Week 4 Assignment - Business Requirements

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# Business Requirements

## Project Overview

## The LP Pet Supplies Expansion Initiative aims to scale the rapidly growing online retailer from $5 million to $30 million in annual revenue within two years. Established in 2024 with venture capital funding, LP Pet Supplies specializes in high-quality pet products and is moving to a new two-story building to serve as its headquarters and main distribution center. To support this growth, the company plans to expand its team from 10 to 30 employees, strengthening its customer service, logistics, and technology capabilities.

This project addresses key challenges such as scaling operations, increasing customer acquisition and retention in a competitive market dominated by giants like Chewy and Amazon, improving operational efficiency, and ensuring robust data management and security. The major goals include successfully relocating and expanding the facility, growing the team, significantly boosting revenue, integrating a hybrid cloud information systems infrastructure, and strengthening market presence through superior quality and customer service. The rise of e-commerce, accelerated by the COVID-19 pandemic, has made the internet the top channel for pet product sales, accounting for 27% of the market in 2020 and projected to grow to 35% by 2024 (Beaton, ). Competing in this rapidly expanding market requires a strong online presence and a seamless customer experience, which are essential to meeting the evolving demands of pet owners.

Information Technology is central to this initiative, providing the necessary infrastructure through a hybrid cloud system, managing the e-commerce platform, ensuring data security and compliance, automating operations with ERP and CRM systems, enhancing customer service with advanced tools, and supporting effective collaboration and remote work. By leveraging advanced technology and robust IT support, LP Pet Supplies is well-positioned to achieve its ambitious growth targets and establish itself as a leading provider in the online pet supply market. Moreover, as emphasized by experts in the field, creating a premium, curated online experience tailored to specific customer needs is crucial to standing out in a market increasingly dominated by major players like Chewy and Amazon (Beaton, ).

## Functional Business Requirements (Scope) Scope Control (2–3 pages)

The project scope for LP Pet Supplies encompasses several key functional areas essential for establishing and scaling a robust e-commerce platform. Below are the selected areas along with their scope descriptions and strategies for integration into the overall project.

**E-commerce Platform Development**

Scope**:** Build a scalable, user-friendly online store with integrated payment, inventory, and customer management systems.

Strategies: Choose Shopify Plus or Magento, customize for your brand, integrate necessary APIs, conduct thorough testing, and launch in stages.

**Payment Systems Integration**

Scope: Offer secure and diverse payment options to enhance transactions.

Strategies**:** Integrate multiple gateways (PayPal, Stripe), ensure security compliance, simplify checkout, and implement fraud protection.

**Inventory Management System**

Scope**:** Efficiently track stock, manage orders, and streamline supply chains.

Strategies**:** Use cloud-based ERP (NetSuite/Dynamics), enable real-time tracking, automate restocking, and generate detailed reports.

**Customer Relationship Management (CRM)**

Scope**:** Manage customer interactions and drive sales growth.

Strategies**:** Implement Salesforce, integrate with e-commerce and ERP, personalize marketing, and streamline customer support with Zendesk/Freshdesk.

**Data Security and Compliance**

Scope**:** Protect customer data and comply with regulations.

Strategies**:** Adhere to GDPR and PCI DSS, use encryption, enforce access controls, and perform regular security audits.

**Customer Service Infrastructure**

Scope**:** Offer exceptional support through multiple channels.

Strategies**:** Deploy Zendesk/Freshdesk, implement 24/7 chatbots, train support staff, and gather customer feedback for improvements.

**Logistics and Distribution Management**

Scope**:** Ensure timely and cost-effective product delivery.

Strategies**:** Implement a Warehouse Management System (WMS), partner with reliable shippers, automate order processing, and provide real-time tracking.

**Marketing and Sales Strategy**

Scope**:** Drive traffic and boost sales through comprehensive marketing.

Strategies**:** Utilize SEO, SEM, social media, and email marketing, create engaging content, offer promotions and loyalty programs, and analyze campaign performance.

**Scope Control**

**1. Define Scope Boundaries**

* **Strategy:** Create a detailed scope statement outlining deliverables and exclusions, referencing the project plan for stakeholder agreement.

**2. Change Control Process**

* **Strategy:** Establish a formal procedure with a Change Control Board (CCB) to evaluate and approve/reject scope changes, documenting impacts on timeline and budget.

**3. Regular Scope Reviews**

* **Strategy:** Schedule regular meetings to assess progress and identify deviations, using project management tools for tracking and reporting.

**4. Stakeholder Communication**

* **Strategy:** Maintain ongoing communication with stakeholders, involve them in scope decisions, and use collaboration platforms for feedback.

