Except as expressly provided above, nothing contained herein shall be construed as conferring any license or right under any copyright of The Open Group.

Note that any product, process, or technology in this document may be the subject of other intellectual property rights reserved by The Open Group, and may not be licensed hereunder.

This document is provided "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. Some jurisdictions do not allow the exclusion of implied warranties, so the above exclusion may not apply to you.

Any publication of The Open Group may include technical inaccuracies or typographical errors. Changes may be periodically made to these publications; these changes will be incorporated in new editions of these publications. The Open Group may make improvements and/or changes in the products and/or the programs described in these publications at any time without notice.

Should any viewer of this document respond with information including feedback data, such as questions, comments, suggestions, or the like regarding the content of this document, such information shall be deemed to be non-confidential and The Open Group shall have no obligation of any kind with respect to such information and shall be free to reproduce, use, disclose, and distribute the information to others without limitation. Further, The Open Group shall be free to use any ideas, concepts, know-how, or techniques contained in such information for any purpose whatsoever including but not limited to developing, manufacturing, and marketing products incorporating such information.

If you did not obtain this copy through The Open Group, it may not be the latest version. For your convenience, the latest version of this publication may be downloaded at www.opengroup.org/library.

ArchiMate®, DirecNet®, Making Standards Work®, Open O® logo, Open O and Check® Certification logo, OpenPegasus®, Platform 3.0®, The Open Group®, TOGAF®, UNIX®, UNIXWARE®, and the Open Brand X® logo are registered trademarks and Boundaryless Information Flow™, Build with Integrity Buy with Confidence™, Dependability Through Assuredness™, Digital Practitioner Body of Knowledge™, DPBoK™, EMMM™, FACE™, the FACE™ logo, IT4IT™, the IT4IT™ logo, O-DEF™, O-HERA™, O-PAS™, Open FAIR™, Open Platform 3.0™, Open Process Automation™, Open Subsurface Data Universe™, Open Trusted Technology Provider™, O-SDU™, Sensor Integration Simplified™, SOSA™, and the SOSA™ logo are trademarks of The Open Group.

UML® is a registered trademark and Unified Modeling Language™ is a trademark of Object Management Group, Inc. in the United States and/or other countries.

All other brands, company, and product names are used for identification purposes only and may be trademarks that are the sole property of their respective owners.

Modeling the Business Model Canvas with the ArchiMate® Specification

Document No.: W195

Published by The Open Group, May 2019.

Any comments relating to the material contained in this document may be submitted to:

The Open Group, Apex Plaza, Forbury Road, Reading, Berkshire, RG1 1AX, United Kingdom

or by email to:

ogpubs@opengroup.org

Table of Contents

Executive Summary **5**

Introduction **6**

Business Model *versus* Operating Model **7**

Business Model Canvas **8**

The ArchiMate Modeling Language **12**

ArchiMate Relationships 13

ArchiMate Language Customization Mechanisms 13

ArchiMate Views 13

Modeling the BMC with the ArchiMate Specification using Business Architecture Layer Elements **14**

Modeling the BMC with the ArchiMate Specification using Elements from the Strategy Layer and the Motivation Aspect **16**

"Bait and Hook" Business Model Pattern **18**

Architectural Views of the BMC **19**

"Bait and Hook" Pattern using Business Architecture Layer Elements **20**

Value Proposition View 20

Customer Interaction View 21

Core Capability View 22

"Bait and Hook" Pattern using the Strategy Layer and Motivation Aspect Elements **24**

Value Proposition View 24

Customer Interaction View 25

Core Capability View 26

Cross-Layer Views 27

Conclusion 28

Appendix A: "Bait and Hook" – BMC for Gillette as Business Architecture 29

Appendix B: "Bait and Hook" – BMC for Gillette using the Strategy Layer and the Motivation Aspect 30

Appendix C: Reference to Other Mappings 31

References 32

About the Author 33

About The Open Group 33

Boundaryless Information Flow ™
achieved through global interoperability
in a secure, reliable, and timely manner

Executive Summary

Osterwalder's Business Model Canvas (BMC) has become a widely-adopted technique for defining and describing business models since the publication of the seminal book "Business Model Generation" (BMG) in 2010 [1]. This White Paper shows how the ArchiMate® modeling language, as defined in the ArchiMate Specification, a standard of The Open Group [3], might be used to model the elements of the BMC.

