

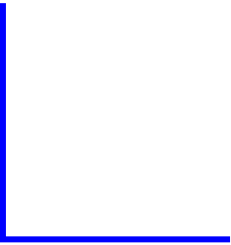


# Software Engineering

## Lecture 9

### Business Planning

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Feb 20, 2017



# Business Planning

- Reasons for failure
- Generating a vision
- Creating a business plan



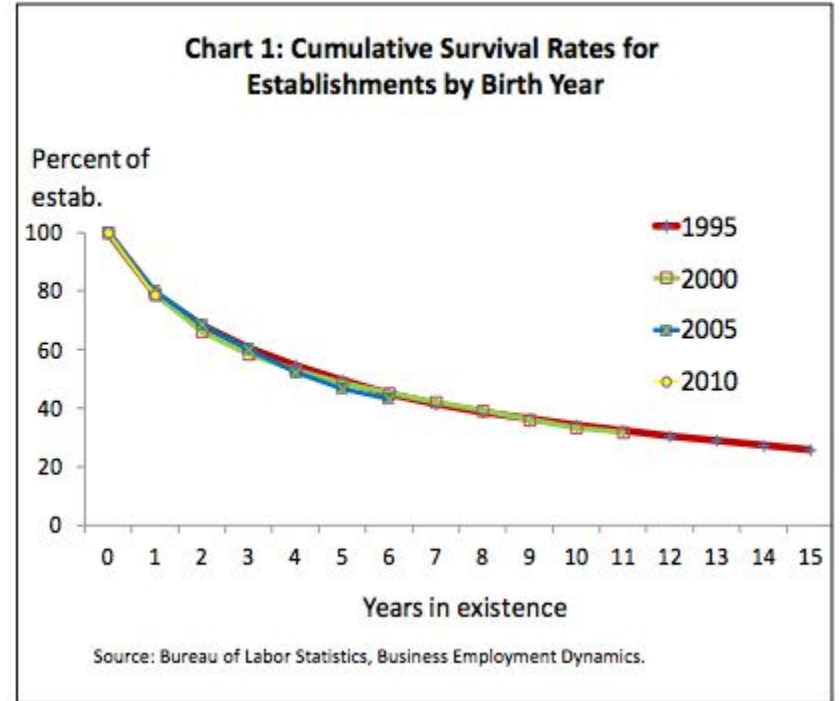
# Reasons for Failure



# Businesses Fail

50% of businesses fail  
in the first few years.

It doesn't matter what  
kind of business.



# Reasons for Business Failure

Lack of experience

Insufficient capital

Poor inventory management

Over-investment in fixed assets

Poor credit arrangement management

Unexpected growth

# Software Project Failure

The 10th edition of the annual CHAOS report from The Standish Group, which researches the reasons for IT project failure in the United States, indicates that project success rates have increased to 34 percent of all projects. That's more than a 100-percent improvement from the success rate found in [the first study in 1994](#).

Asked for the chief reasons project success rates have improved, Standish Chairman Jim Johnson says, "The primary reason is the projects have gotten a lot smaller. Doing projects with iterative processing as opposed to the waterfall method, which called for all project requirements to be defined up front, is a major step forward."

The Standish Group has studied over 40,000 projects in 10 years to reach the findings.

Project failures have declined to 15 percent of all projects, a vast improvement over the 31-percent failure rate reported in 1994. Projects meeting the "challenged" description -- meaning that they are over time, over budget and/or lacking critical features and requirements -- total 51 percent of all projects in the current survey.

- <https://blog.codinghorror.com/the-long-dismal-history-of-software-project-failure/>