**5. Project Management Tools**

* **Strategy:** Utilize tools like Asana, Jira, or Trello to manage tasks, monitor scope adherence, and implement version control for documents.

**6. Documentation and Traceability**

* **Strategy:** Keep comprehensive records of requirements, changes, and approvals, using requirement traceability matrices to link scope to deliverables.

**7. Training and Awareness**

* **Strategy:** Educate the team on scope control importance and procedures, fostering a culture of adherence to scope boundaries.

**8. Performance Metrics and KPIs**

* **Strategy:** Define and monitor KPIs such as scope variance and change requests, using them to evaluate and improve scope control measures.

| **Area** | **Scope** | **Incorporation Strategies** |
| --- | --- | --- |
| Applications | To meet the target production date, only the following applications will be implemented: - E-commerce Platform: Shopify Plus or Magento - ERP: NetSuite or Microsoft Dynamics - CRM: Salesforce - Customer Service: Zendesk or Freshdesk - Collaboration Tools: Slack or Microsoft Teams - Data Security Tools: GDPR and PCI DSS compliance software | ***Selection & Integration:****Choose applications that offer scalability and seamless integration with each other.* ***Phased Implementation:****Prioritize core applications (e.g., E-commerce Platform, ERP, CRM) for initial deployment, followed by customer service and collaboration tools.* ***Vendor Coordination:****Work closely with vendors to ensure timely setup and configuration.* |
| Sites | These sites are considered part of the implementation: - New Headquarters and Distribution Center - Primary E-commerce Website - Cloud Hosting Services (AWS or Azure) - Employee Remote Access Points | ***Infrastructure Setup:****Ensure the new building is equipped with necessary network infrastructure.* ***Cloud Integration:****Utilize AWS or Azure for reliable and scalable hosting.* ***Security Measures:****Implement robust security protocols for all sites, including secure remote access for employees.* |
| Process Re-engineering | Re-engineering will focus on optimizing supply chain logistics, customer service workflows, and inventory management to enhance efficiency and scalability. | ***Workflow Analysis:****Conduct thorough reviews of existing processes to identify bottlenecks.* ***Technology Integration:****Leverage ERP and CRM systems to automate and streamline operations.* ***Continuous Improvement:****Establish feedback loops for ongoing process enhancements.* |
| Customization | Customizations will be limited to: - Tailoring the E-commerce platform to match LP Pet Supplies' branding and unique user experience requirements - Integrating specialized inventory management features within the ERP system - Custom CRM workflows to support customer relationship strategies | ***Minimal Customization:****Focus on essential customizations that provide immediate value and align with business goals.* ***Modular Approach:****Use customizable modules within selected applications to reduce the need for extensive coding.* ***Scalability Considerations:****Ensure customizations support future growth and scalability.* |
| Interfaces | Interfaces included are: - Integration between E-commerce Platform and ERP - CRM integration with customer service tools - Data synchronization between cloud hosting and on-premises systems - API connections for third-party payment gateways and shipping services | ***Standard Protocols:****Utilize standard APIs and middleware for seamless integration.* ***Security Focus:****Ensure all interfaces comply with data security standards.* ***Testing & Validation:****Rigorously test all interfaces to ensure reliable data flow and functionality.* |
| Architecture | Application and technical architecture will: - Utilize a hybrid cloud model combining AWS/Azure with on-premises infrastructure - Ensure scalability to support growth to $30 million in revenue - Incorporate robust security measures and data encryption - Support high availability and disaster recovery | ***Hybrid Cloud Design:****Balance cloud and on-premises resources for optimal performance and flexibility.* ***Scalable Infrastructure:****Design architecture to easily scale with increasing traffic and data.* ***Redundancy & Backup:****Implement failover systems and regular backups to ensure business continuity.* |
| Conversion | Only the following data and volume will be considered for conversion: - Current customer data from existing systems - Inventory records - Financial data for ERP migration - Historical sales data - Limited to essential data needed for initial operations | ***Data Prioritization:****Focus on migrating critical data necessary for day-one operations.* ***Data Quality Assurance:****Clean and validate data before conversion to ensure accuracy.* ***Incremental Migration:****Perform data conversion in phases to minimize disruption and allow for testing.* |
| Testing | Testing will include only: - Functional testing of all implemented applications - Integration testing between E-commerce, ERP, and CRM systems - Security testing to ensure compliance with GDPR and PCI DSS - User Acceptance Testing (UAT) with key stakeholders | ***Comprehensive Testing Plan:****Develop detailed test cases covering all functionalities and integrations.* ***Security Audits:****Conduct thorough security assessments to identify and mitigate vulnerabilities.* ***Stakeholder Involvement:****Engage end-users in UAT to ensure systems meet business requirements.* |
| Funding | Project funding is limited to: - Initial setup and implementation costs for selected applications and infrastructure - Ongoing operational expenses for the first two years - Budget allocated for training, customization, and process re-engineering | ***Budget Allocation:****Prioritize spending on critical areas that directly impact business operations and growth.* ***Cost Monitoring:****Implement strict financial controls to track and manage expenditures.* ***Funding Phases:****Allocate funds in phases aligned with the project timeline to ensure sustained financial support.* |
| Training | Training will be: - Provided to all employees on the new E-commerce platform, ERP, and CRM systems - Focused on system usage, data security practices, and customer service tools - Ongoing support and refresher courses as needed | ***Comprehensive Training Programs:****Develop structured training sessions covering all relevant systems and tools.* ***Hands-On Learning:****Incorporate practical exercises and real-world scenarios to enhance understanding.* ***Continuous Support:****Offer ongoing training resources and support channels to address any issues post-implementation.* |
| Education | Education will include: - Informing employees about the benefits and functionalities of the new systems - Providing resources for self-paced learning and certification opportunities - Educating staff on best practices for data security and customer relationship management | ***Awareness Campaigns:****Conduct informational sessions and distribute educational materials to highlight the importance of new systems.* ***Resource Availability:****Provide access to online tutorials, documentation, and certification programs.* ***Best Practices Training:****Ensure employees understand and adhere to data security and CRM best practices.* |
| *Other* | **Change Management:** Implement a structured change management strategy to handle transitions smoothly. **Communication Plan:** Establish clear communication channels to keep all stakeholders informed. **Vendor Management:** Maintain strong relationships with technology partners and service providers. | ***Structured Approach:****Use change management frameworks to guide the transition.* ***Regular Updates:****Schedule frequent updates and meetings to ensure transparency.* ***Collaborative Relationships:****Work closely with vendors to ensure timely support and issue resolution.* |
| *Other* | **Compliance and Regulatory Requirements:** Ensure all systems and processes comply with relevant laws and industry standards. **Scalability Planning:** Develop strategies to accommodate future growth beyond the initial two-year projection. **Sustainability Practices:** Incorporate eco-friendly practices in operations where possible. | ***Regulatory Audits:****Conduct regular compliance checks and audits.* ***Long-Term Planning:****Create scalable solutions that can grow with the business.* ***Sustainable Operations:****Integrate sustainability into business practices to enhance brand reputation and meet consumer expectations.* |

