Revisiting Continuous Business Model Planning with the Value Management Platform

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Abstract. We present a brief update of the Continuous Business Model Planning method, which is a strategic planning method that involves using the VDML-compliant Value Management Platform. Since we presented the method at VMBO 2018, it further evolved as a method intended to provide full support for strategic business transformation initiatives, by incorporating tool-based extensions related to additional business canvassing techniques (e.g., SWOT, Lean Change), capability analysis, value stream mapping, and value-driven business process design. The purpose of the paper is to provide an up-to-date account of the Continuous Business Model Planning method and a basis for discussing future research opportunities related to the evaluation of value modeling and its integration into Enterprise Architecture.

Keywords: Value modeling; Value Delivery Modeling Language; Continuous Business Model Planning

1   Introduction

Recently, the practical application of value modeling has been given research attention in the context of e3-value modeling [6], value encounter modeling [11], and value-driven strategic sourcing [9]. This trend is important as it involves business stakeholders in model creation (e.g., as domain experts) and model use (e.g., as decision-makers), which allows evaluating from a user's point of view the usefulness, usability and quality of value modeling approaches.

In previous work [10], we acknowledged the lack of practical guidance for applying value modeling with the Value Delivery Modeling Language (VDML) [8], an Object Management Group (OMG) standard for value modeling (and in a broader sense business modeling). To address this problem, an overview was presented of the CBMP (i.e., Continuous Business Model Planning) method, which is a value-driven modeling approach for strategic planning whose semantics is based on VDML [4]. Furthermore,

the use of CBMP is fully supported by the Value Management Platform[1] (VMP), a tool that provides visual interfaces to support different kinds of business canvas/map templates and storytelling/mapping techniques. As a result, the complexity of the underlying VDML models is hidden for the end-user, which is expected to facilitate adoption by business stakeholders.

Since our last analysis, the CBMP method has further evolved to make the strategic planning process more smoothly, in particular when moving from strategy exploration to business model design. Furthermore, elements of value-driven business process design [7] have been added to advance the design of enterprise operations in accordance to the strategic choices that were made. Therefore, it is important to give an overview of CBMP's current development to provide up-to-date guidance for practical application and to enable subsequent evaluation in future research.[2] To avoid repetition with our previous work [10], this paper will focus on the new elements that are incorporated since January, 2018 (see section 2). This paper ends with a short discussion of where value modeling is going (see section 3).

2   Continuous Business Model Planning Method

The application of CBMP distinguishes three stages (see Fig. 1):

1. Discover: Strategies for achieving an organization's goals are explored by means of techniques to discover business models that are evolved and varied through the phases of the organization's strategic plan;

2. Prototype: The discovered business models are further elaborated and integrated into a business model ecosystem for the organization and its key partners, which is evaluated w.r.t. value delivery for each phase and alternative of the strategic plan;

3. Adopt: The multi-perspective business model ecosystem and its value delivery evaluation results are presented to strategic decision-makers by using automated reporting functionality, interactive dashboards and scenario analysis techniques, to facilitate decision-making on adoption and initiation of the required business transformation.

The new elements in CBMP concern (i) the Discover stage, where techniques were added to better support strategy exploration based on SWOT analysis and capability analysis, to smoothen the transition to the Prototype stage by adding a process perspective (i.e., value stream maps), and to enable early go/no-go decision-making; and (ii) the Prototype stage, where high-level process design is supported through process models and case models (see Fig. 1). These functionalities allow for a further streamlining of the CBMP method as well as a more explicit distinction of different value management team roles across the CBMP's stages. More details are given below.

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[1] https://vdmbee.com/home-new/vdmbee-value-management-platform/

[2] The evaluation of value modeling is a topic we would like to discuss with participants in the VMBO 2019 workshop.
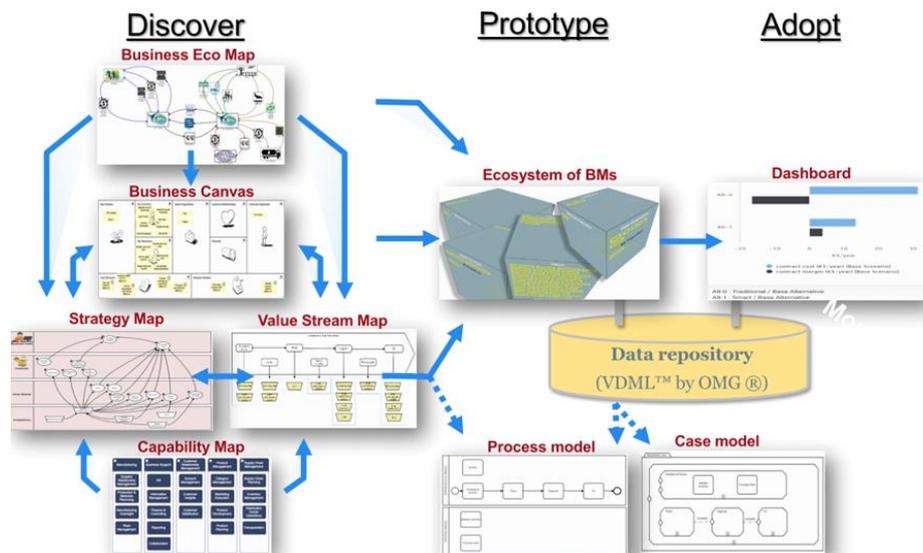
Fig. 1. Overview of the conceptual models used in the different stages of CBMP.

