

# Development of Systematic Business Model Innovation Software Prototype for Teaching Assistance and Cases Accumulation

Youn-Jan Lin<sup>1</sup>, Tung-Yueh Pai<sup>\*2</sup>

<sup>12</sup>Institute of Management, Minghsin University of Science and Technology  
Hsinchu, Taiwan, R.O.C.

\*Corresponding author, E-mail: white917@must.edu.tw

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## Abstract

The book "Business Model Generation" provides a tool to help people quickly see the key points of establishment (innovation) plans, which can be updated easily and continuously, thus, responding to rapid global changes. This new tool is the "Business Model Canvas", which divides a business establishment system into nine key blocks (factors); customer segments, value propositions, channel, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure, and this elaborate visual design enables the reader to see their relationships on sight. The reader can obtain the revenue source from the customer segments, value propositions, customer relationships, and channel strategies, and then, the key resources, key production activities, and key partnerships can be confirmed, allowing the reader to understand the cost structure. The profit model is obtained by subtracting the cost from the revenue. However, this book is not software, it cannot make the content into files for saving and transfer. This study composes a program, where the required data are entered step by step, displayed on a Business Model Canvas on the computer screen, and nine key blocks can be listed. When the input content in the nine key blocks omits choosing/filling data, the system reminds the user, and every item must be completed to complete the entire Business Model Canvas. This software can be used by teachers for teaching, and features convenient file save and transfer.

Keywords: systematic; business model innovation; nine factors; teaching material; software

## 1. Introduction

### 1.1 Research background

In order to distinguish business opportunities with profit potential and seek a more original business model, the "Business Model Generation" team completed the "Business Model Generation" book. This book has been used by over 100 thousand people around the world. To create a good business model is to master future profitable opportunities, and business model innovation is not a new subject. From the first credit card issued in 1950 to the first iPhone released by Apple Inc. in 2007, new business model innovations have rapidly and drastically changed the industry environment and our life style. In the past, business establishers and innovators spent much investigation time preparing thick business plans written in three to six months; however, sometimes, upon implementation, their assumptions were found to mismatch reality, because the world is alive, whereas the business plan is dead. In this increasingly changing world, any "plan" must be alive, and able to change with the ever changing world. It is difficult to revise a business plan, sometimes the anterior part is revised, but the posterior part is omitted, and a slight change may affect the situation as a whole. In addition, some business plans have the severe defect of a

lacking "global" view. Therefore, we need a new business planning tool to help people quickly identify the key points of business establishment (innovation) plans, which can be easily updated and continuously respond to the rapid changes in the world. This new tool is the "Business Model Canvas", as created in this book. The Business Model Canvas splits a business establishment system into nine key blocks (factors), and uses visual design to quickly enable one to master their relationships. Revenue sources can be obtained from the customer segments, value propositions, customer relationships, and channel strategies, and when the key resources, key production activities, and key partnerships are confirmed, the cost structure can be worked out. The profit model is obtained by subtracting the cost from the revenue.

### 1.2 Research purposes

As mentioned earlier, the book "Business Model Generation" divides the business model into nine key blocks, which are integrated into a Business Model Canvas. This study composes a program, where the required data are entered step by step, displayed in a Business Model Canvas on a computer screen, and nine key blocks can be printed. When the input content in the nine key blocks omits selecting/filling data, the system

reminds the user, thus, the items are completed one by one to complete the entire Business Model Canvas. This software can be used by teachers for teaching, and after case accumulation and multiple trials, it can be used for directing medium and small enterprises to collect consultant fees.

## 2. Literature Review

While business models have been discussed and studied in Taiwan for a few decades, the concept of the business model has existed in the western society for a long time, and was used to describe the correlation and structure of data and processes as early as 1970 (Konczal, 1975). In the mid-1990s, the business model developed rapidly via the internet, and the concept of business model continuously appeared in various learned periodicals and practical journals (Ghaziani and Ventresca, 2005). For example, Value Migration (Slywotzky, 1995) and Profit Patterns (Slywotzky, 1999), which systematically expounded the business model.

The business model involves many domains, such as food and beverage, marketing, logistics, etc. However, the core of the business model remains focused on customer value. The business model is an architecture of product, service, and information flow, and describes the various enterprise participants and their roles, potential profit, and revenue sources (Timmers, 1998). Enterprises use business opportunities to design a transaction to create value, and the business model describes the specific content and structure of the transaction. The business model is a script that explains how the enterprise works. A good business model must be able to answer "who is the customer", "what is the customer value", "how to make profit for the enterprise", and "what is the economic principle of transferring value to the customer at an appropriate cost" (Magretta, 2002). To be brief, the business model is the means and method to describe how an organization creates, transfers, and obtains value, as shown by the pattern in Figure 1 (Osterwalder et al., 2012). It is extended by Miki (2014), and several easy steps and cases enable readers to rapidly comprehend this technique.

