

Development Frameworks and Methods

Coursework

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Section A: Management Summary

The case study tells us that the Management Consultant, Max Payne, has decided to recommend one of the approaches associated with Agile Methods to the Chief Executive Officer of CBC. The Agile Method that Max has recommended to the Chief Executive is called DSDM Atern.

Max Payne analyzed clearly in general company view part and IS development function view part. In the first part, he mentioned about problem of disagreement between executive board and the day-to-day management group and the main reason is the operational combination when CBC bought out its main rival (SAL). In each company has its own culture and when two distinct organizational cultures integrated, it will appear the conflict in the process of working as well as positions of members in company. Therefore, communication problem is always a major reason on projects failing. And Max Payne has decided to use the Atern framework in order to help people work effectively together to achieve the business goal. There are some ways that Atern recommends to use to improve project communication that are the Facilitated Workshop, modeling, prototyping. We already knew that DSDM is based on Rapid Application Development which emphasizes the method to develop a system with high quality and low cost in a fastest way. In this case, Max Payne use DSDM Atern framework to build a new IS system for CBC and Prototyping might be the first technique that he applies to demonstrate and evaluate the new system. Through this visualization, it will help users can determine requirements better and users are more likely to have interaction on the solution as they are part of it. Not like in traditional system analysis, users only saw their information system at the point of implementation, it means that users might not understand the process and it leads to the reason why system doesn't always do what the users were expecting to do.

Furthermore, Max Payne also uses the Facilitated Workshop technique to achieve consensus among the executive board and managers on system requirements. This technique helps him gather all ideas in the workshop and specify high level requirements from the diverse range of stakeholders. DSDM's focus on collaboration, facilitation and stakeholder engagement helps ensure that everyone work together and any misunderstandings or disagreements are made visible and can be sorted out at the workshop, therefore any issues have been raised and resolved or noted for action after this workshop.

Other problems that Max Payne raised on his report are that system requirements are not being met and the shortage workforce in relation to system support and local business knowledge because of the resignation of 20% of IT department. There are some development methodologies are used in the organization such as: object oriented, RAD, structure approach... However, there is no organization standard for a development environment, no clear guidelines on how development methodologies should be applied. He will need a plan to rebuild the team in IT department and make them understand the concept of DSDM Atern. And this framework will help them to define a new process on developing new system. For example they can use timeboxing technique and iterative approach to develop each part of the project. A fixed deadline is necessary for every functionality which is agreed by users and developers. After that they can decided which functions should be developed first, it means that they have to prioritize their priorities. Each functions will be an iterative process, it will help them keep high quality for each part of the product.

Finally, DSDM Atern framework which is recommended by Max Payne will help CBC define a right process on developing new system. It will firstly solve the problems relate to human interaction. Executive board and day-to-day management group can come to a compromise which make everyone feel satisfy when working together and the individual performance of each person will be improved. A good combination of people with an appropriate developing methodology will help company achieve the business goal. Everyone has defined the new system requirements which are focus on the business needs such as placing order, querying order.

Outline the advantages/drawbacks:

There are some advantages and disadvantages when using DSDM Atern framework:

***Advantages:**

- have a good process with techniques: Facilitated Workshop, Prototyping, Modeling...
- helping people work effectively together to achieve the business goal
- define high level of user requirements quickly
- Users are likely to like interaction with the solutions
- keep high quality, fastest way when working on each part of project separately
- Final solution is more likely to meet the users' real business requirements

***Disadvantages:**

- CBC is a big company with many different levels of manager and a lot of requirements, it's hard to manage or come up an agreement requirement.
- training people to work with the right process which is defined as organization standard for a development environment takes times.
- Assign right person for the each role to build a good team is not easy because it depends on so many aspects: characteristic, culture, hobbies...

Section B: High level requirements analysis and MoSCoW prioritization

B1. Review the 'high level requirements' list given at the end of Appendix B

B1.1. Identify the non-high level requirements from that list.