This White Paper will be of interest to Enterprise and Business Architects who are tasked with modeling the enterprise both as it is and as it will or might be. It will also be of interest to many of the roles involved with business change and transformation, including business analysts, program and project management, and their executive sponsors.

This White Paper supports The Open Group vision of Boundaryless Information Flow™ by promoting the use of open standards to standardize the way that Enterprise Architecture themes are modeled.

Introduction

Osterwalder's Business Model Canvas (BMC) was first introduced to the world in the book "Business Model Generation" (BMG) in 2010 [1]. Almost from its introduction it proved to be a seminal work, and it has enjoyed rapid and widespread adoption across the business community; a very rare example of an "instant classic".

The ArchiMate® Specification, a standard of The Open Group, is an open and independent modeling language for Enterprise Architecture that is supported by different tool vendors and consulting firms. The ArchiMate language enables Enterprise Architects to describe, analyze, and visualize the relationships among architecture domains in an unambiguous way.

The ArchiMate language, as described in the standard, complements the TOGAF® Standard, a standard of The Open Group [2], in that it provides a vendor-independent set of concepts, including a graphical representation, that helps to create a consistent, integrated model "below the waterline", which can be depicted in the form of TOGAF views.

The ArchiMate Specification's coverage of concerns in Enterprise Architecture is wide ranging since it covers not just the architecture of an enterprise's IT-based information systems, but also the architecture of the business itself and the context in which the business operates. It is principally the latter facilities that we can leverage to model the BMC.

Business Model *versus* Operating Model

According to the TOGAF Standard, Version 9.2, an enterprise is "*any collection of organizations that have common goals*" [2; §1.3]. Every such enterprise has a business model and an operating model, although these may not be articulated formally.

It is important for the purposes of this document to appreciate the distinction between a business model and an operating model.

A business model is defined in the TOGAF Standard, Version 9.2 [2; §3.28] and in the BMG book as "*the rationale of how an organization creates, delivers, and captures value*" [1; pp.15]. A business model summarizes the essential motivation for the creation and continuance of the enterprise. A central component of a business model is some sort of exposition of a value proposition, which may be articulated as one or more statements explaining the value that the enterprise thinks it can offer to its customers, via its products and services. The use of the word "proposition" is significant, since value is intrinsically subjective, and hence it cannot be guaranteed that everyone will agree on the value of any given product or service. Osterwalder emphasizes in this regard that enterprises must try to understand the nature of the problem that their product/service solves for their consumers.

A business model should also provide a very high-level view of the key parameters that together combine to produce the value proposition. These are essential too, because there are many ways to produce and deliver on any given value proposal, and the eventual architecture of the enterprise will be driven by the options available and the choices made here. Such choices will drive the design of the desirable structures and behaviors captured in the corresponding operating model.

An operating model explains the configuration of the enterprise resources considered optimal by the leadership team for the realization of the business model. In other words, how will the business model be realized by some suitable combination of People, Process, and Technology (PPT).[1]

Enterprise Architecture has a strong connection with both the business model and the operating model. The discipline of Enterprise Architecture is above all concerned with helping to define a target operating model to be achieved sometime in the future, together with a roadmap for migration from the existing model to the new one. The specific focus of Enterprise Architecture is the strategic alignment of the Information System based on Information Technology (IS/IT) with the business's long-term goals. In order to do this successfully, it is evident that the context of the enterprise and its specific business model must be adequately researched and documented in the architecture repository. Osterwalder's BMC is one of the tools that can be used to facilitate this requirement.

Readers can find more information on business models in the TOGAF® Series Guide: Business Models [6].

[1] PPT is a well-used phrase that summarizes the elements which an enterprise can call upon in order to deliver on its essential purpose. Not to be taken too literally – there are many other elements necessary in a complete operating model description, as the ArchiMate Specification makes clear.

