Project Management
Class – 1

Introduction

TED ROGERS SCHOOL OF MANAGEMENT

Scholastic and Harry Potter

SCHOLASTIC

Scholastic: an American publishing, education and media company known for publishing, selling, and distributing books and educational materials for schools, teachers, parents, and children.

- Founded in 1920, with $1.9 billion in revenues in 2011
- With offices in 16 countries around the globe

Worldwide release of **Harry Potter and the Deathly Hallows**

- In early 2007
- Upon the author finished writing of the book, Scholastic's printers should arrange to make sure that the book would be ready by the release date!

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Scholastic and Harry Potter

- The timing was tricky for Scholastic to ship copies simultaneously around the globe to **minimize the risk of someone leaking the book's ending**!
- To save time, Scholastic bypassed its warehousing
  - Shipping directly from printers to big retailers like Amazon.com
  - GPS transponders were used to alert Scholastic by e-mail if the driver veered off the designated route
- Close to 90% of sales of such special books occur in the first week!

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Scholastic and Harry Potter

- Think about customizing and coordination of all operations and supply chain processes across multiple partners:
  - Printing
  - Distribution
  - Retailing
- **The goal:**

  To ensure that the last book in the Harry Potter series reached the final customers no more than a few hours before July 21, 12:01 A.M. (release deadline)
- Scholastic did a great job; transported **12 million copies** in a **short time window**

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Learning Objectives

- What is a Project and Project Management?
- Different types of projects
- Project management vs. general management
- Project Success and Failure
- Statement of Work

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What is a project?

Interrelated set of activities with a **definite start** and **end** point, which results in a **unique** outcome for a **specific** allocation of **resources**.

PMI defines "**A project is a temporary endeavor undertaken to create a unique product or service**"

Business projects:

- Building a stadium
- Creating advertising campaigns
- Developing new service/product

Projects in everyday life:

- Planning wedding
- Remodeling bathroom
- Writing a scientific paper

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What is PMI?

Project Management Institute

Worldwide organization for the promotion of Project Management

- Over 700,000 members, credential holders and volunteers in 195 countries around the world
- Maintains and administers Project Management Professional (PMP®), Certified Associate in Project Management (CAPM®) and 6 other certifications
- The PMI provides services including the development of standards, research, education, publication, networking-opportunities in local chapters, hosting conferences and training seminars in project management.

Southern Ontario Chapter (SOC)

- More than 4,500 members
- Dinner meetings, breakfast meetings, Continuing Ed, etc.
- www.soc.pmi.on.ca

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Defining Project Management

According to PMI:
"The application of knowledge, skills, tools, and techniques to a broad range of activities in order to meet the requirements of a particular project"

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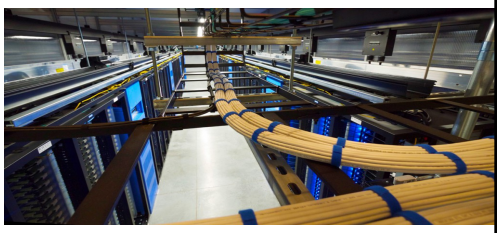
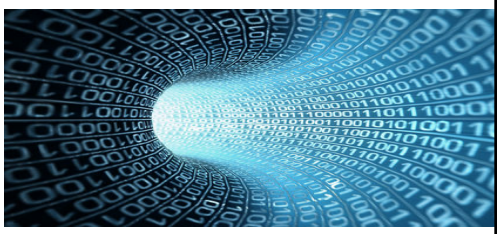
Types of Projects
Computer-related Projects

Computer related hardware and software projects

- Computer hardware related projects include
  - Computer assembling projects
  - Video related projects
  - Web services projects
  - Data center projects
- Computer software projects include
  - System software projects
  - Programming software projects





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Types of Projects
Healthcare

- Projects focus on improving patient care and service delivery while increasing innovation and efficiency:
  - Adding a new ICU intensive care unit to a hospital
  - Removing an old equipment and installing a new one
- Healthcare projects are complex in nature because stakeholders include:
  - Doctors, Pharmaceutical and Insurance companies
  - Payers: Individuals, businesses, government organizations
  - Hospitals, delivery networks, and individual clinics
- One of recent challenges is adopting advanced technology

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Types of Projects
New Product Development

- Firms use new product development process as the first stage in generating and commercializing new products **to maintain or grow their market share**.
- The project manager's task is to coordinate deployment of a product or new releases, coordinate testing of such new products and releases, and coordinate pilots with potential product users.
- Priority of development objectives, planned timing, sequence of development activities, major project milestones and prototypes are mechanisms for coordination among team members.

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Managing Effective Projects: XBOX 360

- Four years after the introduction of Xbox, Microsoft needed to quickly design, develop, and produce a new product.
- Sony's PlayStation 2 was dominating the video game market.
- Microsoft needed a new product to compete with the impending release of PlayStation 3.
- Developing such a product (Xbox 360) is **a project of massive proportions**!

