# **KALCH Distribution Company (KDC) IT Strategic Plan**

## University of Maryland University College

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## Surtej Sarin

**IT Strategic Plan - Part One**

1. Business Statement

KALCH Distribution Company (KDC) is a transportation and distribution company that offers 24/7 services across the Mid-Atlantic region. KDC is headquartered in Wilmington and Delaware and staffs 400 employees. The company has 6 freight distribution terminals in Philadelphia PA, Baltimore MD, New York City, Washington DC, Newark NJ and Wilmington DE and 100 delivery vehicles, including tractor/semi-trailer units, box trucks, and panel vans. The company has a current revenue of $39 million with 4% profit per year. Despite stagnant growth, due to a slow economy, KDC will cut expenses by 5% and allocate these funds towards new initiatives. Additionally, KDC projects revenue growth at 5% per year.

1. Business Strategic Objectives

Business strategy, according to an article from the Harvard Business Review, is defined by “a set of guiding principles that, when communicated and adopted in the organization, generates a desired pattern of decision making” (Watkins, 2007). The management team at KALCH Distribution Company has highlighted three new strategies to increase profitability and growth. The first strategy deals with reducing delivery time; in order to do so, KDC will make their product available locally and offer warehousing services and storage for clients, which will reduce time of delivery. For its second strategy, the company will coordinate pickup and freight delivery simultaneously and in the same geographic region. This will reduce costs and improve percent of loaded miles in cities such as, New York, Philadelphia and Baltimore where freight volumes in terminals run about 70% capacity, whereas local delivery truck volumes run at about 80% capacity (University of Maryland University College, 2016). The third strategy is to allow customers to accurately track the location, delivery dates, and times of freights both in terminals and trucks. Additionally, KDC cooperation and management must comply with certain federal and state regulations. The safety manager stressed one significant regulation concerning the Federal Motor Carrier Safety Administration (FMCSA) reporting requirement, the fourth strategy, which requires the company to track the number hours each driver works daily, 10 hours of driving and 8-hour breaks. KDC dispatchers attempted to track this by scheduled pickups and deliveries; however, it was inaccurately reported. Additional, the fifth strategy, the Sarbanes Oxley financial audit and reporting requirement is a compliance requirement for releasing company’s accounting statements.

1. IT Vision and Mission Statement

### Vision

The Information Technology department at KBC will provide extraordinary delivery technology services to customers. It plans to achieve this through its strategy to stay up-to-date of new business concepts and technology. Furthermore, the IT department at KBC plans to expand its presence and high-quality services in the field of logistical operations. According to David T. Bourgeois, “The requirement to manage process documentation has been one of the driving forces behind the creation of the document management system” (Bourgeois, 2014). The IT department at KBC will implement an automated tracking system and new software technologies to improve its transportation and delivery service.

### Mission

The Information Technology Department at KDC will provide high-quality and affordable transportation and delivery services, “modernizing information systems to support the new strategies” to achieve its mission (University of Maryland University College, 2016). Furthermore, the IT department at KBC will continue to prioritize needs of both the business team and customers and make changes to IT organization and plans.

1. Governance

According to the National Computing Centre, “IT has a pivotal role to play in improving corporate governance practices, because critical business processes are usually automated and directors rely on information provided by IT systems for their decision making” (IT Governance: Developing a Successful Governance Strategy: A Best Practice Guide for Decision Makers in IT NCC Best Practice Series, 2005). The IT governance board is responsible for approving, funding, and prioritizing IT initiatives. The IT governance team has weekly meetings to establish new governance methodologies including updating the strategic plan, engaging customers, and prioritize IT projects and setting new requirements. The team will utilize proven methods by the IT Governance Institute (ITGI) including the five domains to ensure appropriate governance (Schwartz, 2007): strategic alignment, value delivery, resource management, risk management and performance measures (Alexander Gollenia and Uhl, 2016). Additionally, it will align IT strategies with business strategies through a framework from the Information Technology Infrastructure Library (ITIL). The IT governance team will use this to cover cost-analysis, quantify internal metrics through a Key Performance Indicator (KPI), and determine certain competitive advantages. Ultimately, the governance body has the responsibility to modernize its information systems and have a cost-effective solution. The management and IT governance board consists of various experts and senior leaders at KBC who make high-level business decisions to support business efforts of KDC; this includes, the President, Vice President of Operations, Chief Financial Officer (CFO), Chief Information Officer (CIO), Sales Manager, and Fleet Manager, as shown in Table 1.