Business Model Canvas

The contents of the BMG book are the result of empirical studies by Osterwalder and his collaborators on a wide variety of famous and successful companies, such as Google™, Lego®, and Gillette®. From these studies, nine "building blocks" were identified that together could be used to summarize any given business model, and they form the basis of the BMC. Although all the examples in the BMG book are commercial enterprises, the idea of the BMC can easily be extended to the public and not-for-profit sectors.

It is important to appreciate that the BMC is meant to be a creative learning tool. According to the authors, the BMG book is meant to be of service as a handbook for "*visionaries, game changers, and challengers*" [1]. Use of the BMC facilitates discussions around what the enterprise's business model is and also what it could be or should be in the future.

In Osterwalder's book, the BMC is suggested as the principal tool to be used in any approach to defining a business model. I will briefly explain the nine building blocks of the BMC in this section of the document.[2]

The graphic defining the BMC as offered in the BMG book is reproduced in Figure 1.

Figure 1: The Business Model Canvas

[2] Notwithstanding this brief explanation, I strongly encourage readers to read the inspirational original.

Apart from simply listing items in each of these nine categories, the BMC is meant to be used as a tool for linking items together from different sections, showing, for example, how a partner takes care of an activity, or how a channel impacts a customer. The major focus of Osterwalder's work is the requirement for modern businesses to reconfigure or even re-invent themselves frequently in response to rapidly changing factors in their environment. The BMC is meant to be used to facilitate thinking about these changes.

Apart from explaining the BMC, the BMG book also includes a chapter on business model patterns, giving examples of each pattern by using the BMC technique to depict the business model of some famous companies. I will use one of these patterns to illustrate the ways the ArchiMate Specification might be used to model a BMC. There are further chapters in the BMG book on design and strategy.

The nine building blocks are referred to in the BMG book by a two-letter acronym, as summarized here:

VP Value Proposition

KA Key Activities

KR Key Resources

CH Channels

CR Customer Relationships

CS Customer Segments

KP Key Partners

C$ Cost Structure

R$ Revenue Streams

Let us briefly examine each of these building blocks in turn.

VP – Value Proposition

A Value Proposition "*seeks to solve customer problems*" [1; pp.16]. A VP is expressed in the BMC as the enterprise's products and/or services, but this should be accompanied by some statements regarding their perceived value to the end consumer. This is the most important part of any business model; if an enterprise does not create enough value for enough people it will inevitably fail at some point. It is important for an enterprise to know what the characteristics are of the value it offers. The possible ingredients of value have been thoroughly examined by academics and researchers over the years, and the BMG book offers some examples.[3]

[3] See, for example, the Value Discipline Model in The Discipline of Market Leaders: Choose Your Customers, Narrow Your Focus, Dominate Your Market, by Michael Treacy and Fred Wiersema [7].

KA – Key Activities

Key Activities pinpoint the essential transformational behaviors that are required to produce the value expressed in the VP. Activities identify the "work" that the organization must be able to do; the activities required to sustain CH, CR, and R$. Note that KA may be performed by KP. This is the first indication of the core capabilities required by the enterprise; i.e., capabilities to execute the KA.

KR – Key Resources

A list of the resources the enterprise depends upon for value creation. KA depend upon the use of KR. The BMG book suggests four categories of resource: physical, financial, intellectual, and human.

CH – Channels

"*Communication, distribution, and sales channels comprise a company's interface with customers*" [1; pp.26]. VP is delivered to customers through a variety of channels, which include a list of the ways that customers can interact with the enterprise. CH indicate "touch points" along a customer journey. The after-sales channel should be included here too.

CR – Customer Relationships

Customer Relationships are expressions of the form of the enterprise's relationships with its customers, within each segment [CS]. For example, what is the appropriate form of customer acquisition, retention, and sales promotion? Examples of relationship types given in the BMG book are: personal, self-serve, user communities, and co-creation. Relationship definitions revolve around the mutual emotional expectations of the enterprise and their customers. The range of options here have also been well researched throughout the years.[4]

CS – Customer Segments

The breakdown of the customer into segments or distinct groupings of customers. Understanding the customer and their needs is fundamental to the business model. What customer problem does the enterprise try to solve with its products and services? Deciding on which customers to serve is part of this section. There are various types of CS; e.g., "mass market", some of which are explained in the BMG book.

