Business Models for Scientists

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VIEW Entrepreneurship
Management Fundamentals for Scientists & Researchers

Solid business grounding to move from bench to market

MODULE 1
Thinking strategically
Strategy & Economic Environment

MODULE 2
Managing oneself and managing people
Human Resources, Communications, Career & Negotiation

MODULE 3
Financial Accounting

MODULE 4
Financial Management and Performance Measurement

MODULE 5
Adopting the customer’s perspective
Marketing & Sales

MODULE 6
Successful Operations for competitive advantage

MODULE 7
Legal Issues

MODULE 8
Entrepreneurship
Applying innovation
...but what is a BUSINESS MODEL?
Defining Your Business Model

When entrepreneurs and management-types ask ...

“*What's your business model?*"

they really want an answer to a much more direct and basic question:

"*How do you plan to make money?*"
Behind the business model question is a stream of other questions:

• Who's your target customer?
• What customer problem do you solve?
• What value does your business deliver?
• How will you acquire and keep customers?
• How will you define and differentiate your offering, your value proposition?
• How will you generate revenue?
• What's your cost structure?
• What's your profit margin?
Sooner rather than later...

An entrepreneur needs to delve into all the details of a company's finances that can make or break a company's future. Things like...

– income statements
– balance sheets
– cash flow & budgeting
But at the start, it’s way more basic

• Just figure out where the money will come from!
  • Who will pay you?
  • How much will they pay?
  • Will they keep paying?

...and what portion of every sale will make its way to your bottom line in profit?
To stay in the black & avoid the red ink,

• you need to understand your costs, fixed and variable, and the timing of your cash flows.
  – How and when will money flow in?
  – Does that work with your outflows?

• The answers will impact your revenue, cost, and profit pictures -- and your business model.
• During the 90’s and early 2000’s, we got caught up in the buzz of the dot.com boom, the tech craze, and we forgot about that basic question:

How are you going to make money?

• When it all went bust and business got harder, suddenly business models were the rage -- and still are today.
Business Models Defined

A *business model* describes the rationale of how an organization creates, delivers, and captures value.

You have, you run, you *are* an organization -- and you have to create value to be successful.
A business model has to fulfill the following criteria:

1. Simple and ‘Elegant’
2. Relevant
3. Intuitively Understandable

The Business Model is the recipe for how the company intends to make money or accomplish their mission.
Creating a business model that works

• Some business models are as old as the marketplace itself; others are as new as the Internet.

• Some have weathered the test of time; others are almost experimental and may not last too much longer.

• No one-size-fits-all solution exists. In fact, most companies use some combination of business models to arrive at a unique way to do business.
• The simplest business models involve creating a product and *selling it directly to customers*.
• Other models involve selling *wholesale to retailers*
• *selling through distributors*
• *licensing* products to other companies,
• selling *online*
• selling through *auctions*, and countless other alternatives
Business Model
Converting Innovation to Economic Value

INNOVATION

- Growth Strategies
- Value Proposition
- Competitive Strategy
- Market Segments
- Revenue Model
- Value Chain Structure

1000ventures.com
The Business Model Canvas

• It’s *simple, relevant, and intuitively understandable*, but not so simple that it hides the complexity of starting or running a business.

• We’ll use this concept and canvas as a shared language and model to help us describe our businesses and innovate on our ideas.
9 Basic Building Blocks

• The Business Model Canvas illustrates the 9 building blocks that show the *logic* of how a company plans to operate, make money, and be viable.

• The blocks cover 4 key business areas:
  – the offer or value proposition
  – it’s customers
  – the infrastructure needed to do business
  – and financial viability
Business Model Canvas
The Business Model Canvas

Key Partners
- Who are our Key Partners?
- Why are we acquiring them?
- What is our Key Priority for the partners?

Key Activities
- What Key Activities do our Value Propositions require?
- What capabilities do we require?
- What resources are required?