1. Improve the facility to track orders and shipping.
It's not high level requirement because it's just a general idea not a specific function that can be delivered. However if it shows how to improve the facility clearly then it could be a high level requirement. For example: Implement search function to find orders, shipping agents on order screen.
2. Placing orders should be hassle-free with one-click ordering options.
It's just a desire idea of help users order products quickly. It should be like this 'implement function drag & drop products in shopping cart and store in current session of user to help them check and submit order quickly'.
3. Improve the quality of data used to analyze sales.
It's not a function that can be delivered. The phrase 'quality of data' doesn't make any sense.
4. Link with social media for marketing purposes.
It's not a specific function that can be put into a timebox. It could be 'Implement share function which use Facebook api, Twitter api to allow users to share our products on their own pages'.
5. Ordering and tracking should be quick and easy.
6. Ordering and tracking orders must be easy.
Both of two requirements are not high level requirement, the same reason with number 1.
7. Data integrity and secure is paramount.
8. Be transparent about data collection related to sales and customers.
Both of two requirements cannot be delivered to user. It does not explain how to implement or how it relates to the system. It could be 'Design database for Customer, Order – data entry, querying, updating'. It should be more specific and product-based.
9. Making payments should be safe and secure.
This idea is good but cannot be a function. It should be 'System acceptance of payment via credit/debit card'.
10. The system must be able to give me an overview of sales over different sectors.
This requirement is quite general and need to be more specific like a function. It could be 'Implement a function that help to produce report to compare sales over different sectors'.

11. The system should do automatic marketing that aligns with a customer's spending.
It's just a low level requirement and need to be more clearly. For example: Automatic summarizes top 100 customer's spending for marketing purposes.
12. The system should be brand new and should not reflect the former of either CBC or SAL
This requirement is too general, need to be more detail. For instance: Design new user interface with flat design.
13. Could we also have a mobile application for ordering and tracking?
It's not really a requirement; it's just a suggestion of developing mobile app for the future. And it does not focus on the main purpose of building system for telesales staff and web access.

B1.2. Rewrite the list to include between 8-10 high level requirements by using the information which are gathered from the case study.

1. Ensure that each sector can see only products related to their industry on website.
Customers will be able to browse the on-line catalogue and select products/quantities.
2. Customers should be able to set up automatic reordering (can we integrate with their system?)
Reordering of cleaning products from the manufacturers must be an automated process. Pre-defined reorder levels should automatically trigger purchase orders to the chemical manufacturers.
3. Telesales staff should see the exact same information as person logging into system. Everyone should use the same system.
An electronic interface, such as the Web, would be a popular method of ordering/querying an order for some customers. Where customers do not have Web access, they must be given the same service via telesales staff at CBC.
4. Facility for customer to easily return products that they are unhappy with.
A customer must be able to cancel an order if that order has not yet been sent for shipping.
The system must notify the shipping agent (e.g. Parcel force/DHL) as soon as the order is fulfilled and ready for despatch.
5. The website must have search facility to find products.
This is always helpful with customers to find which product they want to order.
6. Send messages to customers informing them of order information, such as shipping and delivery
The system must show for a particular order, which products have been despatched, which are in the process of being despatched and which (if any) are unobtainable. The query must also show the shipping agent used and the type of delivery (1 day, 3 day, and 1 week).

7. System acceptance of payment via credit/debit card or third-party companies and system should allow users to purchase products online.
This function is very important because users will know to pay for their orders. May be using famous third party company can make users feel safe and secure.
8. Automatic back-up of database on every transactions, orders.
Database plays an important role on how managers evaluate the business and a lot of data like orders, customer information, transactions...

B2. Use the MoSCoW rules to prioritize the requirements in the updated 'high level requirements list'.