|  |   |  |  |  |
|--|---|--|--|--|
| <b>KP</b> (Key Partnerships)<br>The network of suppliers and partners that make the business model work                            | <b>KA</b> (Key Activities) The most important activities in executing a company's value proposition | <b>VP</b> (Value Propositions)<br>The collection of products and services a business offers to meet the needs of its customers | <b>CR</b> (Customer Relationships) The type of relationship a company wants to create with their customer segments | <b>CS</b><br>(Customer Segments)<br>Identify which customers it tries to serve |
|  | <b>KR</b> (Key Resources) The resources that are necessary to create value for the customer         |  | <b>CH</b> (Channels) A ways which company can deliver its value proposition to its targeted customers              |  |
| <b>CS</b> (Cost Structure) This describes the most important monetary consequences while operating under different business models |   |  | <b>RS</b> (Revenue Streams) The way a company makes income from each customer segment                              |  |

**Fig. 1** Business Model Canvas (Source: Business Model Generation, 2012).

## 3. Nine Key Blocks of the Business Model

The nine key blocks are briefly described, as follows (content is extracted from Osterwalder et al., 2012, please refer to the book for details).

### (1) Customer segments

1. Definition: an enterprise targeted individual or organization group to be contacted or served.

### (2) Value propositions

1. Definition: entire product sets and services that can create value for specific customer segments.

### (3) Channels

1. Definition: how a company communicates with and contacts the customer segments to convey its value propositions.

### (4) Customer relationships

1. Definition: the relationship type built by a company with specific customer segments.

### (5) Key activities

1. Definition: the most important proceedings of a company for running its business model.

### (6) Key resources

1. Definition: the required most important assets for running a business model.

### (7) Key partnerships

1. Definition: the required supplier and partner networks for running a business model.

### (8) Cost structure

1. Definition: all the costs generated by running a business model.

### (9) Revenue streams

1. Definition: the cash of a company derived from every customer segment (the cost must be deducted from revenue to obtain the profit).

## 4. Process of Software Prototype Development

This study uses C# software in development environment of visual studio to development the business model program software. C# (pronounced "C sharp") is a simple, powerful, type-safe and

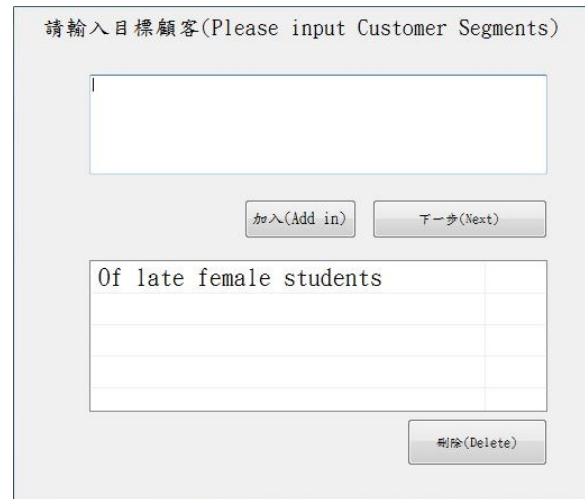
object-oriented programming languages. it will immediately be familiar to C and C++ programmers. C# combines the high productivity of Rapid Application Development (RAD) languages and the raw power of C++. Visual C# .NET is Microsoft's C# development tool. It includes an interactive development environment, visual designers for building Windows and Web applications, a compiler, and a debugger. Visual C# .NET is part of a suite of products, called Visual Studio .NET, that also includes Visual Basic .NET, Visual C++ .NET, and the JScript scripting language. All of these languages provide access to the Microsoft .NET Framework, which includes a common execution engine and a rich class library. The .NET Framework defines a "Common Language Specification" (CLS), a sort of lingua franca that ensures seamless interoperability between CLS-compliant languages and class libraries. For C# developers, this means that even though C# is a new language, it has complete access to the same rich class libraries that are used by seasoned tools such as Visual Basic .NET and Visual C++ .NET. C# itself does not include a class library. Please refer to associated books for details.

### 5. Results and Discussion

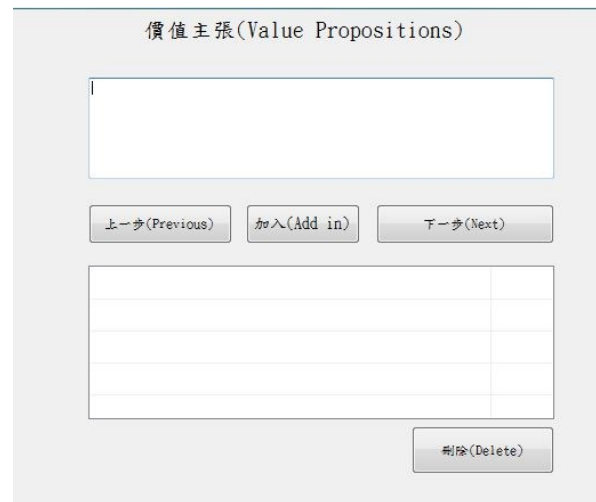
This study composes the business model PC program. The nine factors of the business model can be completed step by step to complete the overall Business Model Canvas, which can be displayed on a computer screen or printed. The program execution procedure is described, as follows:



**Fig. 2** Input Customer Segments.



**Fig. 3** Customer Segments has been input.



**Fig. 4** Input Value Propositions.



**Fig. 5** Value Propositions has been input.

行銷通路(Distribution Channels)

|                   |  |  |
|-------------------|--|--|
| Convenience store |  |  |
|                   |  |  |
|                   |  |  |
|                   |  |  |

**Fig. 6** Distribution channels have been input.

關鍵合作夥伴(Key Partnerships)

|                   |  |  |
|-------------------|--|--|
| Convenience store |  |  |
|                   |  |  |
|                   |  |  |
|                   |  |  |

**Fig. 9** Key Partnerships has been input.

關鍵活動(Key Activities)

|                  |  |  |
|------------------|--|--|
| Help call a taxi |  |  |
|                  |  |  |
|                  |  |  |
|                  |  |  |

**Fig. 7** Key Activity has been input.

成本結構(Cost Structure)

|                                |  |  |
|--------------------------------|--|--|
| Help call a taxi telephone fee |  |  |
|                                |  |  |
|                                |  |  |
|                                |  |  |

**Fig. 10** Cost structure has been input.

關鍵資源(Key Resources)

|                         |  |  |
|-------------------------|--|--|
| Convenience store clerk |  |  |
|                         |  |  |
|                         |  |  |
|                         |  |  |

**Fig. 8** Key Resources have been input.

收益流(Revenue Streams)

|                       |  |  |
|-----------------------|--|--|
| Taxi company' s bonus |  |  |
|                       |  |  |
|                       |  |  |
|                       |  |  |

**Fig. 11** Revenue Streams has been input.



Fig. 12 Screen display of Business Model input complete.



Fig. 13 Screen display of Business Model waiting for printing.

The computer-based systematic filling, additions, and deletions of items are more esthetic than handwriting, and the results can be placed in report files.

## 6. Conclusion and Suggestions

### (1) Conclusion

The book "Business Model Generation" provides a tool, namely the "Business Model Canvas", to help people quickly see the key points of business establishment (innovation) plans; it can be updated easily and continuously to respond to the rapidly changing world; it is used by enterprises all over the world. However, as this book is not software, it cannot make the content into files for saving or transmission. This study composes a "systematic business model innovation" software program, where the required data are entered step by step to complete nine key blocks, which can be printed or displayed as a Business Model Canvas on a computer screen. When the input content in the nine key blocks omits selecting/filling data, the

system reminds the user. The overall Business Model Canvas is completed by completing every item.

### (2) Suggestions

The "systematic business model innovation" software program of this study can be used by teachers for teaching, and after case accumulation and multiple trials, it can be used to direct medium and small enterprises to collect advisory fees.

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## Author Biographies



**Youn-Jan Lin** is a Professor of Ming Hsin University of Science & Technology (MUST) in Taiwan. He has taught in MUST since 1996.

He earned his PhD degree from the Department of Civil Engineering, National Taiwan University in 1995. He has licenses of PE in Hydraulic Engineering, Tour Leader of Chinese language, and etc. He is teaching in the Institute of Management. His areas of interests include Systematic Innovation including TRIZ, Green hotel, and Hot spring hotel. He received the “Greatest Teacher’s Award”, the highest honor recognizing the national most outstanding faculty from the Private Education Association in 2006. He got 50 patents and his inventive devices have featured in many exhibitions and has earned 56 awards, for example, as follows: 1. Most popular query prize at the “2006 Taipei International Invention Show and Technomart” in the National Science Council Exhibition Hall. 2. Golden Medal at the “2010 Moscow International Salon of inventions and innovation technologies”. 3. Gold Medal with mention at the “2011 5th International Warsaw Invention”. He was awarded “Lifetime Achievement of Invention” and “Pride of the Nation Inventor” that are co-awarded from Taiwan International Invention Award Winners Association and Golden State University of USA in 2009. And awarded “2013 International Invention Hall of Fame” that are awarded from Taiwan International Invention Award Winners Association. He was one of Elastic Salary Prize Winner for Special Outstanding Talent in 2011 in the field of “Design, Cultural innovation,

Hospitality and Leisure”, awarded by Ministry of Education.

**Tung-Yueh Pai** is an Assistant Professor of Ming Hsin University of Science & Technology in Taiwan since 2015. He earned his PhD degree from the Department of Banking and Finance, Tamkang University in 2009. He is teaching in the Institute of Management. His areas of interests include Financial Econometrics, Corporate governance. His inventive devices have featured in many exhibitions and has earned awards, for example, as follows: 1. 2015 International Innovation and Invention competition; 2. Silver Medal with mention at the “2015 International Warsaw Invention.”