# Ouch!

YEAR	COMPANY	OUTCOME (COSTS IN US \$)
2005	Hudson Bay Co. [Canada]	Problems with inventory system contribute to \$33.3 million* loss.
2004–05	UK Inland Revenue	Software errors contribute to \$3.45 billion* tax-credit overpayment.
2004	Avis Europe PLC [UK]	Enterprise resource planning (ERP) system canceled after \$54.5 million <sup>†</sup> is spent.
2004	Ford Motor Co.	Purchasing system abandoned after deployment costing approximately \$400 million.
2004	J Sainsbury PLC [UK]	Supply-chain management system abandoned after deployment costing \$527 million. <sup>†</sup>
2004	Hewlett-Packard Co.	Problems with ERP system contribute to \$160 million loss.
2003–04	AT&T Wireless	Customer relations management (CRM) upgrade problems lead to revenue loss of \$100 million.
2002	McDonald's Corp.	The Innovate information-purchasing system canceled after \$170 million is spent.
2002	Sydney Water Corp. [Australia]	Billing system canceled after \$33.2 million <sup>†</sup> is spent.
2002	CIGNA Corp.	Problems with CRM system contribute to \$445 million loss.
2001	Nike Inc.	Problems with supply-chain management system contribute to \$100 million loss.
2001	Kmart Corp.	Supply-chain management system canceled after \$130 million is spent.
2000	Washington, D.C.	City payroll system abandoned after deployment costing \$25 million.
1999	United Way	Administrative processing system canceled after \$12 million is spent.
1999	State of Mississippi	Tax system canceled after \$11.2 million is spent; state receives \$185 million damages.
1999	Hershey Foods Corp.	Problems with ERP system contribute to \$151 million loss.
1998	Snap-on Inc.	Problems with order-entry system contribute to revenue loss of \$50 million.
1997	U.S. Internal Revenue Service	Tax modernization effort canceled after \$4 billion is spent.
1997	State of Washington	Department of Motor Vehicle (DMV) system canceled after \$40 million is spent.
1997	Oxford Health Plans Inc.	Billing and claims system problems contribute to quarterly loss; stock plummets, leading to \$3.4 billion loss in corporate value.
1996	Arianespace [France]	Software specification and design errors cause \$350 million Ariane 5 rocket to explode.
1996	FoxMeyer Drug Co.	\$40 million ERP system abandoned after deployment, forcing company into bankruptcy.
1995	Toronto Stock Exchange [Canada]	Electronic trading system canceled after \$25.5 million** is spent.
1994	U.S. Federal Aviation Administration	Advanced Automation System canceled after \$2.6 billion is spent.
1994	State of California	DMV system canceled after \$44 million is spent.
1994	Chemical Bank	Software error causes a total of \$15 million to be deducted from 100 000 customer accounts.
1993	London Stock Exchange [UK]	Taurus stock settlement system canceled after \$600 million** is spent.
1993	Allstate Insurance Co.	Office automation system abandoned after deployment, costing \$130 million.
1993	London Ambulance Service [UK]	Dispatch system canceled in 1990 at \$11.25 million**; second attempt abandoned after deployment, costing \$15 million.**
1993	Greyhound Lines Inc.	Bus reservation system crashes repeatedly upon introduction, contributing to revenue loss of \$61 million.
1992	Budget Rent-A-Car, Hilton Hotels, Marriott International, and AMR [American Airlines]	Travel reservation system canceled after \$165 million is spent.

# Ouch!

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2004	Avis Europe PLC [UK]	Enterprise resource planning (ERP) system canceled after \$54.5 million <sup>†</sup> is spent.
2004	Ford Motor Co.	Purchasing system abandoned after deployment costing approximately \$400 million.
2004	J Sainsbury PLC [UK]	Supply-chain management system abandoned after deployment costing \$527 million. <sup>†</sup>



# Reasons for Software Failure

- Unrealistic or unarticulated project goals
- Inaccurate estimates of needed resources
- Badly defined system requirements
- Poor reporting of the project's status
- Unmanaged risks
- Poor communication among customers, developers, and users
- Use of immature technology
- Inability to handle the project's complexity
- Sloppy development practices
- Poor project management
- Stakeholder politics
- Commercial pressures

- <http://spectrum.ieee.org/computing/software/why-software-fails>

# Communications Failures

- Unrealistic or unarticulated project goals
- Inaccurate estimates of needed resources
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# Generating a Vision



# A Vision Statement

- A shared statement of what the shared cause is.
- Shared by everyone involved.
- This becomes the reference on which things are built
- This is a living document
  - It informs creation of later documents
  - If it is found wanting, it is changed by *all* parties

# Vision Statement Example

“For a mid-sized company’s marketing and sales departments who need basic CRM functionality, the CRM-Innovator is a Web-based service that provides sales tracking, lead generation, and sales representative support features that improve customer relationships at critical touch points. Unlike other services or package software products, our product provides very capable services at a moderate cost.”

- <https://www.joelonsoftware.com/2002/05/09/product-vision/>

# Vision Statement Contents

- For (target customer)
- Who (statement of the need or opportunity)
- The (product name) is a (product category)
- That (key benefit, compelling reason to buy)
- Unlike (primary competitive alternative)
- Our product (statement of primary differentiation)

Make this a simple two minute "elevator speech."

- <https://www.joelonsoftware.com/2002/05/09/product-vision/>

# Vision Exercise

- Teams do this together.
- Create a vision statement.
- Design a "product" box. See the article for details.



# Creating a Business Plan





# What is a Business Plan?

- A three minute video:

<http://articles.bplans.com/what-is-a-business-plan/>

- A great web site:

<https://www.sba.gov/starting-business/write-your-business-plan>

# Simple Business Plan

A description of the problem your customers have

Your solution

(your product or service)

Business model

(how you make money)

Target market

(who is your customer and how many of them are there)

Competitive advantage

Management team

Financial summary

Funding required

- <http://articles.bplans.com/how-to-write-a-one-page-business-plan/>

# Reading

Links embedded in the slides today...