Business 101

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1 Introduction

Fundamentally, a business is an activity focused on generating revenue (sales) by providing goods or services. For example, we purchase an apple for 10 cents and re-sell it for 20 cents. That is business. Anyone can do it. This simplicity hides a lot of uncertainty and risks.

Most businesses fail shortly after starting—often before making any sales or profits. Businesses that manage to survive, are like resilient machines that run a very efficient loop of continuously selling goods or services. New businesses often have to deal with these established strong competitors. With these odds, it is often easier and less risky to invest in existing businesses than to start new ones.

1.1 The Market

The market is a set of potential customers. Every business needs to realistically define their potential customer—the market will subsequently drive the design/development of offered products and services.

1.1.1 Market Gaps

Often new businesses are started to take advantage of a market gap: a set of customers whose needs are not currently satisfied by existing businesses. Such gaps are often dangerous: the market may be too small to be profitable. If there is no competition, then research *why* there is no competition.

1.1.2 Competition

The existence of the business depends on retaining the market share. A successful business will study the market and the competition. Differentiate and market products in just the way that improves their perceived image in the eye of the consumer.

Often this means targeting a subset of the market: make cheapest or make the best product. It is harder to compete with a product that is in the middle of a spectrum of other products.

In new markets, it is often an advantage to being first—but a proven market will quickly attract competition, which often offers a better product, having learnt from the past.

If products/services have no competitive advantage, then don't compete. There are plenty of other things to do, concentrate business energy in areas that have competitive advantage.

1.2 Operations

Operations are business activities that directly or indirectly lead to sales. These include things like purchasing raw materials, working the raw materials into products, etc.

It is easy to imagine operations as a repeating loop of events: purchase, make, sell, purchase, make, sell, etc., the reality is that the business landscape is continuously changing, and requires active management to ensure continuity.

For example, purchasing raw materials often involves keeping internal stock and estimating production volumes, as well as the timing and cost (and financing) of purchases. Similarly, production often depends on availability of raw materials, labor, and equipment, as well as sales and inventory levels. Sales often depends on the market, marketing, and price of the good/service, as well as availability of inventory. Throw in some competition into the mix, and all these variables can vary wildly and require diligent management.

1.3 Leaders

Managers often make terrible leaders. The set of skills of enduring things are done right is often different than the set of skills to do the right things.

Businesses are organisms that not only need to survive, but need to evolve and compete. They need to grow and change. Without proper leadership, it is almost certain that competition will steal the market, even from the best ran operations.

Strategies to avoid irrelevance: diversity. Monocultures are a sure way to lose in a competition game. This applies to variety of perspectives, as well as variety of products and markets.

The power of teams only emerges when there is variety and specialization. None of us are as smart as all of us. Beware of group think and complacency. Think different.

1.4 Finance

Ultimately, the entire business needs to be financed by revenue (sales). If that is not happening, then there is no point in being in business.

Short term, a business may borrow money for operations or expansion. For example, a construction company may borrow money to buy land, raw materials, and pay workers to build a house. Once the house is sold, the debts are repaid with interest, and whatever is left over is profit.

Profit may be retained for the future, to avoid borrowing costs, or given back to owners/shareholders in the form of a dividend.

Some businesses have retained so much, that they invest in other businesses or bonds, earning a return. Occasionally those returns overshadow the operational returns of the business—and the business essentially becomes a sort-of-bank, that makes earnings from lending out money to other businesses.

1.4.1 Financing

There are essentially three ways to finance big-expenses:

- Pay from operations: This involves retaining earnings from operations, saving up over time, and paying for things from those savings. This is the slowest, but the safest method of growth.

- Borrow: this often involves getting a bank loan. Loans must be repaid, creating a burden that costs interest, and risk of bankruptcy if loan payment is missed.

  Another way to borrow is to issue bonds: This often happens when the (investment) bank does not want to hold the loan on their books: they create these trade-ble contracts that the bank sells to the market (often institutional investors, such as pension plans, or the public, etc.). For the company, the risk is the same: they go bankrupt if they miss an interest payment on their bonds.

- Issue stock: a company can choose to sell a chunk of itself for a cash payment. This often involves an investment bank, that guesses the value of the whole company (e.g. $100m), then pays the company the right amount for the share of the company they are buying (e.g. $5m for a 5% stake in a $100m company).

  The investment bank then sells the shares in the market, often netting themselves a profit (e.g. they may sell 5% of the company for $10m).

  The upshot is that the company gets the money, but without the burden of the loan. Shares get dividends—but company cannot go bankrupt if they miss a dividend payment. The downside is that now there are more owners to split that dividend with.

  The first time a company issues stock is called Initial Public Offering, or IPO. Subsequent sales are often done from market operations sale of treasury shares (that the company itself owns), or secondary offerings (getting a lump sum from investment bank that later sells shares in the market—mimicking the IPO second time around). Some compensation plans implicitly create shares—such as paying employees with stock options.

The type of financing a business uses often implies their internal perception about future profitability. For example, if a company is financing with bonds, and the leadership is thinking their shares will outperform bonds—and vice versa. So invest in the thing that the company is *not* trying to sell you.

1.4.2 Profit vs Cash flow

Cash flow and profit are not the same, and calculating profit is often very difficult. For example, construction company may be very profitable, but they may have to spend a lot of cash to buy land, equipment, raw materials, and labor, and only after selling the house potentially a year later recover the profits.

A business needs to have enough cash flow to cover immediate expenses and operation costs. A disruption in cash flow could mean a bankrupt business—even if ultimately it may turn out to be profitable.

1.5 Accounting

Accounting is the practice of writing down whatever the business does. Traditionally, this meant writing down all financial transactions, often using double-entry method.

1.5.1 Double Entry Accounting

There's a formula:

$$Assets = Liability + Equity$$

which essentially says whatever you have (assets) is what you borrow (liabilities) and what you own (equity). These are often broken up into more granular accounts in the general ledger:

- Assets: cash, accounts receivables, inventory, prepaid expenses, property-plant equipment
- Liabilities: account payable, salaries payable, accrued expenses, long-term debt, deferred/unearned revenue.
- Equity: owner's equity, retained earnings

Any business transaction updates two of these accounts (double-entry). For example, a business buys \$10 of supplies. We'd take \$10 from cash, and put \$10 into inventory in the form of supplies.

One way to remember DEALER:

$$\begin{aligned} \text{DIVIDENDS} + \text{EXPENSES} + \text{ASSETS} &= \text{LIABILITIES} + \text{EQUITY} + \text{REVENUE} \\ \text{(increase when debited)} &= \text{(increase when credited)} \end{aligned}$$

1.5.2 Activity Based Costing

One of the primary things we care about is calculating profit. A business does a lot of business related activities, and often there is no direct and easy to follow link to profit. In fact, calculating the cost of production is often guesswork.

To help with the problem, many modern businesses started to record and analyze all business activities, not just financial ones. With enough granularity in the activities being recorded, it is often possible to piece together the exact cost of production, the exact cost of expenses, as it relates to each item being sold.

1.6 Data Science

Data collection on each business activity as it happens enables data analysis of the entire business. To not just understand the source of profit and costs, but to understand how to improve the process.

The first step in improving is understanding where you are (data collection).