B2.1. Produce an updated 'high level requirements list'

1. Ensure that each sector can be see only products related to their industry on website
2. Monitor customer orders for marketing purposes and statistical analyses
3. Customers should be able to set up automatic reordering
4. Log telestaffs activity to ensure they are effectively used
5. Telesale staff should see the exact same information as person logging into system. Everyone must use the same system
6. A facility to compare revenue generated by different sectors
7. Facility for customers to easily return products that they are unhappy with
8. Telesale staffs and web orders should both enter data into the same system
9. Produce detailed weekly, monthly, annual sales reports and the option to differentiate between web and telephone sales
10. The system should allow for clients to rate and give feedback on products which will displayed when a product is viewed
11. The website must have search facility to find products
12. Send messages to customers informing them of order information, such as shipping and delivery
13. System acceptance of payment via credit/debit card or third-party companies and system allows users to purchase products online.
14. Automatic back-up of database on every transactions, orders

B2.2. Explain for the prioritization the requirements

1. Must Have
 - + Ensure that each sector can be see only products related to their industry on website
 - + The website must have search facility to find products
 - + System acceptance of payment via credit/debit card or third-party companies and system allows users to purchase products online.
 - + Facility for customers to easily return products that they are unhappy with

- + Telesale staff should see the exact same information as person logging into system
- + Telesale staffs and web orders should both enter data into the same system
- + Send messages to customers informing them of order information, such as shipping and delivery
- + Automatic back-up of database on every transactions, orders.

All the 'must have' functions which have been prioritized above are to make sure this system will work stable from the view of users. When they go to the website, they can see all products which have been categorized clearly. Then they can find particular products with search function. If users are happy with products and want to buy, they will care about the payment type, shipping type. After that, they will be informed about the order information and when they will receive products. However, they can also return the products if they are not happy with. All the data of system must be integrity and updated both on website and on telesales. This is to make sure there is no conflict between website users and telesales staffs. Finally, function automatic backup-database is to keep data secure because data is always important with system.

2. Won't Have

- + Log telestaffs activity to ensure they are effectively used
- + Monitor customer orders for marketing purposes and statistical analyses
- + Produce detailed weekly, monthly, annual sales reports and the option to differentiate between web and telephone sales

This system focus on the business needs which are "order products" and "track orders". There is no need to log activities of telestaffs and produce any kind of reports. The main purpose of this system is selling products then it would be wasted time to implement these functions.

3. Should Have

- + Customers should be able to set up automatic reordering
- + The system should allow for clients to rate and give feedback on products which will displayed when a product is viewed

After finish implementing all 'must have' functions, two functions above should be considered to improve the interaction between users and system. For familiar customers, they can easily set up order monthly by using automatic reordering function. Moreover, users can rate and give feedback on products which helps company know how it should improve quality of products.

4. Could Have

- + A facility to compare revenue generated by different sectors

This function could have finally if the team still had time to develop. It could help company know which sector brings more profits and they can invest more in this sector as well as improve other sectors.

Section C: Legal, Social, Ethical and Professional issues

C1. Produce a management summary explaining why the organization needs a Data Controller

A data controller is the individual or the legal person who controls and is responsible for the keeping and use of personal information on computer or in structured manual files. Data controllers can be either individuals or legal persons such as companies, Government Departments and Voluntary organizations. In this case, CBC is an organization which keeps the data of client's information included personal detail, transactions, orders and also company's employees' information. Therefore, CBC needs a data controller because the organization has responsibilities for all the collected data and need to register with the Data Protection Commissioners. CBC has to make sure that the company follows 8 data protection principles:

- Obtain and process information fairly
- Keep it only for one or more specified, explicit and lawful purposes
- Use and disclose it only in ways compatible with these purposes
- Keep it safe and secure
- Keep it accurate, complete and up-to-date
- Ensure that it is adequate, relevant and not excessive
- Retain it for no longer than is necessary for the purpose or purposes
- Give a copy of his/her personal data to an individual, on request