Value Propositions
- What value do we deliver to the customer?
- What does our customer want?
- What are the trade-offs?

Customer Relationships
- What type of relationship do we have with our customers?
- How do we manage customer relationships?
- How do we differentiate ourselves?

Customer Segments
- Who are our most important customers?
- How do we reach them?
- What is our value proposition to them?

Key Resources
- What Key Resources do our Value Propositions require?
- What resources are required?
- How do we integrate resources?

Channels
- Through which Channels do our Customer Segments engage with us?
- How do we maintain our online presence?
- How do we differentiate our online presence?

Cost Structure
- What are the most important costs inherent in our business model?
- What costs are most expensive?

Revenue Streams
- For what value are our customers really willing to pay?
- How do we generate revenue?
- How do we differentiate our revenue streams?
I. Customer Segments

- *For whom are we creating value?*

- *Who are our most important customers?*
I. Customer Segments

- The *Customer Segment* block defines the different groups of people or organizations an enterprise aims to reach and serve.
- Customers are the heart of any business model. Without profitable customers, you won’t survive for long.
- In order to better satisfy customers, a company may group them into distinct segments with common needs, behaviors, or attributes.
I. Customer Segments (cont.)

- A business model may define one or several large or small Customer Segments.
- An organization must make a conscious decision about which segments to serve and which to ignore.
- Once this decision is made, a business model can be designed around a strong understanding of specific customer needs.
Customer Groups represent separate 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 profitability potentials.
• They are willing to pay for different aspects of the offer.
Types of Customer Segments

• **Mass Market**: Business models focus on mass markets and don’t distinguish between *Customer Segments*.

• The *Value Propositions, Distribution Channels*, and *Customer Relationships* all focus on one large group of customers with broadly similar needs and problems.
  – (i.e., Consumer Electronics)
Types of Customer Segments (cont.)

• **Niche Market**: Business Models targeting niche markets cater to specific, specialized *Customer Segments*.

• The *Value Proposition, Distribution Channels, and Customer Relationships* are all tailored to the specific requirements of the niche market.

• Niche Business Models are often found in supplier-buyer relationships
  – (i.e., car parts and major automobile manufacturers; or Casinos with you and me vs. whales)
Types of Customer Segments (cont.)

- **Segmented**: Some business models differentiate between market segments with slightly different needs and problems.
- A major bank may distinguish between $100,000 investors and $1M depositors or personal vs. commercial loans. Both segments have similar but varying needs and problems.
- These segments can impact other parts of the business model (*Value Propositions, Distribution Channels, Customer Relationships, and Revenue Streams*).
Types of Customer Segments (cont.)

• **Diversified**: An organization with a diversified business model serves two unrelated *Customer Segments* with very different needs and problems.

• Amazon’s Cloud Computing services are aimed at an entirely different *customer segment* (with a unique *value proposition*) than their traditional business.

• Universities with face-2-face and online programs are somewhat diversified.
Types of Customer Segments (cont.)

• **Multi-sided Platforms** (or multi-sided markets): Some organizations serve two or more interdependent *Customer Segments*.
  – A credit card company needs a large base of card holders and a large base of merchants who accept the cards.

• A free newspaper needs a large reader base
  – to attract advertisers who are needed to finance production
  – and let them provide a free paper.

Both segments are required to make the business model work.
Your Turn

• Think about your current or a future business.

• Using your sticky notes, post all the potential customer segments you can identify for your operation.
II. Value Propositions

• What value do we deliver to the customer?

• Which one of our customer’s problems are we solving?

• Which customer needs are we satisfying?

• What bundles of products/services do we offer to each Customer Segment?
A value proposition is a statement of the unique benefits your product or service delivers to the target customer. It must answer 3 questions:

1. What is your product?
2. Who is the target customer?
3. What value does it provide.
Value Propositions

• The *Value Propositions* Building Block describes the bundle of products and services that create value for a specific *Customer Segment*.

