

Managing New Generation of Business Model by The Agile Management Strategies - Overview and Recommendations

Mohamed Said Meselhy^{1,*} and Walid Mohamed Reda Elshamy²

¹ Associate Professor, Architectural department, Faculty of Engineering, Fayoum University, Fayoum, 63514, Egypt

* (dr.mohmeselhy@gmail.com). (*corresponding author)

² Assistant Professor, Architecture and Urban Design Program, Faculty of Engineering, German University in Cairo, Egypt.

* (walid.elshamy@guc.edu.eg).

How to cite this paper: Meselhy, M.S. and Elshamy (2023). Managing New Generation of Business Model by The Agile Management Strategies - Overview and Recommendations, *Fayoum University Journal of Engineering*, Vol: 6(2), 62-70

<https://dx.doi.org/10.21608/FUJE.2023.202762.1048>

Copyright © 2022 by author(s)

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

Abstract

When the clients and architects work together to accomplish the project's end goals, predesign studies helps to produce high-quality buildings. One of the key components of predesign research is the business model, that helps to identify main features of business. Businesses must evolve and adapt to the changes that occur in field. Before moving on to future phases of the project, these adjustments must first be evaluated in light of the business model. From the business model approach, it makes communication between project stakeholders easier, scientists developed a visual representation of the business model.

on the other hand, the agile concept first appeared at the beginning of the twentieth century. It tries to create a project life cycle that is adaptive. It emphasizes constant updating and incorporating user feedback. The five steps of the agile methodology process are envisioned, speculate, explore, adapt, and close.

The main goal of the study is the manage a new generation of business model by the agile strategies. Megaprojects will be able to adjust their tracks in accordance with any shifting by using it as a roadmap. The study will cover the business approach, beginning with definitions and moving on to the creation of business models. The philosophy concept for the agile method will then be presented. The study will examine the foundations and guiding principles of agile management. Depending on the relationship between each agile principle and each business model term, it is displayed with varying weights. It concludes the study by taking findings from all the studied areas. Also, it makes suggestions for the existing situation and urges for further study on the subject.

Keywords

Business Model; Agile management; Changes; Evolving needs; Requirements

1. Introduction

The Pre-design studies is the major issues and perhaps is the first milestone in the architecture designing process. It contributes to get a good building when the architects and the clients join to achieve the end-project goals. Business model is considered one of the main aspects of pre-design studies.

The term “business Model” first appeared in end of last century in the field of business. The meaning was developed through different phases which were primarily related with the evolution of business activities towards e-commerce (Magretta, 2002).

The professionals first used the business model in the context of systems development and ecommerce. Later, they began using it to show the companies’ system. At the beginning of twentieth century, the business model developed to include strategic form to describe new entrepreneur projects and startups. Later, the business model developed into an integrated understanding for dealing with different activities (Wirtz & Pistoia, 2016).

Scientists worked on developing visual representation of the business model in order to ease the communication between the project stakeholders. The visual representation is considered essential for developing a user-friendly business model that could be utilized by different users with several backgrounds.

On the other side, agile concept appeared in the beginning of twentieth century. It aims to generate an adaptive life cycle for the project. It focuses on continuous update and integrating customer feedback. Agile methodology process goes through five stages; envision, speculation, exploration, adaptation, and closing

Agile management considered an escalation of resilience

concept for project, where agile management aims to develop an adaptable conception that evolve and change as result of changing the surrounding circumstances.

Recently through the few years, the world has witnessed a dramatical changes that have impacted the whole population around the world. These changes have affected the political, economy and environment aspects for countries around the globe. It also affected the startups and businesses in different fields, which required adaptation in order to sustain through current circumstances and evolve in the future as reflux of changes that will occur then.

Businesses needs evolution and adaptation to cope with changes occurred to survive. These changes need to reflect on the business model first before development to other stages of the project.

2. Materials and Methods

2.1. Business Model

The dramatic shift in the world economic system at the middle in the 20th century, especially after the end of World War II, in addition to the evolution of internet industry, resulted in opening new markets and new types of businesses, which promoted the emergence of the business model concept. The concept initially emerged in the 1970s to support new online businesses, which then expanded to organization models and finally strategic model at the beginning of the 21st century.