Data protection registration is to ensure the business is compliant and company does not have to pay any potential fines. Moreover, the management of data and storage of information will be better handled with knowledge of the law. The company can also expose with their customers that all the data they share to company could be personal information or even credit card details which will be handled and kept in a secure process. Especially, CBC and customers always have transactions or relate to credit card details if CBC has its own payment service then information of customers is very important. However, the company needs to train employees to follow the process, make sure they understand customers' data need to be secured. If any kind of customers' information is revealed without permission for any business purpose, then the company can be fined a lot of money for breaking data protection law and it could be a reason why company lost their loyal customers. According to the case study, the IS system of CBC will provide service for customers with Web access and non-Web access, also using automated process to order products. Therefore, the IS system will have to deal with a lot of orders and transactions at once, the system need to make sure that all the transactions proceed accurately and the data is kept up-to-date. Just some minor mistakes which make the order have wrong quantities or wrong delivery date, this will affect customer's interests as well as the quality of the system. In conclusion, to be a Data Controller brings both advantages and disadvantages to the organization. If the companies have the right process and always follow the law, it helps them to get customer faith in protecting data; otherwise they have to deal fines for the breaches of data protection.

C2. Produce a management summary outlining the purpose of the BCS Code of Conduct.

The BCS Code of Conduct sets out the professional standards required by the Society as a condition of membership. It applies to members of all grades, including students, and affiliates, and also non-members who offer their expertise as part of the Society's Professional Advice Register. The Code governs your personal conduct as an individual member of the BCS and not the nature of business or ethics of the relevant authority. And a System developer contracted to CBC may need to consider that you will have your right and your responsibility.

In the first part of the Code – Public Interest, when you work for any company and sign in the contract, it should include public health care and security in working environment. However, you need to comply with the regulations, rules of the company so you should make sure that you have knowledge and understanding of relevant legislation, regulations and standards. Therefore, you will know how you are protected by the law. In working environment, you are treated with dignity and respect as other colleagues without the discrimination of race, color, ethnic origin and sexual orientation. Moreover, you should reject any offer of bribery or inducement because you can be fired if someone notifies managers. For example, in my old company, there was a man who worked as a senior developer, he felt not fair with the policies of the company and he had induced his colleague to quit some projects then the company could be bankrupt. However the managers knew about his plan and investigated through his email, it was true and he was fired.

The second part of the Code is 'Professional Competence and Integrity', it mentions about your responsibility not only for your work but also the work of colleagues. In your work, you should upgrade your professional knowledge, skills and competence on a continuing basis as well as helping your colleagues work more professional. For example, my manager who had worked with me, he was a project manager and he helped his colleagues a lot. He always encouraged me to read more documents that related to the job, when we had discussion, he listened to my solution as well. I think a good manager is the one who gives you challenges and encourage you to work better after these challenges because everyone feels happy when they overcome challenges.

The Code also mentions about 'Duty of Relevant Authority', if there is any conflict of interest between you and your relevant authority, you should avoid this situation. In working time, if you cannot finish your task with their requirements, you should advise your relevant authority as that they can have another plan to reduce your tasks, or get someone to help you. For instance, in my old company, all projects were managed on a system call JIRA, each project could be separated into phases and phases were broken into small tasks called issues. From the system, project manager (PM) could assign issues to developers, testers and designers. However, some major issues could be assigned to one person sometimes. If he knew that he could not finish his issues before deadline, he would have discussed with PM to find solutions.

Final part of the Code of Conduct is Duty to the Profession. It's about your responsibility when you are a member of BCS. You need to share your knowledge and understanding of IT and support inclusion of every sector of society. You should encourage and support fellow members in their professional

development. For instance, if you have worked in IT area for a long time and have a lot of experience. As a professional person, you should share your experience with new members or even help student members as a supervisor. You can help them reach to the next level of their career and also encourage them to follow this code of conduct.

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