**Table 1: Governance Team and Roles**

|  |  |
| --- | --- |
| **Senior leader at KDC** | **Role** |
| CEO and President | Lead the IT governance team and he will oversee growth and address new initiatives. All management divisions of the organization, financial, marketing, IT, and operations report to him |
| Vice President of Operations | Provide strategic planning and support for KDC operations |
| Chief Financial Officer (CFO) | Approves funds for IT projects that are providing greatest value to clients based on clients’ feedback on productivity and performance of the employees |
| Chief Information Officer (CIO) | Responsible for creating meetings and progress reports on strategic plans for the IT setup and business operations |
| Sales Manager | Responsible for overseeing sales personnel who “visit prospective customers to outline company capability, services provided and costs” (University of Maryland University College, 2016) |
| Fleet Manager | Oversees the maintenance and safety. It is maintained in the main Wilmington maintenance shop, and the manager makes sure that there is a “steady flow of shipments both between terminals and for local delivery” (University of Maryland University College, 2016) |

1. Inventory of Current IT Systems

The following table covers all system requirements at KBC, critical strategic goals and business benefits of each system. The following systems are essential to the business processes at KDC and functions are described for the route optimization and freight tracking system, fleet maintenance system, Accurate Financials, management reporting system, and mobile marketing application, as shown in table 2. Moreover, each system must ensure that its strategic goal aligns with government policies and overall business financial and IT goals.

**Table 2: Systems and business processes at KDC**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Current System** | **Function/ Description** | **Strategic Goal aligned to** | **Business unit/ department** | **Business Benefits** | **IT Resources (people, equipment** |
| Route optimization and freight tracking system (current) | “The current system allows the input of freight origin and destination information” (University of Maryland University College, 2016). | To quickly allow shipments into and out of the terminal | Operations | Efficiently track systems and ensure optimization in dispatching goods | * Senior support staff * IT staff for tracking systems * 5 pcs for dispatch |
| Fleet maintenance system (current) | Information on all fleets including summary of repairs, vehicle specifications, parts, and maintenance schedules. | Ensure fleets are maintained and good performance | Technical Operations, Maintenance and Repairs | Keeping track of the shipments in order to support higher level business functions | * IT staff will assist in scheduling and tracking of fleet and system improvements * Six helpdesk staff * One pc for maintenance office |
| Accurate Financials | This new off-the-shelf system replaces the current financial and accounting system. | “Replace the aging finance and accounting system and provide” (University of Maryland University College, 2016). | Finance | “Balancing available funding, IT staff workload and project prioritization” (University of Maryland University College, 2016) | * Two programmers: 1. Setting up the database and loading software on servers * A financial systems specialist for teaching the system to accountants and writing a routing system interface * 30 PCs for accounting, marketing, IT, administration and management |
| Management Reporting System | For senior managers to review financial information on a day-to-day basis | Cost goals and accurate reporting | All departments at the senior management level, such as Finance, Marketing, IT product development and HR. | Better business decisions and inside into how the organization is doing regarding profits, sales, and loss. | * Senior management * Two programmers * Two months process |
| Mobile Marketing App | "Mobile application that sales staff can use to show potential customers information on the fleet, distribution services available and freight rates, including a comparison to the competition” (University of Maryland University College, 2016) | Growth, new initiatives, and system improvements | IT department | Ease of use for sales and marketing staff, customers, and faster system processing | * One Programmer * One web designer * Two more months to complete |

\*CIO receives progress reports every two weeks

**IT Strategic Plan - Part Two**

1. IT Strategies

“From an IT perspective, it is important to have IT align with these business strategies and demonstrate how the organization is adding value and contributing to the business goals” i.e. increasing profitability and growing the business (Egan, 2011).