A business plan defined as the document explains and investigates business and gives accurate prediction about its future (Magretta, 2002). A business plan also covers the financial aspects of business start or expansion in terms of capitals required and return of investment (McKeever, 2012). According to Marzec (2016), business model describes in detail how a business is going to

achieve its aims. It lays out a written plan from a marketing, financial, and operational viewpoints. The business plan defined as the studies that adequately describe the business and its financial projections.

A feasibility study is defined as “a study that aims to objectively and rationally un-cover the strengths and weakness of an existing business or proposed venture, opportunities and threats present in the environment, the resources required to carry through, and ultimately the prospects for success” (Georgakellos & Macris, 2009). Business model recommended at the feasibility study stage. Different companies all over the world used the business model, such as Facebook, Google, etc. Facebook Company has developed its business model to identify the outlines for business vision and development. It also used in defining the strategies for company development in the future. Google Company also did the same, where they identify the cost and revenues sources for the business.

2.1.1. Business model generation

The term “business model” first appeared in early 1975. Then it developed by the late 1990s under various frameworks such as “value creation,” “revenue model,” “electronic commerce,” “tactic conception,” and “relationship management” (Ghaziani & Ventresca, 2005), which were primarily related with the evolution of business activities towards e-commerce (Magretta, 2002).

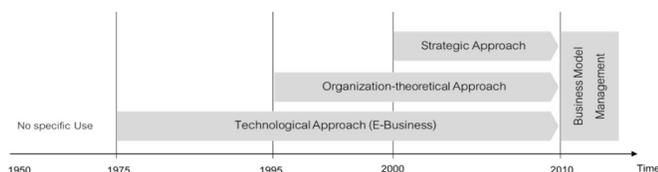


Figure 1. Development of the business model concept.

(Source: Wirtz & Pistoia, 2016)

Figure 1 shows the chronological development of the business concept. In the 1970s, the professionals utilized the business model in the context of systems and e-businesses. In

the 1990s, they started using it in the form to explain companies' structure and system. In 2000, the business model took a more strategic form to describe entrepreneurial activities. In 2010, the business model developed into an integrated understanding for managing different business activities (Wirtz & Pistoia, 2016).

There are various attempts to define the term 'business model' in extant researches; however, there is not a unified or standardized definition thereof, thus suggesting clarity of the term due to the fragmented nature of literature (Wirtz & Pistoia, 2016). The different definitions are chronically organized below: Magretta (2002), identified two parts of the business model, whereas part one included the processes leading to the development of the product/service, and part two included the processes leading to the offering of the product/service to customers. Osterwalder et al. (2005) defined the business model as “a conceptual tool that contains a set of concepts, and their relationships to prompt the business and associated value provided to the customers and how the business is carried out, in addition to financial consequences”. Al-Debei et al. (2008) attempted to develop a unified comprehensive definition for architectural, cooperation, and financial arrangements created by an organization, in addition to products and services offered by the organization to fulfill its goal. In this context, a business model was perceived as the means through which organization creates value. Kaplan (2012), discussed that the business model should not only be reserved for the business organization but also be applied to nonprofits, government agencies, social enterprises, schools, etc., as long as these organizations are offering services to different customers. Wirtz and Pistoia (2016) considered the business model as the means for the consistent implementation of a strategy. It perceived as the link between planning (strategy) and the implementation (process management). Thus, the business model may be considered as a representation of the strategy; but it is not the strategy.

Stähler (2002) as shown in Figure 2 recommended that a successful business model to achieve six principles. It

should be conceptual, granular, versatile, multilevel, coherent, and dynamic.