2.1 Discover Stage

To further streamline this stage, it is divided in five steps: (i) context determination; (ii) business ecosystem and business model description; (iii) value stream mapping; (iv) value creation design (with the Strategy Map technique now integrated in the VMP); and (v) call to action. The order of these steps can be approached in flexible ways, which means that certain steps can be omitted or can be revisited if needed.

Two team roles are relevant during the Discover stage. The *workshop leader* is responsible for leading a series of workshops involving the stakeholders in the strategic initiative. During these workshops, the workshop leader facilitates the development of the various Discover stage conceptual models, such as Capability Maps, Business Ecosystem Maps, Business Model Canvasses (or other types of business canvas), Value Stream Maps, and Strategy Maps (see Fig. 1). The *value analyst* ensures the consistency of the conceptual models developed during the workshops. This means that the created models are analyzed and further completed with relevant information that is mapped to/from a shared data repository. This repository captures data as instances of VDML constructs based on concept mappings between the VDML meta-model and the meta-models of the conceptual modeling techniques supported by the VMP.

The first extension to the earlier version of CBMP, is the very first step of the Discover stage, in which the context of the strategic planning initiative is determined. In this step, a compelling story (or 'business case') is developed for the strategic decision-making stakeholders. More specifically, the business opportunity or problem underlying the strategic initiative needs to be identified, as well as the goals that will be pursued for problem resolution or opportunity exploitation and the strategies that can be used to achieve these goals. Finally, it is important to give enough details about the context of the strategic initiative (e.g., relevant parties, constraints, assumptions).

Two VMP-integrated techniques are specifically proposed to be useful during this step: a SWOT analysis and a Capability Map/Library. If an organization has little or no a priori ideas about innovation or new strategic directions, it can start with performing a SWOT analysis, which is a conventional approach to develop an organizational strategy by linking internal factors (i.e., strengths (S) or weaknesses (W)) and external factors (i.e., opportunities (O) or threats (T)) in a two-by-two matrix. Based on this confrontation, four different strategies can be pursued: exploiting challenges, competing with strengths, improving to strengths, and avoiding acute problems (e.g., by seeking collaboration). To facilitate such analysis, a SWOT Analysis Canvas is included amongst the business canvas templates available in the VMP.

The second technique is related to capability-based planning [1], which offers an alternative approach to strategic planning that is based on the existing and planned capabilities (i.e., the ability to perform a particular kind of work on/with a business object to deliver desired value [8]) that differentiate an organization from other organizations (e.g., its competitors if in a business context). The VMP supports capability analysis through Capability Libraries which represent textual taxonomies of capability definitions that are relevant for the organization or the economic/societal sector it is part of, and which can be based on industry-specific reference models [3]. If such hierarchy of capabilities is visually represented by nested boxes, it is called a Capability Map, which is another visual modeling technique integrated in the VMP. So, in order to be more productive and work in a more standardized manner during the next steps of the Discover stage (e.g., for faster development of Value Stream Maps or for making them compliant with industry standards), it is very helpful to see if there is a Capability Library/Map available that is applicable in the domain of concern, or if one is yet missing or if it is incomplete, it may be created or completed using the VMP. Capability Libraries and Capability Maps can be developed from scratch or imported (and subsequently customized) in different formats (e.g., xlsx, vpk). Furthermore, the functionality is provided to create a Capability Map from a Capability Library and vice versa.

Value stream mapping (i.e., step 3) is another extension of CBMP. The VMP now supports the creation of Value Stream Maps, which show the value stream(s) of activities (i.e., work performed by a business ecosystem participant [8]) needed to deliver a value proposition in the business ecosystem (that is described in step 2). This addition helps streamlining CBMP, as it provides key information for the Prototype stage. A Value Stream Map as supported by the VMP is a graphical representation of one or more value streams, which are composed of activities to be performed in a particular order (i.e., sequential or parallel) and the competencies (e.g., capabilities documented in the Capability Library/Map) that are needed for performing those activities. Given that Business Model Canvasses (or similar canvassing techniques integrated in the VMP), which are created for describing business models (in step 2), only document the key activities and key resources for delivering value propositions, Value Stream Maps may provide a more complete account of the activities and competencies that compose the value streams needed to deliver value propositions in the business ecosystem.