### Scope Control

Change control will manage changes to the scope identified in this document. Any changes affecting project costs and timelines require business owner approval.

## Non-functional Business Requirements (Governance, Risk, Compliance)

### Governance

### Governance in LP Pet Supplies is crucial for ensuring proper management, accountability, and alignment with the company's growth objectives. The three to five most important non-functional business requirements related to governance include:

### Transparency and Accountability: Clear reporting lines, role definitions, and decision-making processes are essential. This ensures that all employees understand their responsibilities and the business's objectives.

### Regulatory Adherence: As an e-commerce business, LP Pet Supplies must comply with corporate governance regulations that apply to online retail businesses, such as data protection and financial reporting standards.

### Decision-making Frameworks: A structured governance model that incorporates data-driven decision-making is necessary. This model ensures strategic initiatives align with the company's mission, driving better efficiency and results.

### Risk

### In any e-commerce business, managing and mitigating risk is essential to ensure long-term sustainability. The most important non-functional business requirements related to risk include:

### Data Security and Privacy: The hybrid cloud system used by LP Pet Supplies must ensure strong encryption of customer data to prevent breaches. Regular security audits and compliance with frameworks like PCI DSS and GDPR are critical.

### Disaster Recovery: A robust disaster recovery plan is needed, especially with the company using AWS or Azure for cloud hosting. Ensuring business continuity in case of failures or cyberattacks minimizes downtime and financial losses.

### Operational Resilience: Risks related to logistics and supply chain disruptions must be managed effectively. Redundancies in the distribution network and supplier relationships help mitigate risks associated with supply chain delays.

### Compliance

### For LP Pet Supplies, compliance is vital to avoiding penalties and maintaining the trust of both customers and partners. The most important non-functional business requirements related to compliance include:

### Data Protection Laws: Compliance with laws such as GDPR and CCPA is crucial for protecting customer privacy and avoiding legal repercussions. This includes obtaining customer consent for data collection and ensuring secure data handling practices.