**1. An internal IT strategy: To implement a technology refresh for enhancing and integrating hardware and software systems at KDC.**

Leona will “decide on the best approach to modernize the information systems that will meet requirements at a reasonable cost, and for this she will need to make some changes to the IT organization” (University of Maryland University College, 2016). Having a technology refresh will help KDC IT team restructure and advance their technology systems, improving speed, reliability, and capacity. This is pertinent with new projects in development in the IT portfolio, such as Accurate Financials, which is automating tasks for the accounting team. A technology refresh aligns with the second business strategy - coordinating pickup and freight delivery and fifth business strategy - meeting SOX compliance requirements, which require accurate and reliable data reporting. With updated systems, KDC will be able to support business functions by modernizing any manual processes.

**2. An external IT strategy: To provide an IT system for tracking shipments in order to save costs.**

Currently, KDC is implementing a route optimization and freight system; however, it will require help from either an upcoming system or system update, to find the shortest path to delivery. A tracking system directly aligns with the third strategy to allow customers to accurately track the location, delivery dates, and times of shipments. This will save costs by ensuring shipments are sent on time and to the correct locations. This IT strategy also aligns with part of the second business strategy to “improve the percent of loaded miles in their fleet” and will benefit the company through cost savings on shipments by providing consistently efficient deliveries (University of Maryland University College, 2016). Additionally, this IT strategy aligns with the fourth business strategy to comply with Federal Motor Carrier Safety Administration (FMCSA), which will mitigate fines to the company by unsuccessful drivers through timesheet tracking.

**3. An external IT strategy: To widen engagement by expanding the digital presence of the business to drive customer satisfaction and sales.**

This IT strategy relates to the first business strategy to make their product available locally and offer warehousing services and storage for clients. In addition to reducing delivery time, this will allow KDC to improve client-satisfaction and obtain a competitive advantage. Furthermore, the Mobile Marketing Application project will support this initiative by providing a new interface for clients on KDC freight options and prices, relative to its competitors. Similar projects will appeal to prospective clients and support efforts by the marketing group at KDC.

**4. An internal IT strategy: To ensure that all compliance requirements are met within the organization**

This IT strategy aligns with the fourth and fifth business strategy which encompass federal and state regulations i.e. Federal Motor Carrier Safety Administration (FMCSA) reporting requirement and Sarbanes Oxley financial audit and reporting requirement (SOX). Two IT systems that will support this strategy include Accurate Financials and the Management Reporting System, which will help KDC meet SOX compliance requirement for releasing company’s accounting statements and allow managers to check financial information on a daily basis. Additionally, FMCSA requirements are currently supported by the KDC freight tracking system.

1. IT Roadmap

The following paragraph describes the overall IT Roadmap of systems currently in development, according to the time frame, shown in table 3. The table covers a six-quarter time frame shown, with each quarter having three months. The four functional-areas with projects at KDC are management, operations, marketing, and finance. The Route optimization and freight tracking system and Fleet maintenance system have been included in the IT Roadmap as a reference and if updates need to be made to the existing systems. The Management Reporting System is being developed for senior management to receive financial information on a daily basis. The project currently involves two programmers who are working to compiling data in a usable format for the system. According to the IT portfolio, “They plan to extract information from Accurate Financials when it is ready but for now have focused on the current system” (University of Maryland University College, 2016). The project will take two months to complete. The Mobile Marketing App is being developed to boost sales. The KDC sales staff will be able to use the app to show customers “information on the fleet, distribution services available and freight rates, including a comparison to the competition” with rates (University of Maryland University College, 2016). The project involves a programmer and the web designer, who will be completing the project in four months. The Accurate Financials project is being developed to address the current the finance and accounting system at KDC; “It is an off-the-shelf product that requires the owner to make modifications to interface with other systems they may own” (University of Maryland University College, 2016). This project will be developed by two programmers, one working on the database and server software and the other writing an interface for the router system. Additionally, an Accurate representative will be training KDC accounting staff on the new system. Accurate Financial project, has a six-month project completion and two weeks training period. The final proposed project is the Fleet Management Software(FMS), that addresses the business strategy to “improve the percent of loaded miles in their fleet to reduce costs by coordinating the pickup and delivery of freight at the same time in the same geographic area” and “track the whereabouts of freight both in the terminals and on the trucks to provide customers with accurate delivery dates and times” (University of Maryland University College, 2016). Aligned with current projects in development, the Fleet Management Software project will be developed to current processes and compliance standards at KDC. It will be implementing FleetLogix­TM GPS Fleet Tracking System to track vehicles and assets (FieldLogix™ Innovative GPS Fleet Tracking Plans, n.d.). Moreover, KDC will use the FieldLogix RESTful API which allows for more flexibility with its fleet management integration, and will take four months to complete. Additionally, this project will be integrated with the Fleet maintenance system as it contains information on each vehicle in the fleet which will support business efforts of maintaining driver safety and reducing time of delivery. The aim would be to keep the cost of the project within the allocated budget without compromising timeline and quality.