KP – Key Partners

A list of the partners upon which the enterprise relies for value creation. Partners take care of some part of the KA on behalf of the enterprise. Also included are key suppliers. What KR does the enterprise get from partners/suppliers? This building block might include the identity of alliances and joint ventures.

C$ – Cost Structure

What does the enterprise have to spend its money on to produce value? C$ describes the cost streams resulting from the maintenance of resources (KR) and the performance of activities (KA).

[4] See, for example, the "Apostle Model" of consumer behavior by Annette Franz [8].

R$ – Revenue Streams

Where do the enterprise's earnings come from? For example, does it come from asset sales, usage fees, subscription fees, lending/renting/leasing, licensing, brokerage, advertising, etc. R$ describes the revenue streams of the enterprise that arise from its interactions with its customers. R$ describes the dollar rewards that flow to the enterprise as a result of creating value.

The ArchiMate Modeling Language

The ArchiMate Specification [3], a standard of The Open Group, came about through the desire of practicing Enterprise Architects to come up with a visual modeling language, along the lines of UML® [4], to help them to describe Enterprise Architectures.

The ArchiMate Specification [3; §1.1] describes the ArchiMate modeling language as: "*a visual language with a set of default iconography for describing, analyzing, and communicating many concerns of Enterprise Architectures as they change over time. The standard provides a set of entities and relationships with their corresponding iconography for the representation of Architecture Descriptions*".

This document assumes that the reader has at least a basic understanding of the ArchiMate Specification, so I will not explain all the details here. Readers can refer to other texts and documents for more information; for example, The Open Group White Paper: Understanding the Basics – An Introduction to the ArchiMate® Modeling Language, Version 3.0.1 [5] is a good primer for this subject. My purpose here is confined to explaining how the ArchiMate Specification might be used to model the BMC.

The image that represents the full ArchiMate framework is reproduced in Figure 2 [3; Fig. 3].

Figure 2: The Framework of the ArchiMate Specification

As would be the case with any modeling language, there is generally more than one useful way to model any given "real-world" thing in the ArchiMate Specification. Also, models may be pitched at different levels of abstraction. Hence, an Enterprise or Business Architect might want to make use of the ArchiMate Specification and the BMC format in at least two different contexts:

推荐
modeler.org.cn

- As a bottom-up summary of the existing Enterprise Architecture, or operating model, in the form of a business model, in which case elements from the Business Architecture Layer would be appropriate
- As a top-down definition of the enterprise business model, leading to the definition of the Business Architecture, in which case a selection of the strategy layer and motivation aspect elements from the ArchiMate Specification would be appropriate

It might also be desirable to create a cross-layer view bringing together the elements from both of these perspectives. Cross-layer views rely principally on realization relationships between elements in the different layers.

Later in this document I will list the ArchiMate elements I suggest could be used to model the BMC in these two ways, and reproduce the definitions of what these elements represent. I will then show an example mapping of a BMC pattern taken from the BMG book using these elements.

ArchiMate Relationships

The relationships between the elements of an architecture are a fundamental part of any architecture description, since they help us to understand the role that each element plays with respect to other elements in the system under examination.

The ArchiMate Specification offers a rich set of relationships with which to model the associations between the elements that make up an architecture. These can be applied within an aspect or layer, between layers, or to link layers to the motivation aspect.

Any element of the ArchiMate Specification can be specialized, and any element can be decomposed by disaggregation or decomposition into sub-elements of the same type. Any two elements can be associated using the default "association" relationship.

ArchiMate Language Customization Mechanisms

The ArchiMate Specification permits two ways that the language itself can be customized [3; §15]:

- The addition of attributes to any element in the language, a set of which is known as a *profile* [3; §15.1]
- The creation of stereotypes; a new language type based on an existing type, the name of which is indicated between *guillemets* (<< >>) [3; §15.2]

Both of these facilities prove to be useful for modeling the BMC.

