

**COMP1787:**

**REQUIREMENTS MANAGEMENT**

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**Section A: Management Summary**

1. **Business goals**

* **Introduction**: Green Groceries is a medium-sized company dedicated to offering organic and locally sourced grocery products. Their commitment to sustainability and supporting local farmers has earned them a strong reputation over the past five years. Now, Green Groceries aims to expand its market reach and make sustainable products more accessible by launching an online platform within the next three months.

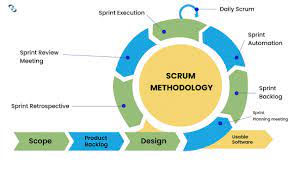
To achieve this goal, Green Groceries has opted to outsource the development of their online platform to System Concepts (SC), a software development company. Given their past challenges with traditional project management methodologies like the waterfall model, Green Groceries has chosen to embrace a more flexible and iterative approach. They've decided to adopt SCRUM and Agile concepts to ensure a more efficient and adaptable development process.

By partnering with SC and leveraging SCRUM and Agile principles, Green Groceries is poised to not only realize their business goal of launching an online platform but also to do so in a way that fosters innovation, responsiveness to customer needs, and sustainability. This strategic decision reflects their commitment to staying at the forefront of the industry while remaining true to their core values of environmental responsibility and community support.

1. **Methodologies, framework and Agile**

* **Scrum**

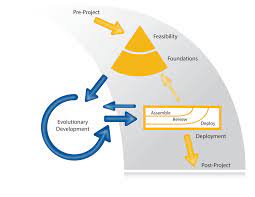
Scrum is an agile project management framework known for its iterative and incremental approach. It divides projects into short cycles called sprints, typically lasting 2-4 weeks, where teams focus on delivering a potentially shippable product increment. Scrum emphasizes collaboration, transparency, and adaptation, with defined roles like Product Owner, Scrum Master, and Development Team. Through events like Sprint Planning, Daily Stand-ups, Sprint Reviews, and Retrospectives, Scrum enables teams to regularly inspect and adapt their progress, fostering continuous improvement and delivering value to stakeholders efficiently.



Hình 1: Scrum

* **DSDM**

DSDM (Dynamic Systems Development Method) is another agile project management framework focused on delivering high-value solutions iteratively and incrementally. Like Scrum, it emphasizes collaboration, adaptability, and delivering frequent increments of working software. DSDM also employs time-boxed iterations, called "timeboxes," to structure the work and ensure regular delivery. Roles in DSDM include Business Sponsor, Business Visionary, and Technical Coordinator, among others, with an emphasis on business-driven development. DSDM events include Feasibility Study, Foundations, and Evolutionary Development, facilitating continuous feedback and adaptation throughout the project lifecycle.



Hình 2: DSDM

It prioritizes close collaboration between business and technical teams, ensuring that projects align with business objectives and respond effectively to changing requirements. DSDM promotes iterative development through its time-boxed approach, allowing teams to deliver increments of functionality within fixed timeframes.

Overall, DSDM provides a structured approach to agile delivery, promoting collaboration between business and technical teams to deliver valuable solutions effectively.

|  |  |
| --- | --- |
| Strength | Weaknesses |
| * Focus on Business Needs: DSDM places a strong emphasis on aligning project objectives with business goals, ensuring that the delivered solution adds tangible value to the organization. * Iterative and Incremental Approach: Like other Agile methodologies, DSDM uses iterative and incremental development, allowing for early delivery of functionality and continuous feedback from stakeholders. * Stakeholder Collaboration: DSDM promotes active involvement of stakeholders throughout the development process, ensuring that their feedback is incorporated and the final product meets their expectations. * Emphasis on Timeboxing: DSDM uses timeboxing to structure the project into fixed timeframes, promoting discipline and focus on delivering prioritized features within the specified time constraints. | * Complexity in Large Projects: DSDM may face challenges in scaling to large or complex projects, as maintaining coordination and communication among multiple teams can be difficult. * Dependency on Stakeholder Availability: Like other Agile methodologies, DSDM relies on active participation and availability of stakeholders, which can be a challenge in organizations where stakeholders are not readily accessible. * QDocumentation Overhead: While DSDM emphasizes delivering working software, it also requires documentation to support the development process, which can add overhead and may be perceived as unnecessary in some contexts. |