### Financial Regulations: LP Pet Supplies must adhere to all applicable tax laws, sales regulations, and e-commerce financial reporting standards. Implementing accurate accounting practices and audits ensures compliance.

### Industry Standards: Compliance with industry-specific standards for product quality and safety is necessary, particularly for pet products. This includes sourcing from vendors who meet certifications for pet health and safety.

### Other

Several additional non-functional business requirements apply to LP Pet Supplies, including:

1. **Scalability**: As the company grows, the IT infrastructure and operational processes must scale to handle increased traffic, larger inventory volumes, and expanded customer service needs.
2. **Performance and Availability**: The e-commerce platform must be highly available and perform well under peak load conditions. Ensuring uptime and minimizing latency for customers is critical to maintaining customer satisfaction.
3. **Customer Experience**: A seamless and intuitive user interface for both desktop and mobile platforms is a non-functional requirement that enhances the shopping experience, contributing to higher customer retention rates.

By addressing governance, risk, compliance, and other non-functional requirements, LP Pet Supplies will be well-equipped to grow sustainably while ensuring a secure, compliant, and customer-friendly e-commerce platform.

## Technical Requirements for Integration of E-commerce Components

For LP Pet Supplies to successfully integrate its e-commerce components, several critical technical requirements are necessary. These include:

1. **Scalable E-commerce Platform**:
   * LP Pet Supplies must choose an e-commerce platform, like Shopify Plus or Magento, that can handle its current customer base and scale as the business grows. The platform should support essential features like inventory management, payment gateway integration, and CRM systems for seamless customer experiences.
2. **Secure Payment Gateway Integration**:
   * Secure and compliant payment processing is crucial. The e-commerce platform must integrate with payment gateways that support PCI DSS compliance to ensure secure transactions and protect sensitive customer data. Popular options include Stripe, PayPal, and Square.
3. **Cloud Hosting and Infrastructure**:
   * A hybrid cloud infrastructure is vital for scalability, disaster recovery, and traffic management. LP Pet Supplies should leverage AWS or Azure for hosting its website, handling fluctuating traffic, and ensuring consistent uptime. This infrastructure will provide flexibility to scale as the business expands.
4. **Data Security and Compliance**:
   * The e-commerce system must adhere to GDPR and PCI DSS standards to protect customer data and ensure legal compliance. Regular security audits, data encryption, and secure network infrastructure (firewalls, VPNs) are essential to safeguard against cyber threats.
5. **ERP and CRM System Integration**:
   * To streamline operations, LP Pet Supplies must integrate its e-commerce platform with cloud-based ERP (e.g., NetSuite or Dynamics) for inventory, finance, and order management, along with Salesforce for customer relationship management. This ensures efficient handling of sales, customer data, and business processes across departments.

These technical requirements will ensure that LP Pet Supplies can scale, operate securely, and offer a seamless customer experience as it expands its market presence.

## Potential Risks, Constraints, and Assumptions

### Risks

1. **Supply Chain Disruptions**  
LP Pet Supplies is vulnerable to supply chain issues that could lead to product shortages and delays in fulfilling customer orders. To mitigate this risk, the company should diversify its supplier base to reduce dependency on any single vendor and maintain a buffer stock of high-demand products. Implementing real-time inventory monitoring through an ERP system will help the company track stock levels and prevent shortages by issuing early alerts for restocking.

2. **Cybersecurity Threats**  
As an e-commerce business handling sensitive customer information, LP Pet Supplies faces the risk of cyberattacks and data breaches. The company can mitigate this risk by adhering to GDPR and PCI DSS standards, using encryption, and regularly updating its security protocols. Additionally, employee training on cybersecurity best practices and implementing a detailed incident response plan will help prevent breaches and enable a quick response if one occurs.

3. **Technological Failure or Downtime**  
Website downtime or technical failures in the hybrid cloud infrastructure could disrupt sales and harm LP Pet Supplies' reputation. To minimize this risk, the company should adopt a multi-cloud strategy with redundancy and failover mechanisms in place. Regular system maintenance and 24/7 monitoring of the infrastructure will help detect and resolve issues before they affect operations, ensuring continuous uptime for customers.

4. **Regulatory and Compliance Challenges**  
Failure to comply with e-commerce regulations, data privacy laws, and industry standards could result in fines or legal action against LP Pet Supplies. To avoid this risk, the company should conduct regular audits to ensure compliance with data protection and payment processing regulations. Using compliance software can streamline the tracking and reporting of obligations, while consulting legal experts will help the company stay informed about changing regulations.