• The *Value Proposition* is why customers turn to one company over another. It solves a customer problem or satisfies a customer need.
Value Propositions (cont.)

• Each Value Proposition consists of a selected bundle of products and/or services that caters to the requirements of a specific Customer Segment.

• In this sense, the Value Proposition is an aggregation of benefits that a company offers customers.

• Some value propositions may be innovative and represent a new or disruptive offer. Others may be similar to existing market offers, but with added features and attributes.
Value Propositions (cont.)

• A value proposition creates value for a *Customer Segment* through a distinct mix of elements catering to that segment’s needs.

• Values may be quantitative (e.g. price, speed of service) or qualitative (e.g. design, customer experience).
‘Newness’ Value Proposition

Newness:

• Some *Value Propositions* satisfy an entirely new set of needs that customers didn’t previously perceive because there was no similar offering.

• This is often technology related (e.g. cell phones) but doesn’t have to be (e.g. ethical investment funds).
‘Performance’ Value Proposition

Performance:

• Improving product or service performance has traditionally been a common way to create value (e.g. more powerful PC’s).

• But improved performance has its limits.
  – How much faster, how much more storage, how much better graphics, ... it only goes so far before customer segments stop valuing the higher performance. (will 3D televisions really catch on?)
“Getting the Job Done” Value Proposition

“Getting the Job Done”:

- value can be created simply by helping a customer get certain jobs done.
  - Rolls Royce airline customers rely on them to manufacture and service their jet engines. This lets the airline focus on running their airline.
  - Airlines pay Rolls Royce a fee for every hour an engine on a plane runs.
Design Value Proposition

Design:

• Design is an important but difficult element to measure. A product may stand out because of superior design.
  – In the fashion and consumer electronics industries, design can be a particularly important part of the *value proposition*. 
Brand/Status Value Proposition

Brand/Status:

• customers may find status in the simple act of using and displaying a specific brand.
  
  – Wearing a Rolex or the latest snowboard/skateboard gear.
  
  – My kids ‘need’ the new iPhone 13!
Price Value Proposition

Price:

• It’s common to offer similar value at a lower price to satisfy price-sensitive Customer Segments. But low-price Value Propositions have implications for the rest of a business model.

  – Southwest and easyJet enable low cost travel but have to focus on cost relentlessly.
  – ‘free-mium’ - Free services are starting to pop up as Business Models.
Cost Reduction Value Proposition

• **Cost Reduction**: helping customers reduce their costs can be a *value proposition*.
  – Customer Relationship Management Software helps a firm reduce costs
  – Employee leasing arrangements cut costs
Risk Reduction Value Proposition

Risk Reduction:

• customers value reducing the risks they incur when buying products or services.
  
  – Warranties, guarantees, and service agreements can reduce risk and be a value proposition.
Accessibility Value Proposition

• **Accessibility**: making products or services available to customers who previously lacked access is a way to create value. This can result from business model innovation, new technology, or a combination of both.

  — NetJets came up with partial jet ownership, like time share condos.
Convenience/Usability Value Proposition

Convenience/Usability:

• making things more convenient or easier to use can be part of a value proposition.
  
  – Apple connects all your devices so you can listen to your music on any of them.
Your Turn

• Using your sticky notes, post all the potential value propositions you can identify for your customer segments.
III. Channels

• How are we reaching them now?
• How are our Channels integrated?
• Which ones work best?
• Which are most cost-efficient?
• How are we integrating them with customer routines?
• Through which channels do our *Customer Segments* want to be reached?
Channels

• The *Channels* building block describes how a company communicates with and reaches its *Customer Segments* to deliver a *Value Proposition*.

• Communication, distribution, and sales *Channels* comprise a company’s interface with customers.