* **Agile**

Agile methodologies, including Scrum, DSDM, and others, have gained popularity due to their ability to address many of the challenges associated with traditional project management approaches. One of the main reasons why Agile is considered appropriate is its iterative and incremental nature, which allows for flexibility and adaptability throughout the project lifecycle. By breaking down projects into smaller, manageable chunks, Agile enables teams to deliver value early and frequently, facilitating faster feedback loops and reducing the risk of project failure.

* **Advantages of Agile:**
* **Flexibility and Adaptability**: Agile methodologies embrace change, allowing teams to respond quickly to evolving requirements or market conditions.
* **Customer Collaboration**: Agile encourages close collaboration with customers or stakeholders throughout the development process, ensuring that the final product meets their needs.
* **Early and Continuous** Delivery: Agile promotes delivering working increments of the product early and frequently, providing tangible value to stakeholders and enabling early validation.
* **Improved Quality**: Agile focuses on continuous improvement and quality assurance through practices like regular testing, code reviews, and retrospectives.
* **Enhanced Team Morale**: Agile empowers teams by giving them autonomy, fostering a sense of ownership, and promoting a culture of collaboration and trust.
* **Disadvantages of Agile:**
* **Requires Experience and Discipline**: Agile requires a certain level of experience and discipline from team members to effectively implement its practices and principles.
* **Embracing Change Can Be Challenging**: While Agile welcomes change, managing frequent changes can be challenging for some teams, leading to scope creep or instability.
* **Documentation May Suffer**: Agile often prioritizes working software over comprehensive documentation, which can be a disadvantage in highly regulated industries or environments that require extensive documentation.
* **Dependency on Customer Availability**: Agile relies on close collaboration with customers or stakeholders, and their availability and involvement can impact the progress of the project.
* **Not Suitable for All Projects**: While Agile is well-suited for software development and other dynamic projects, it may not be the best approach for projects with strict requirements or well-defined deliverables upfront.

Overall, Agile methodologies offer numerous benefits, including flexibility, customer collaboration, and early delivery of value. However, they also come with challenges that teams must address to realize the full potential of Agile practices.

1. **What is applied framework? Why? Advantages and Disadvantages?**

The SC company's decision to adopt the DSDM Atern framework could be influenced by various external factors beyond the framework's inherent advantages and disadvantages. One significant consideration might be industry standards and compliance requirements, where DSDM Atern's adaptive nature aligns well with the need for flexibility in responding to changing regulations or market demands. Additionally, observing market trends and peer adoption within the industry could signal that DSDM Atern has become a standard practice, prompting the SC company to follow suit to remain competitive. External recommendations from consultants or Agile experts may have also played a role, particularly if their analysis of the company's needs and project requirements deemed DSDM Atern as a suitable fit.

Here are some potential reasons why they might have chosen this framework:

* **Industry Standards and Compliance**: The industry in which the SC company operates might have specific standards or compliance requirements that align well with DSDM Atern. For instance, if the industry requires a flexible approach to accommodate changing regulations or market demands, DSDM Atern's adaptive nature could be a perfect fit.
* **Market Trends and Peer Adoption**: The SC company might have observed that competitors or peer organizations in the industry are successfully implementing DSDM Atern or similar Agile frameworks. This could indicate that DSDM Atern is becoming a standard practice within the industry, prompting the SC company to follow suit to stay competitive.