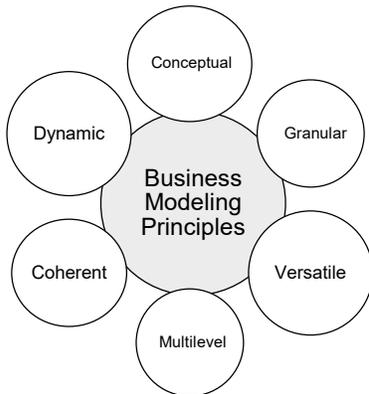


Figure 2. Business model principles (Source: Stähler, 2002)

2.1.2. Business model visual representation

Osterwalder and Pigneur (2010) introduced the first visual representation of business model to simplify communication between the project stakeholders. The visual representation is considered the primary factor for developing a user-friendly business model that could be used by different users with several backgrounds. It recommended to produce a guided model that could be a map for the users during the development process (Osterwalder, et al., 2005).

According to Osterwalder and Pigneur (2010), Table 1 shows the main components for business model. The model comprises nine blocks representing four pillars, namely, product, customer interface, infrastructure management, and finance (Table 1.). The model is divided into nine components (Figure 3), namely, customer channels, customers, key partners, value proposition, key activities, resources, customer relationship, revenue, and cost.

Table 1 Nine business model items

Pillar.	BM items	Description
Product	Value proposition	Show overview of products or services.
	Customer Interface	Customer
Customer Interface	Channel	Show connection with customers
	Customer relationships	Show cooperation of team
	Infrastructure Management	Key Activities
Infrastructure Management	Key resources	Show main assets needed for business
	Key partners	Shows network of stakeholders involved
	Financial Aspects	Cost
Financial Aspects	Revenue	Shows the revenue generated

The visual business model was widely spread among the entrepreneurs and large companies keen to introduce and develop their business among these are Apple, Google, Skype, LinkedIn, and others (Strategyzer, 2018).

Figure 3 shows the visual model of business model, it consists of the nine aspects discussed earlier. It shows that each item is a title for an empty canvas for the end user to add his own data with respect to his business system. It helps the business development as it summarizes all aspects in one page document.

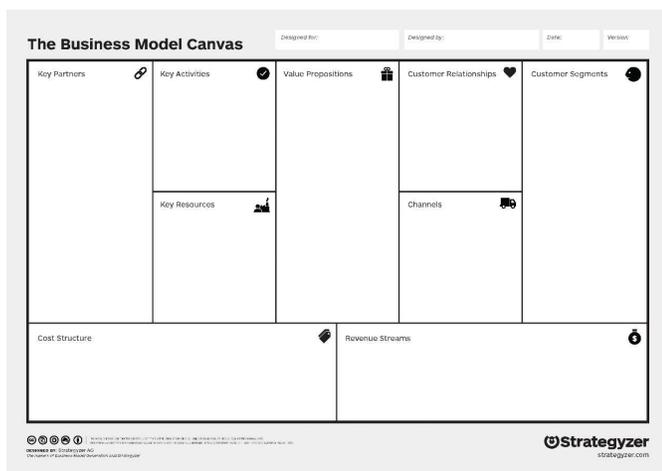


Figure 3. Business model canvas (Source: Strategyzer, 2018)

The business model aspects are categorized as follows:

1. Key partners

It describes the potential stakeholders and partners who will help with the development the business. Companies sometimes aims for partnerships to improve their business models, diminish risk, or obtain resources. It may varies among non-competitors, competitors, Joint ventures, Buyer-supplier to guarantee dependable supplies

2. Key activities

It explains the most important actions needed for business operation. It aims to define the value offered to customers, in addition to the process of delivering this value to them. It is important to identify the main factors for revenue generation in the business.

3. Key Resources

It shows the most important resources for the business. It helps to create Value, reach markets, maintain relationships with Customer, and earn revenues. Depending on the type of business, it can be physical, financial, intellectual, or human.

4. Value Propositions

It shows the products and services offered to the target Customer. It is the reason why customers turn to one company over another. It solves a customer problem or satisfies a customer need.

5. Customer Relationships

It defines the communication method to reach the potential customers. Company may group customers into groups with common requirements, needs, or other qualities, which may generate different methods of communications.

6. Channels

It shows the method the business will communicate with Customer to deliver the Value. They play an important role in the customer experience.

7. Customer segments

It defines the different groups of customers an enterprise aims to reach and serve. Customers are the core of any business model. Company cannot survive without customers for long.