• *Channels* are customer *touch points* that play an important role in the customer experience.
Channel Functions

• Raising awareness among customers about a company’s products and services
• Helping customers evaluate a company's Value Proposition.
• Allowing customers to purchase specific products and services.
• Delivering a Value Proposition to customers.
• Providing post-purchase customer support.
Channels Mix

• Finding the right channel mix to satisfy how customers want to be reached is crucial in bringing a Value Proposition to market.
Your Turn

• Are Channels relevant to what you do?

• What are the Channel Issues you might face?

• How do you communicate what you are doing, the successes (or challenges) you are having to your customer segments or key partners?
IV. Customer Relationships

• What type of relationship does each of our *Customer Segments* expect us to establish and maintain with them?

• How costly or difficult are they?

• How are they integrated with the rest of our business model?
Customer Relationship

• The *Customer Relationship* building block describes the types of relationships a company establishes with specific customers.

• A company should think about and clarify the type of relationship it wants to establish with each *Customer Segment*.

• Relationships can range from personal to automated.
Customer Relationship (cont.)

• *Customer Relationships* may be driven by multiple motivations: (e.g., phones)
  – Customer Acquisition (deals early-on)
  – Customer Retention (holding onto users)
  – Boosting Sales/Upselling (increasing avg. revenue)

• The *Customer Relationships* called for by a company’s business model deeply influence the customer experience.
Categories of Customer Relationships

- **Personal Assistance**: human interaction via point of sale, call centers, email, ...
- **Dedicated Personal Assistance**: customer rep assigned specifically to a customer.
- **Self-service**: no direct relationship. Company provides the means for customers to help themselves.
- **Automated Service**: more sophisticated form of self-serve; automated services tailored to individuals.
- **Communities**: many firms utilize user communities to help each other, interact, and expand knowledge base.
- **Co-creation**: Many now go beyond the traditional customer-vendor relationship to co-create value with customers. Amazon invites customer reviews; others invite customers to design products; youtube solicits content.
Your Turn

• Using your sticky notes, describe the customer relationships issues and interactions you face in your ‘business’. What types of relationships do your ‘customers’ want from you?
V. Revenue Streams

- For what value are our customers really willing to pay?
- For what do they currently pay?
- How are they currently paying?
- How would they prefer to pay?
- How much does each Revenue Stream contribute to overall revenues?
Revenue Streams

• The *Revenue Streams* block represents the cash a company generates from each *Customer Segment* (Rev – Costs = Earnings)

• A company must ask itself “for what value is each *Customer Segment* really willing to pay”?

• Answering that question allows the firm to generate one or more *Revenue Streams* from each *Customer Segment*. 
Types of Revenue Streams

• A business model can involve two different types of Revenue Streams:
  1. Transaction revenues from one-time customer payments.
  2. Recurring revenues from ongoing payments to deliver a Value Proposition to customers or to provide post-purchase support.
Ways to Generate Revenue Streams

- **Asset Sale** (Amazon, Macy’s, Ford)
- **Usage Fee** (hotel by the night; phone by the calls or texts)
- **Subscription Fees** (gyms, online games)
- **Lending/Rent/Leasing** (Zipcar rents cars by the hour)
- **Licensing** (media/copyright; patents at UIdaho)
- **Brokerage Fees** (real estate, credit cards charge a percentage)
- **Advertising** (fees for promoting a product or service)

*Revenue Streams may have different pricing mechanisms!*
Fixed Menu Pricing (predetermined prices based on static variables)

- **List Price**: fixed prices for individual products, services, or other Value Propositions.
- **Product Feature dependent pricing**: price depends on the number or quality of Value Proposition features.
- **Customer Segment dependent pricing**: price depends on the type and characteristic of a Customer Segment.
- **Volume dependent pricing**: price as a function of the quantity purchased.
Dynamic Pricing (Prices change based on market conditions)

- **Negotiation/Bargaining**: price negotiated between two or more partners.
- **Yield Management pricing**: price depends on inventory and time of purchases (hotel rooms or airline seats, other perishables).
- **Real-time-market pricing**: price established dynamically based on supply & demand.
- **Auctions**: price determined by outcome of competitive bidding.
Your Turn

• What are your revenue streams?
• How reliable are they? How likely is it that you are able to continue your funding?
• Can you expand your revenues?
• Do you have enough to accomplish your objectives? If not, can you find more?
  
