

Berichte aus den  
Forschungsgebieten

# Prototypische Implementierung und Anwendung eines Werkzeugs für das Business Motivation Model bei Organisationen im Gesundheitswesen

## Example Implementation of the Business Motivation Model for Health Care Organizations

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### I. Introduction

Since 1992 expenses for the German health care system rose constantly, in 2012 they reached 300.437 million euro. [1]

Although there are various reasons for that, such as increased wealth, it is very hard to determine how much of these expenses are the result of miscalculation and poor organization. But with the continuous increase of life expectancy, the efficiency and effectiveness of our health care system becomes more and more important.

The Business Motivation Model (BMM), originally designed by the Business Rules Group, is a scheme to develop business process motivations (see figure 1). By using the BMM, an organization can minimize the amount of undesired expenses as well as maximize its chance to realize its ends. The BMM uses the term "end", which includes the vision and the desired results in terms of goals and objectives.

Unfortunately, the BMM has not been adopted by most organizations, yet. One of the reasons is its great complexity for beginners. The concepts used by the BMM are very similar to each other and can therefore not be understood without th-

rough study of the specification [3]. This is very time-consuming and costly.

This paper describes an implementation of the BMM specification that addresses the problem of complexity and tries to make the use for beginners and experts as easy as possible. At the same time it aims to ensure a good diagram quality.

### II. Related work

As of now, several modeling tools have introduced the Business Motivation Model. Archi [4] is a free modeling tool with a BMM plugin. It is actively developed, its last version dated January 12th 2015. IBM Rationale Software Modeler and RequisitePro [5], Visual Paradigm [6] and Select Architect [7] are commercial desktop applications including a BMM plugin. The Business Motivation Model Editor [8] seems to be the only freely available desktop tool solely designed for BMM. But unfortunately its last update until now was on April 18th 2013. Mobile applications have not emerged so far. Apart from the reasons mentioned before this might also explain why the BMM has not been adopted broadly in the past.

### Abstract

Almost every organization defines business processes in some way to coordinate its activities. Although they give the impression of careful planning and ensured success, most companies miss the very important first step before process definition: a business process motivation based on facts and their systematic analysis as opposed to simple assumption of necessity. A flawlessly defined business process can be useless if it is not needed to achieve the end of an organization. The Business Motivation Model (BMM) by the Object Management Group is a specification for developing such a business process motivation. This paper introduces an example implementation of the BMM specification as a mobile application. Its usage is illustrated with the help of a fictional cancer research institute.

### III. Goals

This paper focuses on making BMM as easy adoptable as possible. Three aspects support this goal:

1. Ensuring high availability of the tool
2. Offering collaboration abilities
3. Keeping the learning curve low

(1.) is of great importance, because the main target group are business managers. In their everyday working life they travel a lot. The time spent in trains or planes could be used to work on their organization's BMM. Additionally, reviews and discussions are best done during conferences. For this, it should be possible to quickly and easily provide the motivation model.

(2.) follows from the fact that an organization's motivation should never be a single person's responsibility. On the contrary, it should be developed in group discussions as well as with input from different expert groups. Of course, not all parties involved can be available at the same time, so a BMM implementation should provide a history that keeps all contributions transparent. That way everybody knows at all times whom to address about a certain part of the motivation.

(3.) might be the decisive factor for success. If an organization discusses the introduction of BMM to their business planning,

the team would see the problem that its correct application must be studied first. That in itself is very time-consuming and it might turn out that it is not needed for the organization's purposes after all. So they dismiss it before it is even explored. However a tool that teaches its usage while working with it, removes any extra effort to acquire skills or knowledge. It can be tested immediately, thus increasing its chance to be adopted. Of course, to gain full advantage of the scheme, research on BMM should follow. But in this case the time spent on research is less likely to be wasted. The organization had the possibility to gain some insight into the idea and to assess its usefulness.

