Integrated Capstone

Business Case

-Lecture-

DR. Mohamed Saad Saleh
Imam Mohamed ibn Saud University
College of Computer and Information Science
Information Systems Department

March 30, 2015
Implementing Successful Technology Projects

- **Information Technology Planning Stages**
  - Information Technology Strategy Planning
  - Business Area Analysis
  - Project Planning
  - Resource Allocation

- **Results Produced**
  - Tie information technology strategy to mission and vision of organization. Identify key business areas.
  - Document key business processes that could benefit from information technology.
  - Define potential projects.
  - Define project scope, benefits, and constraints.
  - Select information technology projects. Assign resources.
Implementing Successful Technology Projects

In the words of Abraham Lincoln:

“Give me six hours to chop down a tree and I will spend the first four sharpening the axe.”
Implementing Successful Technology Projects

Buttoning down the business case

Technology projects have some unique challenges regardless of the solution being implemented...

- Overruns in budget and time;
- Expectations that are not met;
- Benefits that are not achieved;
- Unexpected costs & effort levels such as increased maintenance & support & downtime due to system failures.
Implementing Successful Technology Projects

Achieving benefits

10 do’s and don’ts of implementing technology projects

1. Do ensure engaged sponsorship at leadership and executive level.
2. Do invest in skilling up all users – and plan for this to be an ongoing process rather than a once off initiative.
3. Do ensure that users understand the business benefits of the project.
4. Do involve stakeholders in the selection process and ensure that the solution meets the business requirements - don’t allow the project to be perceived as “IT’s Project”.
5. Do ensure that business is represented by the “A Team”.
6. Don’t underestimate the costs: spend the time upfront to develop a robust business case that includes all costs – tangible and intangible.
7. Don’t try to please everyone - manage scope creep ruthlessly and manage expectations from the very beginning.
8. Don’t ignore the level of effort required for data conversion – the sooner you start the better.
9. Don’t think that the project and the project costs end when the project goes live – plan for a continued effort and continued costs and plan for the dip in productivity.
10. Don’t underestimate the impact of change management - it is vital to ensure buy-in from all stakeholders, from inception to go live and thereafter.
Managing costs

- Development of interfaces, customisation required to accommodate business requirements, scope change requests, data conversion, take on of historical data and additional reports;
- Workstations, connectivity, printers and other equipment required for new users;
- Project rooms, workstations, stationery and connectivity for project team;
- Project administration costs;
- Basic computer skills training if required;
- Solution training expenses including venues, development and production of training material and travel and accommodation;
- CPIX escalations and forex adjustments;
- Total cost of ownership such as internal and external support and maintenance costs and upgrades; and
- Finally - the internal costs to the organisation must be considered - including the time required from staff members on the project team, the time required from employees for training and the time taken to learn and adjust to the new solution, the disruption to business activities and the inevitable system downtime.
Managing costs

• Firstly - it is critical to ensure that all costs are considered

• Secondly - it is critical to prevent ‘scope creep’.

• Thirdly - it is important to remember that the project and the project costs do not end when the project goes live
Implementing Successful Technology Projects

Business case for new technologies

1) **Identify the technology/problem combination.** Actively seek the problems your technology can solve, combining market research with technology intelligence.
Implementing Successful Technology Projects

Business case for new technologies

2) Select potential customers and sales strategies. Find out who has a clear need for the technology, how much it will mean to them, and whether funds are available for it.
3) **Understand the chosen customers’ needs.**

Move the emphasis away from marketing and find out who is really in the buying centre, as it may not always be the engineering or R&D department. It is more important for the seller to understand the buyer at this point rather than vice versa.
Implementing Successful Technology Projects

Business case for new technologies

4) Develop the business case with the customer. The emerging dialogue at this stage should eliminate any mismatch between the technology and the problem: if one party feels unhappy about the process, it can be fed back to the previous step.
Implementing Successful Technology Projects

Business case for new technologies

5) Present the business case and negotiate next steps. By now, the seller is well prepared and buy-in has been established. The seller knows the customer’s requirements exactly and uses them to provide an unambiguous business case.
Implementing Successful Technology Projects

• Before the project is approved, a comprehensive business case that includes all costs and realistic benefits must be developed.

• Once approved, all employees who will be touched by the solution must be included or represented - preferably even before a solution is selected.
Implementing Successful Technology Projects

• A system integration partner who has both industry and implementation experience should be appointed.

• The analysis phase should be conducted by a team of experts including key business representatives and experienced consultants.
Implementing Successful Technology Projects

• Only after a meaningful analysis phase, can a realistic plan be developed – and maybe even a revised business case. By trying to fit an implementation into an unrealistic plan the expected benefits will not be achieved and the project will go over time and over budget - in other words the project will fail.
Integrated Capstone

Case Study Method

SFO International Airport & Quantum Secure’s SAFE System

-Lecture 4-

DR. Mohamed Saad Saleh
Imam Mohamed ibn Saud University
College of Computer and Information Science
Information Systems Department

March 30, 2015
What is a Case?