ArchiMate Views

Enterprise Architecture becomes complex very rapidly, so the ArchiMate Specification [3; §14], in common with the TOGAF Standard, mentions the use of *views* as a way to manage this. Views allow us to selectively reveal those elements and relationships that exist in the overall architecture which are relevant for a particular purpose and for a particular audience. Each ArchiMate view tells a story about the Enterprise Architecture to an audience, addressing some concern that they have. In this document I will make use of the idea of views in order to show how the ArchiMate Specification might be used to represent the BMC.

Modeling the BMC with the ArchiMate Specification using Business Architecture Layer Elements

In Figure 3 there is a suggested mapping of Business Architecture elements to the building blocks of the BMC.

Figure 3: BMC using Business Architecture Elements

In Table 1 I remind readers of the ArchiMate definition of these elements reproduced from the ArchiMate Specification.

Table 1: Business Architecture Elements of the ArchiMate Specification

Element	Description	Notation
Business actor	A business entity that is capable of performing behavior.	
Business role	The responsibility for performing specific behavior, to which an actor can be assigned, or the part an actor plays in a particular action or event.	

推荐
modeler.org.cn

Element	Description	Notation
Business collaboration	An aggregate of two or more business internal active structure elements that work together to perform collective behavior.	
Business interface	A point of access where a business service is made available to the environment.	
Business function	A collection of business behavior based on a chosen set of criteria (typically required business resources and/or competencies), closely aligned to an organization, but not necessarily explicitly governed by the organization.	
Business interaction	A unit of collective business behavior performed by (a collaboration of) two or more business roles.	
Business service	An explicitly defined exposed business behavior.	
Business object	A concept used within a particular business domain.	
Contract	A formal or informal specification of an agreement between a provider and a consumer that specifies the rights and obligations associated with a product and establishes functional and non-functional parameters for interaction.	
Product	A coherent collection of services and/or passive structure elements, accompanied by a contract/set of agreements, which is offered as a whole to (internal or external) customers.	

It is also useful to include the notion of *value* in the depiction of a business model. The concept of value is found in the motivation aspect of the ArchiMate Specification, and may be associated with any core element.

Table 2: The ArchiMate Value Element

Element	Definition	Notation
Value	The relative worth, utility, or importance of a core element or an outcome.	

Modeling the BMC with the ArchiMate Specification using Elements from the Strategy Layer and the Motivation Aspect

In Figure 4, the reader can appreciate a suggested mapping of elements from the ArchiMate strategy layer and motivation aspect:

Figure 4: BMC using Strategy Layer and Motivation Aspect Elements

In Table 3 is a reminder of the definition of these elements taken from the ArchiMate Specification.

Table 3: Strategy Layer and Motivation Aspect Elements of the ArchiMate Specification

Element	Definition	Notation
Stakeholder	The role of an individual, team, or organization (or classes thereof) that represents their interests in the outcome of the architecture.	Stakeholder
Outcome	An end result that has been achieved.	Outcome
Value	The relative worth, utility, or importance of a core element or an outcome.	Value

推荐
modeler.org.cn

Element	Definition	Notation
Resource	An asset owned or controlled by an individual or organization.	
Capability	An ability that an active structure element, such as an organization, person, or system, possesses.	

"Bait and Hook" Business Model Pattern

To illustrate the use of the mapping suggestions above, I have used the "Bait and Hook" pattern from the BMG book, which suggests a BMC for shaving products company Gillette as an example [1; pp.105].[5]

The "Bait and Hook" type of business model is founded on the premise that the consumer buys an attractive, inexpensive, or even free initial product that encourages "*continuing future purchases of related products or services*" [1; pp.104]. Famous examples of this model include razors with disposable blades, printers with ink cartridges, and mobile phones that lock the consumer into a subscription service. The BMC for this pattern in the BMG book looks something like Figure 5.

Figure 5: BMC for Shaving Products Company Gillette

[5] Refer to www.gillette.co.uk.