8. Revenue Streams

It represents the cash generated from each customer. Each Revenue Stream may have different pricing tools.

9. Cost structure

It describes the costs incurred during business operation. All other aspects generate different forms of costs.

2.2. Agile Management

The Agile expression means to be able to determine project priorities and change to new situation and updated shifting needs and technologies. In the agile concept, the client requirements and their needs will constantly be shifting through project development. The changes which occurred at project will affect directly on the time, resources and the project program. The agile approach plays the role of road map to adapt all project terms such as time, resources and the schedule to be suitable for any changes in the future. (Aggarwal, S. and Kaldi, K.,2018).

2.2.1. Agile Management Principles

Based on Agile Manifesto 2001, it aims to combine their best practices from experiences of iterative software development. Agile concept developed from resources and time in order to create features of value offered as shown in Figure 2.

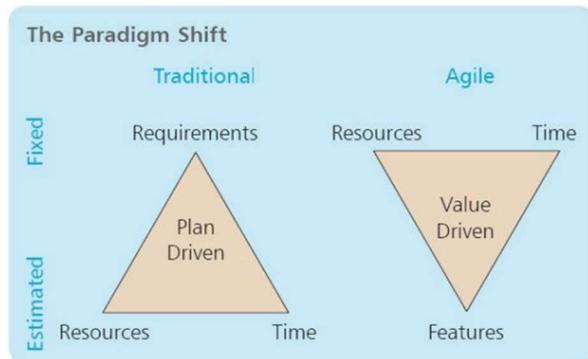


Figure 2. Difference between Traditional and Agile Projects (Source: Carroll, J., and Morris, D. 2015).

It is important to focus on interactions and other Individuals over various items and processes, working conditions and software features over the documentation, Collaboration between the client and the customer over the main contract and deal procedures, and taking action in response to switching to a real plan (Storå, 2020).

The principles of agile management listed in following aspects.

1. Fulfil the customer requirements through quick, focused delivery of value components.
2. Accept variation demands, especially if they occur at the end of development. For the benefit of the clients' competitiveness.
3. Provide working packages, preferring the shorter duration wherever possible. (Malakar, S. 2021)
4. Collaboration between business, investors, and developers to complete the project.
5. Create initiatives and activities to inspire people. Provide them better working conditions, support their needs, and confidence in their ability to do the task. (Manifesto for Agile Software Development, 2001)
6. Face-to-face communication to convey information among development team members.
7. Working program is the primary indicator of appropriate progress.
8. Environmental sustainability is important to maintain in a similar manner.
9. Continuous focus on technological methods and

excellent design fosters agility.

10. Simplicity is the skill of making a more presentation for little work.
11. Self-organizing members provide the best structures, goods, architectural designs, and products.
12. Work better and be more efficient as they adjust and refine their behavior. (Aggarwal, S. and Kaldi, K. 2018).

3. Materials and Discussions

3.1. Manage the generation of business model by the agile strategies

Agile and business concepts work together to increase construction projects' functionality and effectiveness while also reducing overall project costs. The integration of phases and principles shown in Figure 3 and Figure 4.



Figure 3. Business Model Components (Source: ElShamy, W. 2019)