### IV. Methods

(1.) The high availability is addressed by implementing the tool as a mobile application installable on the Microsoft Surface or PC (see figure 2) Users can review their work wherever they are and without internet connectivity, this is especially useful for managers who travel frequently. Apparently, alternatives to this approach are different platforms, namely Android tablets or the Apple iPad. A browser application would have also been possible. We dismissed the latter because, as already mentioned, availability even without internet connection is desired. Also, local storage of sensitive organization information solves the issue of



Figure 2:  
A user working with the Windows App

data security. The other two platforms are ruled out by the Microsoft Surface and its advantage of being a full-fledged notebook with powerful hardware. That way the user can access work in ordinary desktop applications as well as the BMM app without the need to carry around multiple devices.

(2.) To support collaboration, the tool tracks author and last editing date. Moreover every object has a "status", indicating whether it was just created, approved, denied or is a duplicate. These options also serve as versioning feature; they are inspired by issue trackers for software repositories such as GitHub or Google Code. A reference field allows users to add their sources of information for each model. It could also be used to provide a link to other parts of the business plan, for example to a business process model. Finally,

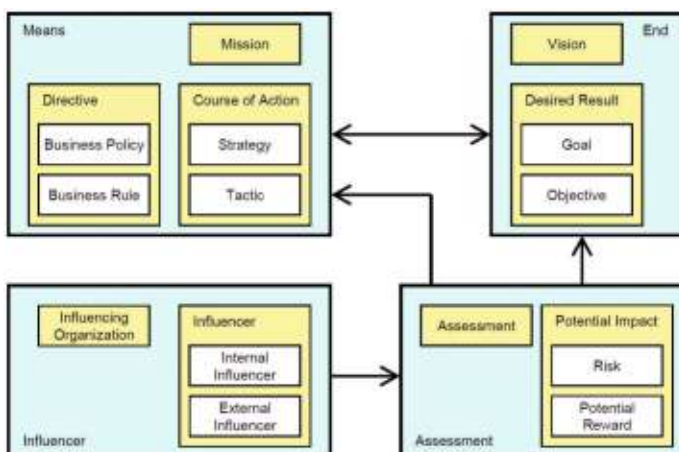


Figure 1:  
Overview of the core concepts of the Business Motivation Model [2]



Figure 3:  
Editing status information within the Business Motivation Model App

to communicate within the tool, a “Note” Model can be attached to any object.

(3.) Keeping the learning curve low is accomplished by a combination of several usability methods and high communication. A tour mode, for example, demonstrates all basic aspects of BMM step-by-step. The tour does not describe the specification in different words; instead the user is aided in creating a complete example motivation for a fictional cancer research institute (see figure 4). A “task box” in the upper right corner always contains the next instruction (e.g. “Create a Vision”) while the corresponding user interface element for solving this task is highlighted. These instructions teach the basic concepts of BMM and also demonstrate the tool’s correct usage. After the tour, the created example remains on the workspace and can be altered to fit the organization’s own problem.

But even without the tour, a beginner can learn BMM by using this app. Each model describes itself in a space-saving manner by exploiting the textbox placeholders for this. A short text describes what distinguishes it most from the other models. Additionally,

a way to distinguish the different kinds of models is necessary. Expressive icons and consistent colors can be used for the BMM’s four plus one basic concepts: Ends (1), Means (2), Directives (3), Influencers & Assessments (4) and Other (5). We use following colors and icons for the concepts:

Category	Icon	Color
1	flag	green
2	todo list	yellow
3	shield	blue
4	exclamation mark	red
(5)	three dots	Gray

Within the five concepts of the BMM the subtle distinction between each other, e.g. Goal and Objective, can hardly be expressed in icons. But all models have the fortunate feature that each of their names start with a different letter: Vision, Goal, Objective, Mission, Strategy, (Business) Policy, (Business) Rule, Influencer, Assessment, (Note). With that, each model’s icon can consist of its group icon combined with the model’s first letter. A unique identification would then be done in two steps. First, the

Ends	Means	Directives	Influences
Vision	Mission	Business Policy	Influencer
Goal	Strategy	Business Rule	Assessment
Objective	Tactic		

Figure 5: Concepts

concept icon and color help the user to recognize the model’s category quickly. In a second step the name’s first letter uniquely identifies the model out of the two to three models in that category.

