

Business models

by

*Palle Høy Jakobsen
February 2022*

ISBN 978-87-94331-05-0

Introduction

A business model describes the rationale of how an organization creates, delivers, and captures value, in economic, social, cultural or other contexts. The process of business model construction is part of a business strategy and the model may operate with both firm- and product level concepts.

The right business model can be the difference between success and failure for exactly the same technology or product. The choice of business model determines revenue opportunity, investment / resource requirements, and risks associated with starting a business.

Business Model Canvas

Business Model Canvas is a strategic management and lean startup template for developing new or documenting existing business models. It is a visual chart with elements describing a firm's or product's value proposition, infrastructure, customers, and finances. It assists firms in aligning their activities by illustrating potential trade-offs.

The Business Model Canvas was initially proposed by Alexander Osterwalder based on his earlier work on Business Model Ontology. Osterwalder's work propose a single reference model based on the similarities of a wide range of business model conceptualizations.

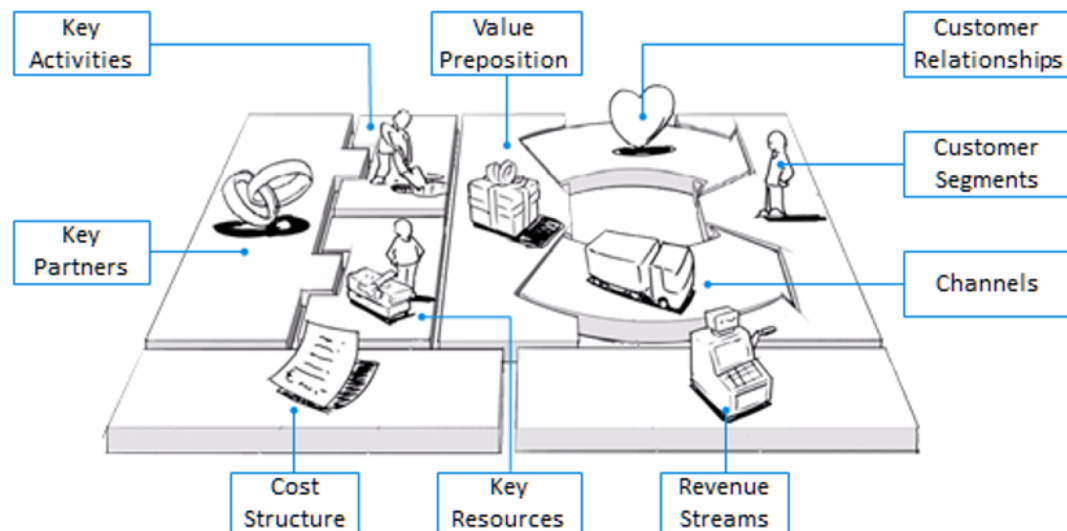


Figure. Business model canvas illustration (source: Business model canvas).

The business model canvas building blocks are:

Customer segments

The customer segment defines the different groups of people or organisations a company aims to reach and serve.

- Customer groups represent different segments if:
- Their needs require and justify a distinct offer
- They are reached through different distribution channels
- They require different types of relationships
- They have substantially different profitabilities
- They are willing to pay for different aspects of the offer.

Value propositions

The value propositions describes the bundle of products and services that create value for a specific customer segment.

Different elements can contribute to customer value creation:

- Newness
 - New medical drug for unserved disease (e.g. orphan diseases)
- Usability / Convenience
 - Changes in drug delivery (e.g. injection once a month instead of daily)
- Performance
 - Higher treatment efficacy: e.g. survival rates (cancer), fracture risk (osteoporosis)
 - Measurement accuracy (diagnostics)
- Risk reduction
 - Decreasing side effects (e.g. cancer therapy)
- Price / costs
 - Treatment will be made available at lower costs
 - Process innovation: reducing cost of production inputs (e.g. industrial biotech)
- Customization
 - Personalized treatment options (e.g. personalized vaccines), leading to higher efficacy
- Design
 - Medical devices: size reductions (thus increasing also usability)
- Getting the job done
 - Innovation that simplifies procedures, reducing time requirement of doctor per patient
 - Speeding up diagnosis

Channels

The channels describe how a company communicates with and reaches its customer segments to deliver a value proposition. The channels may support raising awareness, customer evaluations, allowing purchases, delivering value proposition and delivering support.

The company may operate with own stores, own salesforce and own websales. Alternatively, the company channels may operate via partner stores and wholesale shops.

Customer relations

Customer relationships describes the types of relationships a company establishes with specific customer segments. These relations vary from co-creation of products or services, to personal assistance to self-service.

Revenue streams

The revenue streams represents the cash a company generates from each customer segment. Revenue streams may be generated in different ways: Asset sales, usage fees, subscription fees, leasing (renting), licensing, brokerage fees (credit card providers) and by advertising. The price of the offer may be a fixed price or a dynamic price.

Key resources

The key resources describe the most important assets required to make a business model work. Key resources may be physical, intellectual, human or financial.

Key activities

Key activities are the most important things a company must do to make its business model work. Key activities may relate to production, problem solving and network/platform.

Key partners

Key partners describe the network of suppliers and partners that make the business model work. The motivations for working with key partners may include optimization and economy of scale, reduction of risk and uncertainty, acquisition of particular resources and activities.

Cost structure

The cost structure describes all costs incurred to operate a business model. Costs are fixed or variable.

All considerations from the individual boxes are combined into the business model canvas. The business model canvas may operate with different design techniques and can be used together with different strategy models.

Business models for diagnostic & tool companies

Diagnostic & tool companies apply a number of different business models.

- Platform instrument business model. Companies may develop tests that run on proprietary platform instruments that are produced and manufactured by the same company. Success is based on large diffusion of platform testing equipment in as many clinical and research laboratories as possible. The company creates and sells a tool, instrument, or platform and then perpetually sells specialized, high margin consumables. Developing a “menu” of testing content (i.e. different tests) for the platform. Example Affymetrix: designing, manufacturing, and selling of platform instruments based upon a microarray technology (DNA chip) which performs variety of genomic analyses and recently a number of corona diagnostic tests.
- Clinical laboratory service business model. The company develops a detection technology for a factor of interest (molecule or chemical). The company may produce and manufacture test kits which are sold to costumers. Tests are done at customer venues, but analysis may be done in the laboratory (i.e. testing as a service) of the firm that produces the kit. Advantages of the model: shorter timeframe from inception of test technology to product commercialization, lower costs of product and service development, alternative regulatory path. Disadvantage of the model: running a laboratory may be complex. Example: Diagnostic companies Myriad Genetics and Genomic Health are using this model.
- Subscription business model. Genomic discovery companies sold subscriptions to their databases, e.g. containing genomic information for certain types of tissues, diseases, microbes, etc. They were thus selling

or allowing access to information that is valuable for other firms. The model incorporates a continuous and somewhat predictable revenue stream such as membership fee, extra fees for number of users, providing specialized data mining services. Examples: Diagnostic companies Ionis Pharmaceuticals, Incyte Genomics, Millenium Pharmaceuticals and Celera have made use of this model.

References

Burrill & Company. Annual report on life sciences industry, 2013.
Osterwalder A. & Pigneur Y. Business model generation. Wiley, ISBN 978-0470-87641-1, 2010.