# ELEC3610 Course Notes

Week 2 – E-Business Project Management

Examine e-business project management as a formal engineering process

- **CMM: Capability Maturity Model**
    - Structured project management (PM) approach based on 5 levels of software process maturity i.e. initial, repeatable, defined, managed and optimising
- **UP/RUP: Unified Process/Rational Unified Process**
    - Iterative PM approach based on unified modelling language (UML)
- **Agile:**
    - Flexible PM approach that adapts to changing customer requirements

Rationale Unified Process (RUP)

- A software engineering process that provides a "disciplined approach to assigning tasks and responsibilities" for development
- Its goal is to "ensure production of high-quality software that meets the needs of its end-users, within a predictable schedule and budget"
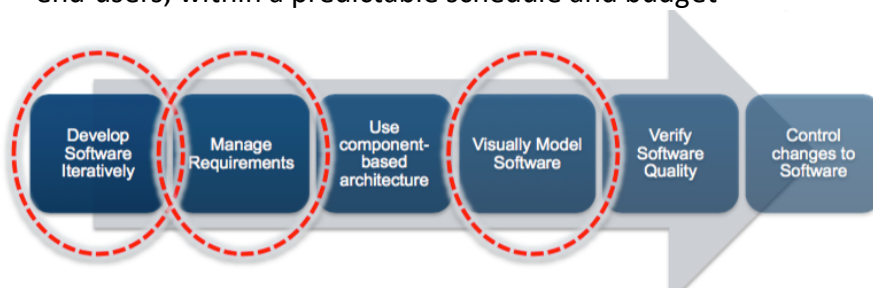
- The **UP methodology** is iterative and divides a project into four phases:
    1. Inception (proposal) → feasibility phase
        a. Approximate vision (concept), business case, scope, vague estimates
        b. Main question: does the project make sense? → establish business objectives i.e. project's high-level direction
        c. Main outcome: An analysis of the project
            i. Write a business proposal document → rationale, stats, research
            ii. Perform environmental analysis (SWOT analysis)
            iii. Define business model using Osterwalder Canvas analysis
            iv. Define project scope: business objectives, project objectives, high-level capabilities
                1. Careful project management avoids "scope creep"
                2. Scope management is essential to successful (and profitable) software project management
                3. Avoid big-bang releases where all the scope is included, instead consider iterative releases
            v. Define actors and use cases
                1. Actors are defined as all the user types that interact with the system
                2. Scenarios in a Use Case describe the sequence of actions performed by an Actor in a given interaction with the system and the system responses

2. Elaboration
    a. Refined vision, iterative implementation of the core architecture, resolution of high risks, identification of more requirements and scope, more realistic estimates
    b. <u>Main outcome:</u> a completed project plan
        i. Kano Analysis – Determining value
        ii. Personas (target users)
        iii. System functionality
            1. Detailed requirements + success criteria (functional requirements)
            2. Detailed use cases (diagrams and description including scenarios)
            3. Identification and description of Actors (context diagram)
            4. Performance requirements (non-functional requirements)
        iv. Objective: More detailed schedule of activities
        v. Complete a production plan (e.g. Gantt Chart)
        vi. Review budget and cost calculations according to derived schedule (i.e. details on revenue model)
        vii. Complete a checklist of deliverables to be checked off at the end of this phase
3. Construction
    a. Iterative implementation of the remaining lower risk and easier elements, and preparation for deployment
    b. <u>Main outcome:</u> operational software "builds"
        i. Iterations of the following loop: (analyse, design, implement, test) in order to produce functioning software that meets the requirement specification
        ii. Code reviews and usability tests between iterations in order to detect problems (early) and improve quality, consistency, efficiency and readability of the software product
4. Transition
    a. Beta tests, deployment
    b. <u>Main outcome:</u> release of the product
- Each phase has a set of deliverables that must be produced to fulfil the goals of that phase

Cover fundamental issues in defining and managing e-business projects

SWOT Analysis

Strengths
- What does the company do well?
- Is the company strong in its market?
- Does the company have a strong sense of purpose and the culture to support that purpose?

Weaknesses
- What does the company do poorly?
- What problems could be avoided?
- Does the company have serious financial liabilities?

Opportunities
- Are industry trends moving upward?
- Do new markets exist for the company's products/services?
- Are there new technologies that the company can exploit?

Threats
- What are competitors doing well?
- What obstacles does the company face?
- Are there troubling changes in the company's business environment (technologies, laws, and regulations)?

PESTLE Analysis

- **Political:** political issues, trade regulations, welfare policies
- **Economic:** interest rate, exchange rate, GFC, inflation rate, disposable income
- **Social/cultural:** demographics, ageing population, social mobility, retirement trends
- **Technology:** Advance of tech, pace of change, focus on tech & innovation
- **Legal:** any legislation, employment laws, etc
- **Environment:** climate change, carbon foot-print, waste etc.

Michael Porter 5 Forces Analysis

Osterwalder Canvas

- <u>Main objective:</u> To ascertain the structure of the entrepreneurial project
- <u>Define the relationship between:</u> Value proposition; key partners; key activities; key resources; customer relationship; channels; customer segments; revenue streams; cost structure

Key Partners 7	Key Activities 5	Value Propositions 1	Customer Relationships 4	Customer Segments 2
Web hosting companies	Build domain expertise	Clear view of resource, skill and capital usage in company	Self-service, automated services, communities, customized services	Small to medium sized businesses (20 to 1000 employees)
Human resource management companies	Software development and maintenance			
Project management companies	**Key Resources 6** Software developers Sales force Third party software	Continuous feedback to employees for performance improvement	**Channels 3** Blog and Website HR best practice forums Direct sales E-mail and phone Mailchimp.com	

Cost Structure 9	Revenue Streams 8
Software development, product hosting, sales and marketing	Subscription based service, customized software solution