Down here are advantages and disadvantages of it:

* **Advantages of DSDM Atern:**
* **Focus on Business Value**: DSDM Atern places a strong emphasis on delivering business value by prioritizing features that directly contribute to organizational objectives. This aligns well with the SC company's goal of maximizing value for its stakeholders.
* **Iterative and Incremental Delivery**: DSDM Atern's iterative and incremental approach allows the SC company to deliver functionality early and frequently, enabling quick validation of requirements and early feedback from stakeholders.
* **Collaboration and Stakeholder Involvement**: DSDM Atern promotes active involvement of stakeholders throughout the development process, ensuring that their needs and expectations are continually addressed and incorporated into the solution.
* **Disadvantages of DSDM Atern:**
* **Learning Curve**: Adopting DSDM Atern may require training and a cultural shift within the organization, which could pose challenges for team members who are accustomed to traditional project management approaches.
* **Dependency on Stakeholder Availability**: Like other Agile methodologies, DSDM Atern relies on active participation and availability of stakeholders, which could be a challenge if stakeholders are not readily accessible or engaged.
* **Complexity in Large Projects**: DSDM Atern may face challenges in scaling to large or complex projects, as maintaining coordination and communication among multiple teams could become difficult.

**Section B: High level requirements analysis and MoSCoW prioritization**

Down here is all the base lined list requirements for the website:

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| --- | --- |
| ID | Requirements |
| 1 | As an Order Handling Clerk, I want to use the website to process telephone purchases, replacing the paper-based system. |
| 2 | Maintain at least 20 office plants as part of the company's commitment to a green and healthy workspace. |
| 3 | As a customer, I want to be able to change my account details to ensure my most up-to-date information is recorded. |
| 4 | Organize a virtual celebration on the website for the CEO's birthday to showcase the company's fun and friendly culture. |
| 5 | As the Managing Director I want to be ensured that the site is Data Protection Act safe so that we do not get fined hundreds of thousands of pounds. |
| 6 | As a customer register an account. |
| 7 | As a Customer I want a choice of delivery slots so that I can arrange my diary appropriately. |
| 8 | As a customer, I want to be able to modify my shopping cart so that I can change my mind about what I want to buy. |
| 9 | The company should adopt pet-friendly policies to create a positive and inclusive work environment. |
| 10 | The system must be designed to handle a 30% increase in traffic during peak periods without degradation in performance. |
| 11 | As a customer, I want to enter separate delivery and invoice addresses so that I can receive bags when staying at a friend’s house. |
| 14 | As a customer, I want to choose whether or not I am sent marketing information to avoid receiving excessive junk mail. |
| 15 | All user data, including personal information and payment details, must be encrypted to ensure the highest level of security. |
| 16 | Maintain consistent branding elements and design across the website to reinforce their brand identity. |
| 17 | The development team should participate in a team-building event every quarter to foster collaboration and a positive work environment. |
| 18 | As the Marketing Director I would like an offers or discount page so that we can inform our customers of the aforementioned. |
| 19 | As the Chief Accountant I want to the Web site to adhere to legislation regarding VAT so we are not hit with a hefty fine. |
| 20 | As the Operations Director, I want to accept all forms of payment to capture the largest market possible. |

1. **B1.1 - Identify any of the requirements that you feel are not appropriate to be considered at high level requirements, giving your reasons for this.**