**Table 3: IT Roadmap**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Projects by**  **Functional Area** | **Qtr. 1** | **Qtr. 2** | **Qtr. 3** | **Qtr. 4** | **Qtr. 5** | **Qtr. 6** |
| **Management**  **Management Reporting System** |  |  |  |  |  |  |
| **Operations**  **Route optimization and freight**  **tracking system (complete)**  **Fleet maintenance system**  **(complete)**  **Fleet Management Software** |  |  |  |  |  |  |
| **Marketing**  **Mobile Marketing App** |  |  |  |  |  |  |
| **Finance**  **Accurate Financials** |  |  |  |  |  |  |

1. Proposed Project

The proposed project to support IT and business strategies of KDC, is the Fleet management software, which will be integrated with the FleetLogixGPS Fleet Tracking System to track vehicles and assets and create performance reports (FieldLogix™ Innovative GPS Fleet Tracking Plans, n.d.). To address the KDC business strategies, this new system will “improve the percent of loaded miles in their fleet to reduce costs by coordinating the pickup and delivery of freight at the same time in the same geographic area” and assist to “track the whereabouts of freight both in the terminals and on the trucks to provide customers with accurate delivery dates and times” (University of Maryland University College, 2016). The fleet management software project will also support KDC business efforts of meeting the Federal Motor Carrier Safety Administration (FMCSA) reporting requirement and Sarbanes Oxley financial audit compliance requirements. To maintain driver safety and ensure payroll and timesheet accuracy, the software will utilize the FieldLogix “Goose Time Clock to help field employees improve the accuracy of their employees’ timekeeping” (FieldLogix™ Innovative GPS Fleet Tracking Plans, n.d.). Additionally, the fleet management software will provide route optimization and reduce time of delivery. KDC will use the FieldLogix RESTful API which allows for more flexibility with its fleet management integration, to keep track of pre-existing fleet information.

1. Risk Management

The first risk of concern is the violation of the federal and state regulation, the Sarbanes Oxley financial audit and reporting requirement. According to Leona, KDC bookkeepers and accountants “complained about financial reporting and their ability to meet compliance requirements…reporting was mostly a manual process and data they needed from the system was not easily accessed” (University of Maryland University College, 2016). Section 3(b)(1) of the SOX states that “a violation by any person” of any provision of the SOX “shall be treated for all purposes in the same manner as a violation of the Securities Exchange Act of 1934 . . . and such person shall be subject to the same penalties, and to the same extent, for a violation of that Act.” (Kohn, n.d.) Leona could use the *manage risk management technique* to mitigate the risk by advancing the Accurate Financial project, which has a six months completion.

The second risk of concern is scope creep, in which project goals are undefined and project growth is uncontrollable. Leona has many challenges with the current systems at KDC and meanwhile she has to “identify essential projects and then prioritize them for management review. The outcomes…affect almost every aspect of the business. Her IT portfolio [is] about to grow and her organization will need to change to meet the challenge” (University of Maryland University College, 2016). Leona will use the *avoid risk management technique* by documenting system requirements for the three projects i.e. Accurate Financials, Management Reporting System, and Mobile Marketing System in her IT portfolio.