The last addition is the Call To Action step, which enables to take a go/no-go decision by the stakeholders based on the findings and results of the Discover Stage. Two instruments are jointly used to enable this decision: the Lean Change Canvas and

an interactive dashboard. The former can be used to depict aspects related to innovation and transformation, which are then included in a customizable dashboard that summarizes the results of this stage.

2.2 Prototype Stage

During the Prototype Stage, the main role is that of the *value analyst*, whose task is to develop a *multi-perspective* ecosystem of *structured* business models. Most of the input for this business model ecosystem (and more than in the earlier version of CBMP) originates from a mapping of relevant information of the conceptual models developed during the Discovery Stage and stored in the VDML data repository (see Fig. 1).

Multi-perspective means that the content of the business model descriptions is interconnected and mutually consistent. For instance, if ecosystem participant X is a partner in a business model owned by participant Y then Y is a customer in the business model owned by X where it is detailed which value proposition X offers to Y. This value proposition is then an incoming value proposition for Y and an outgoing value proposition for X. Similarly, when Y offers a value proposition to an ecosystem participant Z in exchange for a value proposition returned by Z to Y, then the latter value proposition is an incoming value proposition for Y and an outgoing value proposition for Z.

Structured means that business models are described using Business Model Cube representations, which, as explained before in [10], describe for each business model: (i) the participant network of the business model owner (i.e., customers and partners); (ii) incoming value propositions (from customers or partners), outgoing value propositions (to customers), and my propositions (i.e., the results of the business model for the owner); (iii) the values that are expressed by the value propositions; (iv) the activities needed to deliver the outgoing value propositions; and (v) the competencies (i.e., capabilities and resources) that the business model owner applies in the activities. All these elements are interrelated (e.g., competencies are applied in activities that pursue value to be delivered in a value proposition that is offered to a customer), hence the adjective 'structured'.

The new element that is currently available in this stage is the support of process design for Business Process Management (BPM). The VMP envisions the automatic development of a high-level process structure for description and further elaboration as Business Process Model and Notation (BPMN) process model or Case Management Model and Notation (CMMN) case model based on the VDML data repository where data can be made available in XMI format to allow easy interchange of process-related information with BPM tools. Process models can be further developed for the sake of business automation, while case models might be useful to depict the workflow in case of weakly structured and knowledge-intensive processes.

2.3 Adopt Stage

The only new element in the Adopt Stage is the specification of the role of the *change agent*, who is responsible for creating the visualizations, reports, and interactive dashboards, performing scenario analyses, and presenting a summary of these results to the strategic decision-makers. It is important that the actual management of the change initiative is currently outside the scope of CBMP. When a certain

phase/alternative in the strategic plan is adopted and implemented, monitoring can be conducted by comparing plan values versus actual values. The results of this monitoring may then be projected to future phases of the plan. When it would appear that actual values are significantly deviating from the plan values, then subsequent strategic planning is required (i.e., a next iteration in CBMP), to overcome that problem. This also reflects that strategic planning is a continuous engagement (hence the C(ontinuous) in CBMP) rather than a one-shot exercise.

3   **Outlook**

The new extensions make clear that, even more than before, CBMP with the VMP goes beyond the mere creation and analysis of value models and aims at providing support for the full business transformation journey. On the one hand, this is not surprising given that VDML was designed to support strategic planning and value-driven business design and can also be used to generate requirements for the design of business processes, hence its positioning in between the OMG Business Motivation Model (BMM) and BPMN standards for business modeling [8]. On the other hand, this aligns with current use of e3-value modeling for the evaluation of the viability of value networks and business models built around new technologies (see for instance [5] for an evaluation of Bitcoin).

Supporting business transformation entails ensuring coherence between an organization's infrastructure and operations and its (redefined) organizational goals and strategies, which is also the goal of Enterprise Architecture (EA). While value-driven modeling as per VDML/CBMP/VMP is moving closer to EA, we observe that current EA research is, amongst others, looking into how to integrate value modeling into enterprise architecture modeling. For instance, the most recent TOGAF standard for EA (version 9.2) now also includes business architecture concepts and artifacts related to business capabilities and value streams, while research is on its way to perform value modelling using ArchiMate.

As topic for future research, we propose to further investigate how value-driven modeling and business design can be integrated into enterprise architecture description and management,[3] whilst safeguarding VMP's features of offering a business-friendly language and all-round/closed-loop method support for strategic planning.

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[3] This would provide for another nice topic for discussion at VMBO 2019.

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