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Managing Effective Projects: XBOX 360

The project consisted of four phases:

1. **Design:** Collaborative effort between Microsoft and many other firms including
   - IBM for processor chips design
   - Astro Studios for console and controller design
   - ATI for graphics chip
2. **Analysis:** Getting an estimate of future sales for a new product
   - Historical patterns for PS1, PS2 and Xbox

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Managing Effective Projects: XBOX 360

3. **Development:** Capacity planning decisions need closely work with other firms
   - Flextronics; Wistron
   - Once initial production began, Microsoft added Celectica to increase production capacity (first-mover advantage comparing to PS3)
   - 10,000 workers in china were involved in production
4. **Launch:** Gained an early lead in terms of market share due to launching one year ahead of PS3
   - Xbox 360 was released in 36 countries in the first year
   - Sales exceeded expectations; 10 million units in the first year!

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Types of Projects Construction

- Small (home) to Large (Airports)
- Construction projects are often time-consuming.
- Require several phases and may involve:
  - Financial organizations
  - Government agencies
  - Engineers and architects
  - Insurance companies
  - Attorneys
  - Contractors, material suppliers, and builders.

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Construction Projects Failure

- The planned 150-story Chicago Spire
  - Would have been 2,000 feet tall to rank as the tallest tower in west was supposed to be finished by 2012.
  - Luxury condominiums priced between $75,000 to $40 million
  - After digging 76-foot-deep hole, the project stopped in 2009 due to credit crisis for construction projects worldwide
- Work was stopped on the kilometer-tall Nakheel Tower in Dubai (a $75 billion worth project) because the contractors complain of not being paid.

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Comparison of Project Management and General Management

- The knowledge to manage general business functions (production manager, marketing manager, sales manager, …) is not enough to manage projects!

Dimension	Project Management	General Management
Type of work activity	Unique	Routine
Management Approach	Ability to adopt to change	Manage by exception
Planning	Critical	Important
Budgeting	Start from Scratch Multiple budget periods	Modify budget from previous budget period
Sequence of Activities	Must be determined	Often predetermined
Location of Work	Crosses organizational units	Within an organization unit
Managerial Hierarchy	Informal	Well defined

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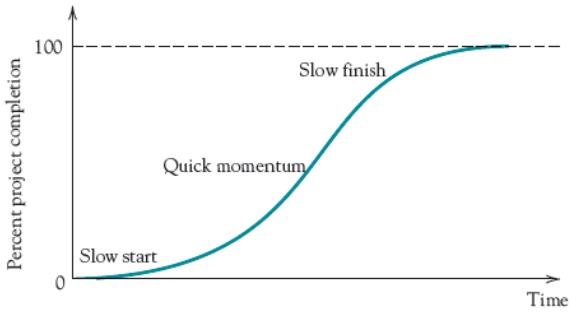
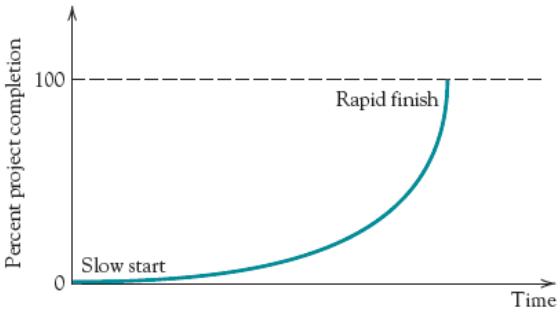
The Life Cycle of Projects

- All organisms have a life cycle, they are born, grow, wane, and die
  - So do projects
- Some projects follow an S-shaped curve
  - They start slowly, develop momentum, and then finish slowly
- Other project follow a J-shaped curve
  - They start slowly , proceed slowly, and then finish rapidly





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How to Measure Project Success?

- You want to renovate the basement during summer holidays!
- Is it a project?

- What makes you feel satisfied at the end of the project?

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Failure in Cost

Sydney Opera House

- The world's biggest planning disaster
- Initial budget estimation $7 million
- Opera House ended up costing more than $100 million
- 1400 percent blowout; makes it the most expensive cost blowout in the history of megaprojects
- It took more than a decade to construct

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Failure in Time

What is "The Big O"?

- For the 1976 Summer Olympic Games
- For the games it was only half built!
- Initial cost evaluation: $134 million
- Total cost (at the time of games begin): $264 million
- In Nov. 2006, the cost is finally paid in full: $1.61 billion
- The second most expensive stadium ever built (after Wembley Stadium in London)
- ***"The Big Owe" or "The big Mistake"***

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Failure in Design

Channel Tunnel

- A 31 mile tunnel running underneath the English Channel between the UK and France
- Construction of the tunnel started in 1988
- Project took approximately 20% longer than planned (at 6 years vs. 5 years)
- It came in 80% over-budget (at 4.6 billion pounds vs. a 2.6 billion pound forecast)
- Poor initial design and changed specifications
- Miscommunication between French and English teams