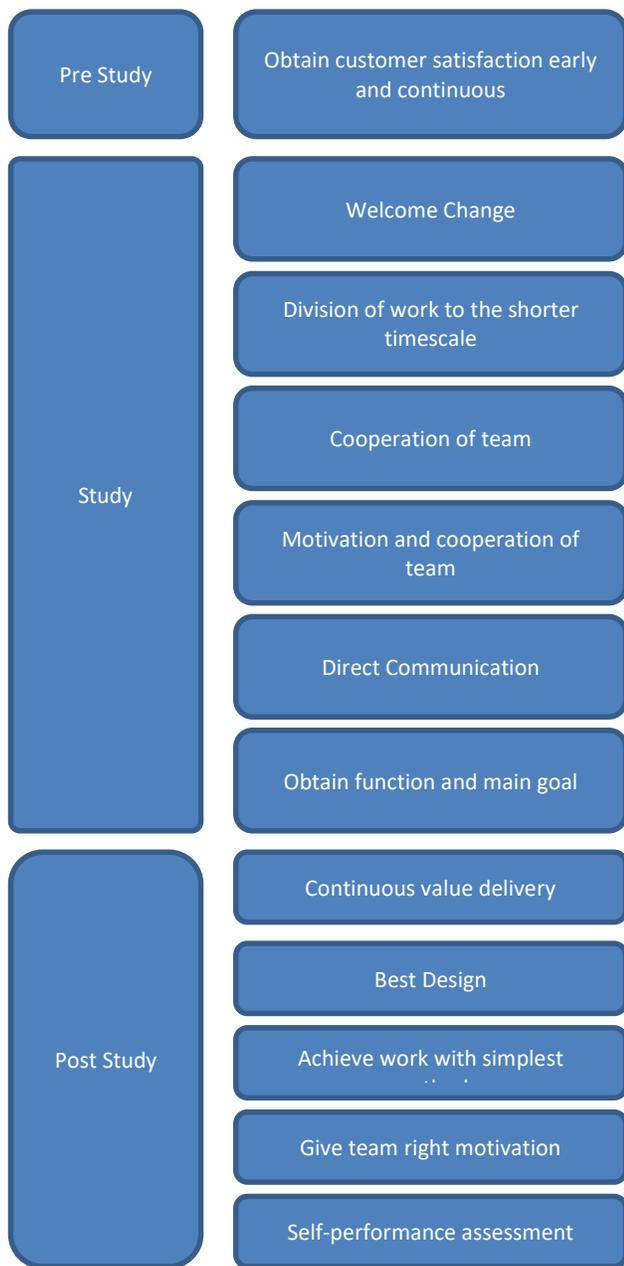


Figure 4. Agile Management Principles (Source: Carroll, J., and Morris, D. 2015)

4.2. The agile business model matrix

The study will develop the agile business model matrix after integrating the stages of the business model with agile

principles in order to provide weights to each phase. The creation process consists of the following five steps:

1. The creation of the model: The major goal of this step is to outline the guidelines. The introduction, the initial methodology phase, tries to set up the matrix.
2. The preparation of a questionnaire to address the connection between agile factors and the business model.
3. A pilot project: Before distributing the questionnaire to participants, it is provided to academic and professional specialists in the subject for testing. Piloting the questionnaire was important and required in order to validate that the paths met the criteria for the study.
4. Selection of interviewees: There are two categories of experts at each level and category. The first is a project manager with business model expertise. The second tier is composed of agile management consultants.
5. Questionnaire distribution: It will distribute questionnaires and gather expert responses in accordance with the standards created by the validation processes.
6. Results: Their discussion will be analyzed in light of the business model and agile principles. The results are summarized and presented in Table 4 along with these phases and concepts. There appears to be a connection between each step of the business model and each agile principle.

The projected weights according to the previously mentioned five steps will then be presented by The Study. According to the number, variety, and prior experiences of the interviewees, these weights will likely see minor changes. As long as the importance of the individual variables is demonstrated consistently, the shifting weights do not compromise the study's objectives. stage in every change that occurs as shown in table 3.

Table 3. The Agile Business matrix.

	Business Model Principles								
	Value Proposition	Customer	Channel	Customer relationship	Key activities	Key Resources	Key partner	Cost	Revenue
Agile Principles									
Obtain customer satisfaction early and continuous	√	√		√					
Welcome Change	√	√						√	√
Division of work to the shorter timescale			√		√	√		√	√
Cooperation of team					√		√		
Motivation and cooperation of team					√	√	√		
Direct Communication			√		√				
Obtain function and main goal	√		√	√	√				
Continuous value delivery	√	√		√		√	√		
Best Design	√		√		√	√		√	√
Achieve work with simplest method			√	√	√			√	√
Give team right motivation			√		√	√	√		
Self performance assessment			√				√		
Weight by Authors	5	3	7	4	8	5	5	4	4
Total	45								

5. Conclusions and Recommendations

In this paper, we explored the weights according to the relation between each phase of value engineering to every principle of agile as shown Table 4.