- The case here describe a real situation in which a specific decision must be made by a public or private official or manager.

- The cases summarize the various pressures and considerations that the official or manager must weight in making the decision and the often incomplete or contradictory information available at the time.
What is a Case?

- Cases could be used in two different ways:
  - The first way is as background reading or illustration to the instructor’s lecture.
  - The second way is to challenge the students to grapple with the decision maker’s dilemma, formulate a strategy and recommendation, and come to class prepared to explain and defend their recommendations.
What is a Case?

- Cases require more preparation and work on the part of the student than the usual reading assignment, particularly if they are used as the basis for a case method discussion rather than for a lecture.

- For a student to get the most out of a case and for the discussion to be fruitful, the student must immerse herself in the case and attempt to formulate her own position and strategy before class & share in discussion.
Why Use Cases?

- The case here is a real situation in which a specific decision must be made by a public or private official or manager.

- The cases summarize the various pressures and considerations that the official or manager must weight in making the decision and the often incomplete or contradictory information available at the time.
Preparing the case

- The case here is a real situation in which a specific decision must be made by a public or private official or manager.

- The cases summarize the various pressures and considerations that the official or manager must weight in making the decision and the often incomplete or contradictory information available at the time.
Reading the case

- The case here is a real situation in which a specific decision must be made by a public or private official or manager.

- The cases summarize the various pressures and considerations that the official or manager must weight in making the decision and the often incomplete or contradictory information available at the time.
Using Evidence & Numbers

- The case here is a real situation in which a specific decision must be made by a public or private official or manager.

- The cases summarize the various pressures and considerations that the official or manager must weight in making the decision and the often incomplete or contradictory information available at the time.
Informal Discussion Groups

- The case here is a real situation in which a specific decision must be made by a public or private official or manager.
- The cases summarize the various pressures and considerations that the official or manager must weight in making the decision and the often incomplete or contradictory information available at the time.
Participating in Class Discussion

- The case here is a real situation in which a specific decision must be made by a public or private official or manager.

- The cases summarize the various pressures and considerations that the official or manager must weight in making the decision and the often incomplete or contradictory information available at the time.
Case Study: SFO International Airport & Quantum Secure’s SAFE System
Case Study: SFO International Airport & Quantum Secure’s SAFE System

- In 2008 San Francisco International Airport (SFO) had announced a $383 million plan to renovate and reopen Terminal 2.

- Assistant deputy director of aviation security Kim Dickie and her team had selected “Quantum Secure’s SAFE software suite as the new Terminal 2 credentialing system, but she need to develop a business case quickly that would convince senior management to give the green light to fund the purchase.
Case Study: SFO International Airport & Quantum Secure’s SAFE System

The case lays out the areas in which SFO might receive some value by purchasing the SAFE solution from Quantum secure, including:

- Labor cost savings
- Material cost savings
- Recordkeeping accuracy savings
- Increased compliance and compatibility cost savings
Case Study: SFO International Airport & Quantum Secure’s SAFE System

- Labor cost savings

<table>
<thead>
<tr>
<th>Onboarding labor costs</th>
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<tbody>
<tr>
<td>Current time cost (labor hours)</td>
<td>6</td>
</tr>
<tr>
<td>New time cost (labor hours)</td>
<td>0.33</td>
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<tr>
<td>Savings (labor hours)</td>
<td>5.67</td>
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<tr>
<td>Hourly cost of labor</td>
<td>$8.00</td>
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<tr>
<td>Dollar savings per user</td>
<td>$45.33</td>
</tr>
<tr>
<td>Users</td>
<td>2,000 2,200 2,420 2,662 2,928</td>
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<tr>
<td>Dollar savings from onboarding</td>
<td>$ 90,667 $ 99,733 $ 109,707 $ 120,677 $ 132,745</td>
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<table>
<thead>
<tr>
<th>New badge processing costs</th>
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<tbody>
<tr>
<td>Toronto ID processing cost reduction (%)</td>
<td>28.6%</td>
</tr>
<tr>
<td>SFO current badge processing cost</td>
<td>$44.00</td>
</tr>
<tr>
<td>SFO savings per badge processed</td>
<td>$12.57</td>
</tr>
<tr>
<td>Users with new badges processed</td>
<td>2,000 4,500 4,500 4,500 4,500</td>
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<tr>
<td>SFO savings on badge processing</td>
<td>$ 25,143 $ 56,571 $ 56,571 $ 56,571 $ 56,571</td>
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<table>
<thead>
<tr>
<th>Ongoing identity management activity costs</th>
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<tr>
<td>Reduction in labor time spent on identity management</td>
<td>35.0%</td>
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<tr>
<td>Hourly cost of labor</td>
<td>$8.00</td>
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<td>Hours spent annually per user on identity management</td>
<td>0.25</td>
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<td>Dollar savings per user</td>
<td>$0.70</td>
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<tr>
<td>Users</td>
<td>20,000 21,000 22,050 23,153 24,310</td>
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<tr>
<td>Dollar savings from ongoing identity management activity costs</td>
<td>$ 14,000 $ 14,700 $ 15,435 $ 16,207 $ 17,017</td>
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</table>
Case Study: SFO International Airport & Quantum Secure’s SAFE System