推荐
modeler.org.cn

Architectural Views of the BMC

For the purposes of this document it is convenient to model three views of the BMC, which are:

- The Value Proposition view, which focuses on the VP building block
- The Customer Interaction view, which focuses on the following building blocks of the BMC: CR, CH, CS, and R$
- The Core Capability view, which focuses on the following building blocks of the BMC: KA, KR, KP, and C$

Later in this document I will show how elements in these views may be linked up to reveal the whole BMC model (Appendix A and Appendix B). As far as possible I have tried to restrict myself to modeling only the items shown in the Gillette BMC example (Figure 5), as a means of validating the mappings used.

"Bait and Hook" Pattern using Business Architecture Layer Elements

Value Proposition View

The most obvious way to model the Value Proposition (VP) in the ArchiMate Specification is to use the "value" element defined in the motivation aspect. The ArchiMate Specification allows us to document the attributes of value, using the profile language customization mechanism mentioned above. Value may be decomposed into sub-values. The ArchiMate "product" and "service" types are also suitable elements for inclusion here.

Figure 6: Value Proposition View using Business Architecture Layer Elements

In Figure 6 the use of ArchiMate Business Architecture Layer elements is shown to model the VP building block of the BMC. The narrative that accompanies this view is as follows:

- Value: value elements are used to express the value that the enterprise believes the consumer perceives in respect of the products on offer; for example, [VP] Enables Personal Hygiene

  The relationship used between values, products, and the customer is association.

- Product: the product element of the ArchiMate Specification can be used to model the generic products that the enterprise offers in its marketplace

  A product is a collection (aggregation) of services bound by a contract; for example, the [VP] Shaving Products product aggregating a service [VP] Shaving Materials Purchasing, together with a [VP] Warranty contract.

- Business actor: a business actor, Gillette, is shown, which realizes this service

  Since a business model is focused on the enterprise's interaction with external entities, and the abstraction level is very coarse-grained, it is necessary to personify the enterprise itself in some way in order to derive a meaningful model.

Customer Interaction View

The focal point of this view is the nature of the relationship between the enterprise and its customers, and how that generates income. The resulting ArchiMate model could look like Figure 7:

Figure 7: Customer Interaction View using Business Architecture Layer Elements

The story being told in this view is as follows:[6]

Central to the notion of expressing a business model is a definition of the nature of the Customer Relationships (CR). In the "Bait and Hook" pattern, the idea is to foster a lock-in relationship, so that the

[6] Some or all of the flows shown could be redefined as business objects; e.g., [R$] <<Financial Resource>> Money. In that case access relationships would be needed with other elements of the model.

customer is locked into using the products of the enterprise. It seems appropriate to use the ArchiMate element "business collaboration" to model CR. In this example, the collaboration is between Gillette and their customers.

Where there is a business collaboration there would typically be a corresponding business behavior.[7] The behavior here can be thought of as the processes which solve the customer's problem, via the use of the enterprise's products. I have modeled this as a business interaction and named it [CR] Perform Personal Hygiene.

The portion of this behavior which affects the enterprise directly is the purchase of Gillette's products, which produces a revenue stream. The model shows an ArchiMate flow relationship (i.e., flow of money) for each purchase type (handle or blades), from [CS] Customers to [KP] Retailers to Gillette. This flow is designated as part of the R$ building block of the BMC, representing revenue streams. Notice the use of notes to document which purchases are frequent and which are infrequent. This pattern of purchasing is the ideal outcome of a "Bait and Hook" business model.

There also appears a selection of ArchiMate elements representing other building blocks of the BMC relevant to this view. Gillette hosts a [CH] Outbound Logistics business interface which serves one of Gillette's key partners, [KP] Retailers. Retailers in turn offer a [CH] Retail Outlet business interface, which is used by [CS] Customers.

Core Capability View

The focal point of this view is the combination of capabilities and resources required by the enterprise in order to create value. The resulting ArchiMate model could look like Figure 8.

Figure 8: Core Capability View using Business Architecture Layer Elements

[7] Although this does not have to be shown, depending upon its relevance to the view.