  • What are you afraid of?
VI. Key Resources

• What Key Resources do our ...
  ... Value Propositions require?
  ... Distribution Channels require?
  ... Customer Relationships require?
  ... Revenue Streams require?
Key Resources

• The *Key Resources* building block describes the most important assets required to make a business model work. *Every business* requires *Key Resources*.

• They allow an enterprise to create and offer a *value proposition*, reach markets, maintain relationships with *Customer Segments* and earn revenues.
Key Resources (cont.)

- *Key resources* can be physical, financial, intellectual, or human.
- *Key Resources* can be owned, leased, or acquired from key partners.
- Different *Key Resources* are needed depending on the type of business model.
Categorization of Key Resources

• **Physical**
  – Includes physical assets like manufacturing facilities, buildings, vehicles, machines, systems, point-of-sales systems, and distribution networks.
  – Walmart depends heavily on physical resources which are often capital-intensive (global network of stores & logistics)
  – Amazon has extensive IT, warehouse, and logistics infrastructure.
Categorization of Key Resources (cont.)

• **Intellectual**
  – Intellectual resources such as brands, proprietary knowledge, patents & copyrights, partnerships, and customer databases are critical components of a strong business model.
  – Intellectual resources are difficult to develop but offer substantial value when you have them.
    • Nike & Sony rely on brand as *key resource*
    • Microsoft depends on software and IP
Categorization of Key Resources (cont.)

• **Human**
  – Every business needs people but human resources are particularly prominent in certain business models.
  – Human resources are key in knowledge-intensive and creative industries.
    • Novartis (pharma) relies heavily on human resources: its business model depends on an army of scientists and a skilled sales force.
Categorization of Key Resources (cont.)

• **Financial**
  – Some business models call for financial resources and/or financial guarantees, such as cash, lines of credit, or a stock option pool for hiring key employees.

  • Ericsson (telecom manufacturer) opts to borrow from banks and capital markets to provide vendor financing to equipment customers, ensuring that orders come to Ericsson rather than competitors (using Financial Resources to build brand loyalty).
Your Turn

• Using your sticky notes, post all the Key Resources you can identify for your operation.

• Do you have them all now? If not, can you acquire them? What is your strategy for that?

• What is blocking your acquisition of key resources?
VII. Key Activities

- What Key Activities do our ... 
  ... Value Propositions require?
  ... Distribution Channels require?
  ... Customer Relationships require?
  ... Revenue Streams require?
Key Activities

• The *Key Activities* building block describes the most important things a company must do to make its business model work.

• *Key Activities* are required to create and deliver a Value Proposition, reach markets, maintain Customer Relationships, and earn revenues.
Key Activities (cont.)

• *Key Activities* are different for different business model types.
  
  – For software maker Microsoft, *Key Activities* include software development.
  
  – For Dell, *Key Activities* include supply chain management.
  
  – For consultant McKinsey, *Key Activities* include problem solving.
Categories of Key Activities

• **Production**: designing, making, and delivering a product in substantial qualities and/or of superior quality. Production dominates the business models of manufacturing firms.

• **Problem Solving**: finding new solutions to individual customer problems. Hospitals, consultants business models require knowledge management and continuous training.

• **Platform/Network**: business models using a platform as a *Key Resource* are dominated by platform or network-related *Key Activities* (website at ebay). *Key activities* in this category relate to platform management, service provisioning, and platform promotion.
Your Turn

• Using your sticky notes, identify your Key Activities.

• What are they, who is doing them, which ones are critical, ...?