- Material cost savings

<table>
<thead>
<tr>
<th>Material costs savings</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
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</thead>
<tbody>
<tr>
<td>Cost of new badges</td>
<td>$7.00</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>New badge purchases avoided through purchase of SAFE</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
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<tr>
<td>Total cost savings from reduced new badge purchases</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td></td>
</tr>
<tr>
<td>Incremental badges made unnecessary</td>
<td>2,000</td>
<td>4,000</td>
<td>8,000</td>
<td>10,000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Percentage of badges lost each year</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td></td>
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<tr>
<td>Badge losses avoided</td>
<td>160</td>
<td>320</td>
<td>640</td>
<td>800</td>
<td>0</td>
<td></td>
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<tr>
<td>Cost of lost badge</td>
<td>$2.00</td>
<td>$2.00</td>
<td>$2.00</td>
<td>$2.00</td>
<td>$2.00</td>
<td></td>
</tr>
<tr>
<td>Lost badge savings</td>
<td>$320.00</td>
<td>$640.00</td>
<td>$1,280.00</td>
<td>$1,600.00</td>
<td>$0.00</td>
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Case Study: SFO International Airport & Quantum Secure’s SAFE System

- Recordkeeping accuracy savings

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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<tbody>
<tr>
<td>Labor hours spent each month on error detection</td>
<td>56</td>
</tr>
<tr>
<td>Hourly cost of labor hour</td>
<td>$8.00</td>
</tr>
<tr>
<td>Reduction in labor hours spent on detection</td>
<td>80%</td>
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<tr>
<td>Savings in monthly labor hours</td>
<td>44.8</td>
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<tr>
<td>Annual labor hour savings</td>
<td>$4,300.80</td>
</tr>
<tr>
<td>Value of labor savings</td>
<td>$4,300.80</td>
</tr>
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</table>
Case Study: SFO International Airport & Quantum Secure’s SAFE System

- Increased compliance and compatibility cost savings
  - Both are very real benefits, but are impossible to quantify given the information in the case.
Case Study: SFO International Airport & Quantum Secure’s SAFE System
Case Study: SFO International Airport & Quantum Secure’s SAFE System

Exhibit 2: Airport Badging: Current Manual Process and Implications

**Manual processes currently implemented through paper-based forms and through multiple systems**

- **Application Submission**
  - **Authorized Signer**
  - Fills paper-based forms

- **Review Application and File Docs**
  - **Badging Office**
  - Reviews the application and requested privileges
  - Verifies and validates the docs

- **Fingerprinting**
  - **Badging Office**
  - Enrolls user in LiveScan system
  - Completes applicant fingerprinting

- **Security Check (STA, CHRC)**
  - **Badging Office**
  - Prepares data for STA/CHRC
  - Submits data to TSC and collects results

- **Training Verification**
  - **Badging Office**
  - Notifies applicant to complete training
  - Collects training status from training system

- **Badge Issuance**
  - **Badging Office**
  - Prints badge for the applicant
  - Notifies applicant/AS to collect badge

- **Access Provisioning**
  - **Badging Office**
  - Manually enters applicant, credential and assigned areas in multiple access control systems

**RESULTING IMPLICATIONS**

- Data entry errors
- Data re-entry, Manual verification
- Duplicate records
- Limited tracking/audit
- Delays
- Data re-entry
- Data entry errors
- Data re-entry, Manual verification of results
- Manual determination of required clearances
- Manual notifications and delays
- Manual verification of results
- Manual notifications, delays and applicant authentication
- Manual check of pre-requisites completion
- Data entry errors — unauthorized access
- Data re-entry into multiple PACS
Case Study: SFO International Airport & Quantum Secure’s SAFE System
Case Study: SFO International Airport & Quantum Secure’s SAFE System

Exhibit 4: Airport Badging: Automated Process with SAFE for Aviation

- Online application submission
- Review App and Upload Docs
- Fingerprinting
- Security Check (STA, CHRC)
- Training Verification
- Badge Issuance
- Access Provisioning

Benefits with SAFE for Aviation:
- Minimizes risk of duplicate records
- Eliminates data entry errors
- Eliminates data re-entry
- Complete application tracking
- Reduces risk through automated validation of application and docs
- Automates data exchange and eliminates data entry and errors
- Eliminates data re-entry and automates STA/CHRC check
- Automatically selects the clearances needed
- Automates data exchange with training system and eliminates delays and errors
- Enforces compliance by enabling badge issuance only after prerequisites are completed
- Facilitates credential management
- Eliminates data entry into PACS
- Minimizes risk emanating from erroneous entry into PACS
Summary
Questions

- Who is the decision maker in this case, and what is their position and responsibilities?
- What appears to be the issue (of concern, problem, challenge, or opportunity) and its significance for the organization?
- Why has the issue arisen and why is the decision maker involved now?
- When does the decision maker have to decide, resolve, act or dispose of the issue? What is the urgency to the situation?