The narrative behind this model goes as follows:

Gillette offers and hosts both [CH] Inbound Logistics and [CH] Outbound Logistics business interfaces. Note that the BMC does not include a specific building block to accommodate the channels the enterprise supports with its KP, so the use of CH on the inbound side is an extension I have made.[8] These CH interfaces are used by Manufacturers and Retailers respectively.

Gillette performs three Key Activities (KA) – relationship "assigned to" – in the example given in the BMG book. KA are modeled as business functions:

- [KA] R&D: this activity is represented as a business function

  A flow (flow of funds) is shown between Gillette and this function to represent a cost stream C$. The business function [KA] R&D creates and consumes [KR] Patents, modeled by a stereotyped business object of that name (the access relationship here is "read and write"). [KP] Manufacturers access these Patents via the definition of their manufacturing processes.

- [KA] Logistics: similarly, this KA produces a cost stream [C$] Supply Chain Costs

- [KA] Marketing: The example also shows Gillette's investment in Marketing, a KA which reinforces the Gillette brand, modeled as a stereotyped business object

  The model shows that this KA generates a C$ too. [KP] Retailers "draw upon" the Gillette brand (read access relationship), in the sense that it sustains sales in their stores.

[8] Equally, the BMC does not have a building block for partner relationships either. As this affects the nature of the supply chain, it could be assumed that this was an important aspect of some business models.

"Bait and Hook" Pattern using the Strategy Layer and Motivation Aspect Elements

Value Proposition View

Figure 9: Value Proposition View using Motivation Aspect Elements

In Figure 9, the use of ArchiMate motivation aspect elements is shown to model the VP building block of the BMC. The narrative that accompanies this view is as follows:

- Value: the value element is used to express the value that the enterprise believes the consumer perceives in respect of the products on offer; for example, [VP] Enables Personal Hygiene
- [CS] Customer is modeled using the element Stakeholder, as is the enterprise Gillette itself

Labeled associations form the relationships between elements.

Customer Interaction View

Figure 10: Customer Interaction View using Strategy Layer and Motivation Aspect Elements

In this view, the customer interaction with Gillette is modeled. [CR] Lock-in Relationship is modeled as a capability which is associated with Gillette and the [CS] Customer, which are modeled as stakeholders. This capability influences outcomes [R$] Shaving Products Purchase, [R$] Handle Purchase, and [R$] Blade Purchase, with the emphasis on [R$] Blade Purchase (note the use of a "++").

Gillette hosts a [CH] Outbound Logistics channel, modeled as a resource used by retailers. Retailers host a [CH] Retail Channel, which is used by customers.

Core Capability View

Figure 11: Core Capability View Modeled using Strategy Layer and Motivation Aspect Elements

In this view Gillette hosts both [CH] Inbound Logistics and [CH] Outbound Logistics channels, modeled as resources. [KP] Manufacturers and [KP] Retailer, modeled as stakeholders, use these channels.

Gillette performs several Key Activities (KA), modeled as capabilities:[9]

- [KA] R&D results in the production of [KR] Patents, which are modeled as a stereotyped resource

  Note the flow relationship between the capability and the resource. This activity results in [C$] R&D Costs.

- [KA] Logistics results in [C$] Logistics Costs
- [KA] Marketing results in the reinforcement of the brand, modeled as a flow, and incurs [C$] Marketing Costs

[9] A future proposed addition to the ArchiMate Specification is the concept of "value stream". This new concept might also be appropriate here.

Cross-Layer Views

Although not fully developed in this document, it also possible to create cross-layer views that contain both strategy layer with motivation aspect elements and Business Architecture elements. The realization relationship will commonly be used here, although other relationships are possible.

Figure 12: Example of Cross-Layer Views

Conclusion

Ostwerwalder's Business Model Canvas (BMC) is a popular and effective basis for supporting discussions concerning an enterprise's business model. Enterprise Architects can capture many of the features of the BMC using the ArchiMate modeling language. The resulting models will provide a solid foundation for the subsequent elaboration of the Enterprise Architecture and its IT-based information systems.