• You can easily see how key activities and key resources are interdependent.
VIII. Key Partnerships

• Who are our Key Partners?
• Who are our key suppliers?
• Which Key Resources are we acquiring from partners?
• Which Key Activities do partners perform?
Key Partnerships

• The *Key Partnerships* building block describes the network of suppliers and partners that make the business model work.

• Companies increasingly create alliances to optimize their business models, reduce risk, or acquire resources.
Types of Key Partnerships

• Buyer-Supplier Relationships to assure reliable supplies.
• Strategic Alliances between non-competitors.
• ‘Co-opetition’: strategic partnerships between competitors.
• Joint Ventures to develop new businesses.
Motivations for Key Partnerships

• Optimization and Economy of Scale
  – Partnerships are formed to reduce costs, and often involve outsourcing or sharing infrastructure.

• Reduction of Risk and Uncertainty
  – Partnerships can reduce/spread risk in an uncertain environment.

• Acquisition of particular resources and activities
  – Few companies own all the resources or perform all the activities described by their business models. They extend capabilities by relying on other firms to furnish particular resources or perform certain activities.
Your Turn

• Who are your key partners?
• What do they do for you?
• What do you do for them?

• Who would you like to have as a partner, need to have that you do not have now? How do you get them?
IX. Cost Structures

• What are the most important costs inherent in our Business Model?

• Which Key Resources are most expensive?

• Which Key Activities are most expensive?
Cost Structure

• The *Cost Structure* describes all costs incurred to operate a business model.

• Creating and delivering value, maintaining *Customer Relationships*, and generating revenue all incur costs.

• What are the most important costs in your business model?
  – These costs can be calculated relatively easily after defining *Key Resources*, *Key Activities*, and *Key Partnerships*. 
Cost or Value-driven Model?

• Costs should be minimized in every business model. But low Cost Structures are more important to some business models than others.

• Two broad classes of business model Cost Structures:
  – Cost-driven
  – Value-driven
Cost-driven Models

- Cost-driven business models focus on minimizing costs wherever possible. This approach aims at creating and maintaining the leanest possible *Cost Structure*, using low price *Value Propositions*, maximum automation, and extensive outsourcing.
  - No frills airlines (Southwest, Ryanair, easyJet) are typical cost-driven business models.
Value-driven Models

• Some companies are less concerned with the cost implications of a particular business model design and instead focus on value creation.

• Premium *Value Propositions* and a high degree of personalized service usually characterize value-driven business models.

  Luxury Hotels, with lavish facilities and exclusive services fall into this category.
Cost Structure Characteristics

• **Fixed Costs**
  – costs stay the same despite volume (salaries, rent, facility costs)

• **Variable Costs**
  – costs that vary with volume (manufacturing, jazz festival attendance))

• **Economies of Scale**
  – cost advantages arising as output expands (bulk purchasing)

• **Economies of Scope**
  – ‘wider’ business model; doing multiple things may offer advantages (integration of marketing across several lines)
Your Turn

• Identify your main cost drivers.
• Which are fixed costs and which are variable?
• Which can you help control and which are just part of the operation?
Pitching Your Model

The Elevator Pitch
Elements of Your Pitch

1. What is your pain/problem statement?
2. Who is your target market that you will depend upon to launch this business?
3. What is your solution to the problem or pain? How does your company or product/service 'ease their pain'?
4. Is anyone else doing this and why are you better?
Telling Your Story

Diagram:

- **Key Partnerships**:
  - Car Rental
  - Hotel
  - Insurance

- **Key Activities**:
  - Quick Turn-arounds

- **Value Proposition**:
  - Cheap Flights
  - No Frills

- **Customer Relationships**:
  - Automated
  - Impersonal

- **Customer Segments**:
  - Budget Travelers

- **Key Resources**:
  - Single Aircraft Model
  - Cheap Airports

- **Cost Structures**:
  - Maintenance
  - Training
  - Airports
  - Call Centers

- **Revenue Streams**:
  - Tickets
  - Fees

Diagram paths indicate relationships between these elements.
Start with Why