Lastly, while working, the tool performs real-time validation, checking for incomplete diagrams or for wrong associations between objects. It displays warnings in a view box at the bottom of the app. It can be collapsed, so that experienced users are not disturbed by an unnecessarily cluttered interface. Also, the warnings are solely informative. This follows the principle of aiding the user in creating well formed motivations without taking ones freedom away with rules that are not important for the use case.

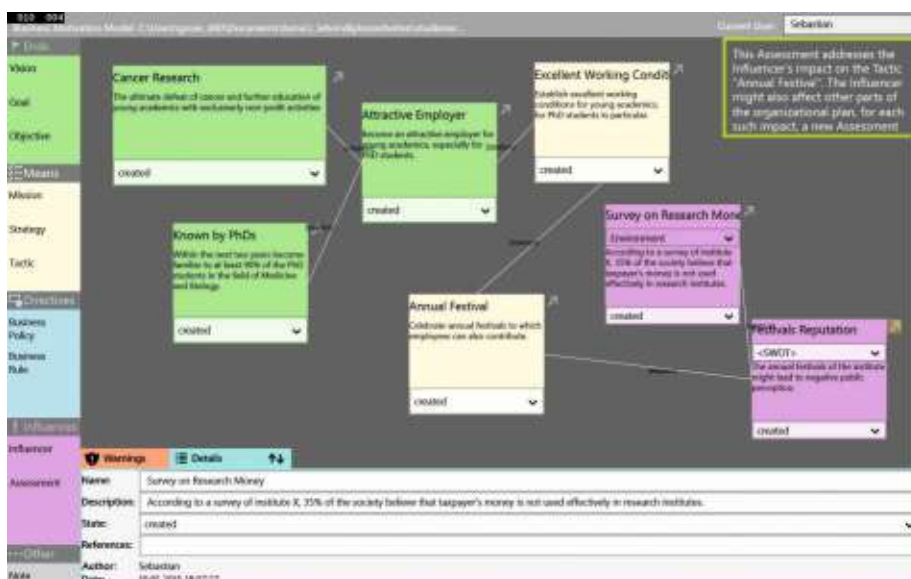


Figure 4: The tour mode enables rapid learning of the BMM concepts

## V. Discussion

The Business Motivation Model is undoubtedly a useful addition to an organization’s business plan. This paper has proposed a list of ways to design an implementation of the Business Motivation Model to ease its introduction into a companies’ specific enterprise architecture. The BMM app is the result of these ideas.

This is still an unfinished work. Next, the ability to customize the tool by setting custom entries for influencer categories, business rule enforcement levels, statuses and even warnings would help tailor the tool to individual needs. For these custom entries the tool could provide suggestions depending on which kind of organization uses it, for example special sets of values for the

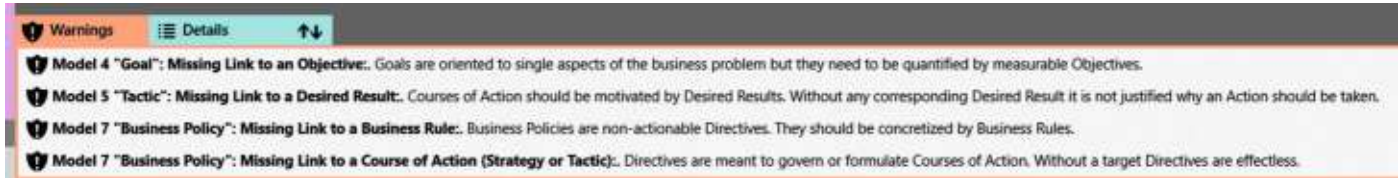


Figure 6:  
Real-Time Validation with output of the results

health care sector, financial institutes or education systems. In order to find out these value sets, field tests in different industry sectors must be performed.

The BMM app's source code is open source. It can be found at [https://github.com/my-tien/bmm\\_app](https://github.com/my-tien/bmm_app).

## References

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