Appendix A: "Bait and Hook" – BMC for Gillette as Business Architecture

Figure 13: Full BMC Model using Business Architecture

Appendix B: "Bait and Hook" – BMC for Gillette using the Strategy Layer and the Motivation Aspect

Figure 14: Full BMC Model using the Strategy Layer and Motivation Aspect

Appendix C: Reference to Other Mappings

The following are references to other mappings of the BMC building blocks to the ArchiMate Specification, which the reader might find interesting:

- Combining ArchiMate® 3.0 with Other Standards – BMM/BS/BMC, Marc Lankhorst, BiZZdesign BV, September 2016; refer to: https://bizzdesign.com/blog/combining-archimate-3-0-with-other-standards-bmm-bs-bmc/
- Mapping the Business Model Canvas to ArchiMate®, L.O. Meertens, M.E. Iacob, L.J.M. Nieuwenhuis, M.J. van Sinderen, University of Twente and H. Jonkers, D. Quartel, BiZZdesign BV; refer to: https://ris.utwente.nl/ws/portalfiles/portal/5363569/Meertens12mapping.pdf
- Business Model Canvas (BMC) with ArchiMate®, Eero Hosiaisluoma, December 2016; refer to: www.hosiaisluoma.fi/blog/business-model-canvas-bmc-archimate
- Business Model Canvas to ArchiMate® (the short version), Tom G., July 2011; refer to: http://weblog.tetradian.com/2011/07/26/bmcanvas-to-archimate-short

These references coincide with the mappings used in this document to some extent. However, as far as I know none of these sources has attempted to produce an actual meaningful ArchiMate model using their mappings, and some of these mappings use a mixture of abstraction levels, which is not appropriate given that the BMC is pitched at a single level of abstraction.

推荐 modeler.org.cn

References

(Please note that the links below are good at the time of writing but cannot be guaranteed for the future.)

[1] Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers, Alexander Osterwalder, Yves Pigneur, published by John Wiley & Sons, 2010

[2] The TOGAF® Standard, Version 9.2, a standard of The Open Group (C182), April 2018, published by The Open Group; refer to: www.opengroup.org/library/c182

[3] ArchiMate® 3.0.1 Specification, a standard of The Open Group (C162), June 2016, published by The Open Group; refer to: www.opengroup.org/library/c162

[4] Unified Modeling Language™ (UML®), Object Management Group (OMG); refer to: www.uml.org

[5] ArchiMate® 2.0 – Understanding the Basics, White Paper (W130), February 2013, published by The Open Group; refer to: www.opengroup.org/library/w130

[6] TOGAF® Series Guide: Business Models, June 2018 (G18A), published by The Open Group; refer to: www.opengroup.org/library/g18a

[7] The Discipline of Market Leaders: Choose Your Customers, Narrow Your Focus, Dominate Your Market, Michael Treacy, Fred Wiersema, published by Basic Books, 1997

[8] The Apostle Model, Annette Franz, published by CustomerThink Corp, February 2012; refer to: www.customerthink.com/the_apostle_model/

About the Author

Ed Walters is a Senior Consultant in Business Systems Development at QA Ltd., a UK-based IT Training, Education, and Consultancy company. Ed has a background in solution development and business analysis with experience gained principally in the manufacturing, transportation, and logistics industries.

In recent years, Ed has become progressively involved with training, coaching, and mentoring clients in the use of Enterprise Architecture, especially Business Architecture, and lately Data Architecture. Ed's involvement with the TOGAF framework goes back to Version 8, and with the ArchiMate language from the earliest days.

About The Open Group

The Open Group is a global consortium that enables the achievement of business objectives through technology standards. Our diverse membership of more than 600 organizations includes customers, systems and solutions suppliers, tools vendors, integrators, academics, and consultants across multiple industries.

The mission of The Open Group is to drive the creation of Boundaryless Information Flow™ achieved by:

- Working with customers to capture, understand, and address current and emerging requirements, establish policies, and share best practices
- Working with suppliers, consortia, and standards bodies to develop consensus and facilitate interoperability, to evolve and integrate specifications and open source technologies
- Offering a comprehensive set of services to enhance the operational efficiency of consortia
- Developing and operating the industry's premier certification service and encouraging procurement of certified products

Further information on The Open Group is available at www.opengroup.org.