Table 4. Ratios between Business Model and Agile principles

Business Model Principles	Applied Ratio in Agility
Value Proposition	11.11 %
Customer	6.66 %
Channel	15.56%
Customer relationship	8.89%
Key activities	17.78%
Key Resources	11.11%
Key partner	11.11%
Cost	8.89%
Revenue	8.89%

The key activities in business model scored the most important factor according to agile principles. Channel aspect in Business model scored second top item. While there are several items scored same value; value proposition, key resources, and key partners. Later, customer relationship, cost, and revenue scored same value. At the end, customer item scored least value. That means, the business model system copes with agile methodology, which aims to achieve client satisfaction through different parts.

It is very clear that the focus on the client satisfactions has in the agile methodologies considered the most important factor of this methodology. The Agile management is not limited to theories and ideas; it need to be applied in different aspects in project process such as business model concept.

It is clear that merging between business model and agile

methodology is very beneficial for the client. It is important to merge between these two systems will boost them effectively for best of user.

The study recommends applying of Agile Manifesto principles not only by productivity and by client satisfaction. Also, extending to the business model concept to add important aspect to the application. Finally, it is suitable time to add more productivity and quality by merging between the business model and agile management.

The further recommendation is at the research level, how to apply the framework for merging the business model and agile management at different phases of the construction projects, starting from the early feasibility studies until end of project life cycle. The study recommends researchers about apply the framework at the different phase.

References

- Al-Debei, M. M., Haddadeh, R., & Avison, D. E. (2008). *Defining the Business Model in the New World of Digital Business. Learning from the past & charting the future of the discipline* (pp. 1-11). Ontario, Canada: 14th Americas Conference on Information Systems.
- Aggarwal, S. and Kaldi, K. (2018). "Agile project management for knowledge-based projects in manufacturing industry: case study: epiroc drilling tools, fagersta, sweden." Thesis, Uppsala University, Faculty of Science and Technology.
- Esezobor, E. (2016) *Sustainability and Construction: A Study of the Transition to Sustainable Construction Practices in Nigeria*. Doctoral thesis, Birmingham City University.
- Ghaziani, A., & Ventresca, M. J. (2005, December). *Keywords and Cultural Change: Frame Analysis of Business Model Public Talk, 1975-2000*. *Sociological Forum*, 20(4), 523-559.
- Kaplan, S. (2012). *The Business Model Innovation Factory*. Hoboken, New Jersey: John Wiley & Sons Inc.
- Malakar, S. (2021). "AGILE in Practice: Practical Use-cases on Project Management Methods including Agile, Kanban and Scrum." published by Manish Jain for BPB Publication, New Delhi.
- Storå, (2020). "Towards Scaled Agility: A Case Study on Successfully Initiating Agile Transformations At Large Banks.", Thesis, KTH school of Industrial Engineering and Management, Stockholm, Sweden.
- Magretta, J. (2002, May). *Why Business Models Matter*. *Harvard Business Review*.
- Marzec, E. (2016). *Business Plan vs. Feasibility Study*. Texas, USA: Harvest Newspaper.
- McKeever, M. (2012). *How to Write a Business Plan*. California, USA: Nolo Publishing Firm.
- Osterwalder, A., & Pigneur, Y. (2010). *Business Model Generation*. New Jersey, USA: John Wiley and Sons.
- Osterwalder, A., Pigneur, Y., & Tucci, C. L. (2005). *Clarifying Business Models: Origins, Present, and Future of the Concept*. *Communications of the Association for Information Systems*, 16(1), Article 1.
- Strategyzer, (2018) <https://www.strategyzer.com/>
- ElShamy, W. (2019) *Public-Private Partnership Based Business Model for New Cities – Egypt Case Study*, PhD thesis, German University in Cairo
- Stähler, P. (2002). *Business Model as a unit of analysis for strategizing*. Lausanne, Switzerland: 1st International Workshop on Business Models.
- Wirtz, B. W., & Pistoia, A. (2016, February). *Business Models: Origin, Development and Future Research Perspectives*. *Long Range Planning*, 49(1), 36-54.