5. **Market Competition**  
LP Pet Supplies will face strong competition from established industry leaders such as Chewy and Amazon. To mitigate this risk, the company should differentiate itself by offering specialized products and a curated customer experience. A strong marketing strategy that targets niche customer segments and focuses on customer loyalty through personalized promotions and excellent service will help the company attract and retain customers in a competitive market.

| **Risk** | **Preventative/Mitigating Strategies** |
| --- | --- |
| ***Risk #1***  ***Data Security Breaches*** | **Implement strong encryption for customer data, ensure compliance with GDPR and PCI DSS regulations, conduct regular security audits, and use secure cloud services like AWS or Azure with built-in security features. Also, enforce multi-factor authentication (MFA) and train employees on cybersecurity best practices.** |
| ***Risk #2***  ***Supply Chain Disruptions*** | **Establish relationships with multiple suppliers and distributors to reduce dependency on a single source. Implement a cloud-based ERP system (e.g., NetSuite) to monitor inventory levels in real-time and predict shortages before they affect operations.** |
| ***Risk #3***  ***Website Downtime and Performance Issues*** | **Use a scalable cloud hosting solution like AWS or Azure to handle traffic surges. Employ load balancers, regular performance testing, and a Content Delivery Network (CDN) to ensure fast loading times and prevent downtime. Set up a disaster recovery plan and redundant systems for continuous operations.** |
| ***Risk #4***  ***Competition from Established Players*** | **Differentiate LP Pet Supplies by offering specialized, premium products not easily found on larger platforms like Chewy and Amazon. Focus on exceptional customer service, personalized recommendations, and loyalty programs to retain customers. Invest in targeted marketing and SEO to stand out in the crowded marketplace.** |
| ***Risk #5***  ***Employee Turnover and Growth Challenges*** | **Develop a comprehensive onboarding and training program for new hires, particularly as the company plans to grow from 10 to 30 employees. Offer competitive compensation, clear career advancement opportunities, and a positive work environment to retain talent. Implement collaboration tools like Slack or Microsoft Teams to facilitate communication and productivity.** |

### Constraints

These constraints have been identified:

1. **Budget Limitations**: While the company has venture capital backing, the initial budget for IT infrastructure, marketing, and operations is limited, especially during the early stages of growth. Allocation of funds needs careful prioritization to ensure adequate spending on technology, product acquisition, and customer service while maintaining profitability.

2. **Technological Dependence**: The success of LP Pet Supplies relies heavily on a seamless online shopping experience. Any issues with the e-commerce platform, cloud hosting, or ERP integration could result in downtime, negatively impacting sales and customer satisfaction.

3. **Compliance with Regulations**: LP Pet Supplies must comply with GDPR, PCI DSS, and other data security regulations. Implementing and maintaining these compliance measures will require continuous effort and monitoring, creating an operational constraint.

4. **Scalability of Operations**: As the company expands, both in terms of sales and employees, scaling the business will require continual upgrades to infrastructure, staff training, and logistics. The company's ability to scale its distribution and customer service effectively without sacrificing quality will be a critical constraint.

5. **Market Competition**: The pet supply market is highly competitive, with major players like Chewy and Amazon dominating. Competing with these established businesses will require creative marketing, superior customer service, and a curated selection of premium products.

### Assumptions

The most significant assumptions related to defining this project scope, objectives, and approach scope include:

1. **Steady Market Growth**: The assumption that the pet supply market will continue to grow as projected, with e-commerce expanding to 35% of the total market by 2024, is crucial to LP Pet Supplies' growth strategy.
2. **Technology Implementation Success**: It is assumed that the implementation of the hybrid cloud infrastructure, ERP, CRM, and e-commerce platform will be successful and function as intended without significant delays or technical setbacks.
3. **Customer Acquisition and Retention**: LP Pet Supplies assumes that its customer acquisition and retention strategies—focusing on quality, convenience, and competitive pricing—will successfully attract a loyal customer base, enabling the company to meet its revenue goals.
4. **Access to Talent**: It is assumed that LP Pet Supplies will be able to attract and retain the necessary talent to support its growth, particularly in customer service, logistics, and IT roles, as it expands from 10 to 30 employees within the next two years.

These constraints and assumptions will shape how the company navigates its growth and success in the competitive online pet supply market.

References

Beaton, L. (2020). Finding success in the pet e-commerce space: Three e-commerce experts provide insights into what you need to know when considering your online market strategy. *Petfood Industry*, *62*(9), 16-20.