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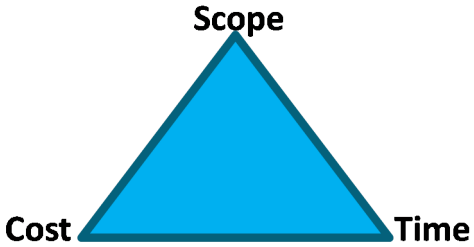
Project Management Triangle

- The Project Management Triangle is the traditional means of **measuring project success** with the project manger balancing between three key constraints usually with defined tolerances:
  - **Time:** the time to complete the project
  - **Cost:** the budget available
  - **Scope:** the scope and quality of final deliverable



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Balancing Project Constraints

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Project Failure Factors

- Project success deals with the impacts of a project's final product on stakeholders.
- The following factors may lead to overall project failure:
  - Contracts and legal agreements
  - Politics and conflicts
  - Decreased Profitability
  - Unrealistic goals
  - Competitive disadvantage
  - Client dissatisfaction

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Six Factors of Project Success

Impact of six factors on project success	
Factors	Impacts
Scope	Increase in scope can lead to increased time, increased cost, better or worse performance, increase in resources, and increase or decrease in value
Time	Tight time constraint can lead to increased cost, reduced scope, reduced performance, increase in resources, and reduced value
Cost	Tight budget constraint can lead to increased time, reduced scope, reduced performance, increase or decrease in resources, and reduced value

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Six Factors of Project Success

Impact of six factors on project success	
Factors	Impacts
Resources	Unskilled, less, faulty, bad quality resources lead to increased time, reduced performance, reduced value, higher costs, and short of scope
Performance	Stringent performance measures can lead to increased time, increased scope, increased cost, increase or decrease in resources, and increase or decrease in value
Value	Expected value measures can lead to increased scope, increased time, increased cost, demand for better resources, and better or worse performance

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Initial Project Proposals

- Where the idea of a project come from?
  - Simply in response to customer order (project-oriented firm)
  - Can be proposed by an employee as a suggestion
  - By a department in response to a problem at hand
  - By R&D department as a future product
  - As a strategic intent from the strategy plan of the organization
- It should be prepared as project proposal with Statement of Work (SOW) document that indicates
  - Perceived benefits by year
  - Estimated budgets needed by year
  - High-level schedule

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Statement of Work (SOW)

- SOW describes the work to be done in detail and will be used in project charter in the future and in all project documents.
- SOW should be clear, concise, and complete.
- SOW needs to provide the organization
  - A list of equipment or materials necessary to implement the project
  - Start and end dates of the project
  - Schedules
  - Any applicable standards
  - Acceptance criteria

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Statement of Work (SOW) – Example

- Company XYZ, Inc.
- Project Proposal for a new product development laboratory

Statement of Work

A new product development laboratory (PDL) is proposed. The PDL will be located in building A200 inside the R&D campus of company XYZ, Inc. A diverse team of professionals from Material Management, Research and Development, Marketing, and Information Systems will design and test new technology products in the new laboratory.

Business Rationale

The new lab will house new equipment that will help us to develop a strategic change in existing materials that can result in major cost savings. This project might be the difference between future market success and failure.

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Statement of Work (SOW) – Example

- **Equipment**

1. Data Acquisition System (DAS) capable of sampling 172 channels
2. Computer systems capable of receiving sensor data from DAS
3. Software to analyze data received from DAS
4. Desks and chairs
5. Client computers (4) + printers

- **Benefits**

	Year 0	Year 1	Year 2	Year 3	Year 4	Total
Revenues from new products	$0	$1,000,000	$4,500,000	$7,500,000	$10,000,000	$23,000,000
Total benefits	$0	$1,000,000	$4,500,000	$7,500,000	$10,000,000	$23,000,000

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Statement of Work (SOW) – Example

- **Cost**

	Year 0	Year 1	Year 2	Year 3	Year 4	Total
Renovations of building	$3,000,000	$0	$0	$0	$0	$3,000,000
Equipment and IT	$0	$6,000,000	$0	$0	$0	$6,000,000
Maintenance	$0	$1,000,000	$0	$4,000,000	$500,000	$5,500,000
Total Costs	$3,000,000	$7,000,000	$0	$4,000,000	$500,000	$14,500,000

- **Schedule**

Initial product design has started already. The laboratory needs to be in place as soon as possible.

- **Proposed by**

Dr. Ram Singh, Director, New Product Development

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Group Project – Statement of Work

- Your team is responsible for preparing a project management plan for written submission (Final Report).
- You can start working on your project by preparing the Statement of Work.
- The final report should include the statement of work.
- It is strongly recommended to
  - Start forming your team
  - Choose your project
  - Work on deliverables each week based on the theory discussed in the class

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Next Week

Class 2 Project Selection

- Sections 1.5, 1.6, 1.7

Assignment 1 – Project Statement of Work due in 2 weeks

- Start forming your groups

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