|  |  |  |  |
| --- | --- | --- | --- |
| ID | Requirement detail | FR/N-FR | Reason |
| GG-2 | Employees would like to have a heathy workspace and 20 office plants | NFR | This requirement presents specific preferences rather than high-level requirements. While it acknowledges the desire for a healthy workspace and the inclusion of office plants, it lacks the broader context necessary for effective implementation and prioritization within the organization. High-level requirements typically outline overarching objectives and goals, providing a comprehensive framework for decision-making and resource allocation. In contrast, this statement focuses on individual preferences without considering factors such as budget constraints, feasibility, or alignment with organizational priorities. Without further clarification and refinement, it may be challenging to translate these preferences into actionable and scalable solutions that effectively contribute to the overall success of the workplace environment. |
| GG-4 | Organize a virtual celebration on the website for the CEO's birthday to showcase the company's fun and friendly culture. | FR | The requirement to organize a virtual celebration for the CEO's birthday doesn't align with the organization's broader goals or the primary aim of the online platform. Instead, the focus should be on sharing the company's culture in a way that benefits the organization as a whole. This could be achieved by incorporating such celebrations into the activities section of the website, leaving room for more strategic developments in future phases. |
| GG-5 | As the Managing Director I want to be ensured that the site is Data Protection Act safe so that we do not get fined hundreds of thousands of pounds. | NFR | The requirement for ensuring the site's compliance with data protection laws, like the Data Protection Act, to avoid hefty fines is a nonfunctional requirement (NFR) crucial for safeguarding sensitive information. While modern protocols like HTTPS already offer encryption during data transfer, and development frameworks provide encryption for storing sensitive data, ensuring compliance involves more than encryption. It also encompasses aspects like data access control, user consent mechanisms, and regular audits. Thus, while encryption is a vital component, broader considerations are necessary to fully meet the requirement and mitigate legal risks effectively. |
| GG-7 | As a Customer I want a choice of delivery slots so that I can arrange my diary appropriately. | FR | Providing customers with a variety of delivery slots addresses the challenge of accommodating diverse schedules in a global market context. While not explicitly stated in the project's primary aim, this feature is crucial for expanding market accessibility and integrating third-party delivery services effectively. By offering flexibility in delivery options, the project aims to enhance customer satisfaction and competitiveness, thereby contributing to its overarching goal of broadening market reach. |
| GG-9 | The company should adopt pet-friendly policies to create a positive and inclusive work environment. | NFR | Implementing pet-friendly policies to foster a positive and inclusive work environment aligns with performance optimization goals, albeit not deemed essential for the initial prototype. However, as the project evolves, such policies could enhance employee satisfaction and productivity over time. |
| GG-10 | The system must be designed to handle a 30% increase in traffic during peak periods without degradation in performance. | NFR | Ensuring the system can accommodate a 30% surge in traffic during peak periods without performance degradation is vital from a technical standpoint. This requirement aligns with modern development frameworks that support scalability and robust performance, mitigating potential issues associated with increased traffic loads. |
| GG-15 | All user data, including personal information and payment details, must be encrypted to ensure the highest level of security. | NFR | Encrypting all user data, encompassing personal information and payment details, is imperative for maintaining the highest level of security, especially from a technical perspective. This requirement aligns with modern development frameworks that readily support encryption protocols, ensuring robust protection against unauthorized access and data breaches. |
| GG-16 | Maintain consistent branding elements and design across the website to reinforce their brand identity. | NFR | The requirement to maintain consistent branding elements and design throughout the website is crucial for reinforcing brand identity, particularly in the realm of UI/UX design. Although not explicitly defined with established standards, this requirement aligns with the ongoing refinement of brand identity over time. By ensuring visual coherence and alignment with brand values, the website can effectively convey a cohesive brand image to users, contributing to a positive and memorable user experience. |
| GG-17 | The development team should participate in a team-building event every quarter to foster collaboration and a positive work environment. | NFR | Integrating quarterly team-building events for the development team serves as a project management strategy to cultivate collaboration and a supportive work atmosphere. While not directly tied to business goals, fostering positive team dynamics enhances productivity and morale, indirectly benefiting project outcomes and overall organizational success. |

**B1.2 - List of requirements needed to build system**

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| --- | --- | --- | --- |
| **Requirements ID:** | **Requirement Description** | **FR/NFR** | **Reason** |
| GG-1 | As an Order Handling Clerk, I want to use the website to process telephone purchases, replacing the paper-based system. | FR |  |
|  | As a customer, I want to be able to change my account details to ensure my most up-to-date information is recorded. | FR |  |
|  | As a customer register an account. | FR |  |
|  | As a customer, I want to be able to modify my shopping cart | FR |  |
|  | As a customer, I want to enter separate delivery and invoice addresses | FR |  |
|  | As a customer, I want to choose whether or not I am sent marketing information | FR |  |
|  | As the Marketing Director I would like an offers or discount page so that we can inform our customers of the aforementioned | FR |  |
|  | As the Chief Accountant I want to the Web site to adhere to legislation regarding VAT so we are not hit with a hefty fine. | FR |  |
|  | As the Operations Director, I want to accept all forms of payment | FR |  |

1. **B2 - …**

**Section C: Legal, Social, Ethical and Professional issues**

1. **C1 …**
2. **C2 …**

**References**