The third risk of concern is maintenance of vehicles and the preventative maintenance schedule, which requires a two-day vehicle down-time. The “maintenance scheduling is a challenge because it can interfere with the steady flow of shipments both between terminals and for local delivery. There are no ‘extra’ vehicles in the fleet” (University of Maryland University College, 2016). KDC risks a shortage of vehicles for delivery and a critical system failure with fleet maintenance will affect communications, fleet information, impact scheduling and delay shipments. KDC can use the *manage risk mitigation technique* by ensuring upkeep of the fleet maintenance system and address problems affecting dispatch and maintenance staff. In the case of a more serious failure, KDC can use the *avoid risk mitigation technique* and hire vehicle contractors from another company to send shipments until KDC vehicles are operable. These risk mitigation techniques will improve both KDC vehicle operations and “the relationship between dispatchers and maintenance personnel” which is currently strained (University of Maryland University College, 2016).

The fourth risk of concern is cuts towards project budgets. Leona is required to perform analysis on impacts towards the project, as a result, and she must stay within budget proposed by the CFO. Leona will use the *accept risk management technique to accept the risk*; however, she should have a pre-defined contingency plan so the impact of occurrence is negligible.

The fifth risk of concern for Leona and the KDC IT team is related to system and network security. The new IT projects proposed will be susceptible to security threats and vulnerabilities i.e. viruses, botnet, worms, DDOS, SQL injection, and malware, that will harm business assets and processes. Leona does not mention what security and encryption protocols the projects should follow; however, the following are important “protocols and standards within framework of network protocol stack: Application Layer: PGP, S/MIME, S-HTTP, HTTPS, SET, KERBEROS; Transport Layer: SSL, TLS; Network Layer: IPSec, VPN; and Data Link Layer: PPP, RADIUS, TACACS+” (Kizza, 2008). Leona can use the *manage risk management technique* to mitigate security risks by working with the KDC computer security expert to install intrusion detection systems and firewalls. Multi-factor authentication on KDC devices and system will also safe-guard applications and guarantee data integrity. Additionally, KDC can hire penetration testers to evaluate the integrity of their systems, and results can be valuable when applied to the Business Continuity Plan (BCP).

1. Business Continuity Planning

“With risks ranging from cyberattacks to natural disasters to human error, it is vital for an organization to have a business continuity plan to preserve its health and reputation” (What is business continuity plan (BCP)?, n.d.).

Leona must follow specific procedures to develop a business continuity plan to ensure that KDC business systems are effective and provide quality services in the event of a catastrophe. She will be part of a business continuity plan effort and work with senior leadership to secure business objectives, goals, and processes. The initial steps for business continuity are shown in table 4 (Lindros & Tittel, 2017):

**Table 4: Initial Steps: Business Continuity Plan**

|  |  |
| --- | --- |
| **Procedures** | **KDC Staff Involved** |
| 1. Identify the scope of the plan. | Senior leadership, including the John - President and CEO, Leona - CIO, CFO, and functional-area leads, will lead the business continuity efforts and define the scope. |
| 1. Identify key business areas. | Management staff will identify the most important business processes based on functionality and organizational impact. |
| 1. Identify critical functions. | Functional-area leads will determine the critical functions and their relation to business processes in their respective sector i.e. marketing, finance, management, and operations. |
| 1. Identify dependencies between various business areas and functions. | Management and Functional-area leads will work together to determine how business processes will be affected by the system, in the result of a system failure. |
| 1. Determine acceptable downtime for each critical function. | Functional-area leads will determine the time till systems are functional. |
| 1. Create a plan to maintain operations. | CIO will establish a contingency plan to continue business operations. |

KDC relies on information systems to support organizational planning and processes. Three essential business system processes that currently provide assurance to continuing operations at KDC, and are supported by information systems, are listed below with procedures to allow for continued processes:

1. **Maintaining fleets** – this process is essential for the Fleet manager and KDC maintenance personal, accounting clerks, mechanics, purchasing clerks for fleet reliability and ensure appropriate shipment products on a timely basis. This process is supported by the *Fleet maintenance system*, which provides information to the operations and maintenance team on all fleets including summary of repairs, vehicle specifications, parts, and maintenance schedules. KDC IT staff can allow for continued fleet maintenance processes by building a redundancy and determining recovery point objective (RPO) and recovery time objective (RTO), to backup data on vehicle specifications, repair summaries, and inventory of parts in the fleet. To address the preventive maintenance schedule, KDC will shift the IT system to high availability (HA) through a cloud infrastructure and measure its recovery service level (RSL). Alternatively, KDC can contract with other vehicle shipment companies such as U-haul, to operate their vehicles. With additional investments, another alternative, should KDC fleet team need additional fleet storage space, is to rent or invest in another maintenance shop.
2. **Tracking freight systems and optimizing processes associated with dispatch goods** – this process is essential for KDC operations manager and dispatchers to ensure appropriate shipment products on a timely basis. This process is supported by the *Route optimization and freight tracking system*, which allows the input of freight origin and destination information. KDC IT staff will allow for continued freight tracking by making the system high availability (HA) and shifting to a cloud infrastructure. An alternative proposal – KDC management will hire contractors from various shipping truck companies and have them on standby in case of service failure. This will allow operations to run smoothly until freight tracking systems are properly functioning.
3. **Maintaining organizations internal finance and accounting structures** – this process is essential for the CFO and KDC finance and accounting staff and personnel to monitoring asset and internal business financial trends, manage investments and maintain financial data. This process will be supported by the upcoming *Accurate Financials* system. KDC IT staff will need to do a system backup for the accounting system, through a work area recovery site that will allow for system recovery and reconstitution. The system will be stored as a separate entity; however, it will be durable, secure, and easy to access. This will benefit the Finance and accounting sector of the company by maintaining its financial data and integrity.

To ensure that their systems remain operational in the event of a catastrophe, functional-leads from Operations, Finance, and IT at KDC will examine how loss of service will affect the company through the risk reduction process which covers its contingency plan, recovery procedure, quantitative/qualitative assessment, business impact analysis, and business risk (Gregg, 2009). After functional-leads establish their approach for continued operations, they will relay this information to management staff who will (1) establish contingency plans for business operations at KDC and (2) conduct a business impact analysis in order to assess effects on business. Contingency planning measures to support business systems to “enable [systems] to be recovered as quickly and effectively as possible following a service disruption” including “preventive measures, recovery strategies, and technical considerations appropriate to the [systems’] information confidentiality, integrity, and availability requirements and the system impact level” (Swanson et al., 2010). NISTs Information System Contingency Plan (ISCP) provides guidance and procedures to sustain an organization and support functions. The ISCP has seven steps and is supported by KDC staff, as shown in table 5.

**Table 5: Information System Contingency Plan Steps: Business Continuity Plan**

|  |  |
| --- | --- |
| **Procedures** | **KDC Staff Involved** |
| 1. Develop the contingency planning policy | Senior management and management staff |
| 2. Conduct the business impact analysis (BIA)\* | CIO with senior management |
| 3. Identify preventive controls | Security Officer, System/Server administrators |
| 4. Create contingency strategies | CIO with senior management |
| 5. Develop an information system contingency plan | Management staff |
| 6. Ensure plan testing, training, and exercises | Contingency plan coordinator |
| 7. Ensure plan maintenance | CIO |

\*The Federal Financial Institutions Examination Council (FFIEC) agencies encourage a cyclical, four step process-oriented approach to business continuity planning including: Business Impact Analysis (BIA); Risk assessment; Risk management; and Risk monitoring and testing. Based on the BIA, KDC will be able to consider business and operational recovery strategies. As defined by NIST, "The BIA purpose is to correlate specific system components with the critical services that they provide, and based on that information, to characterize the consequences of a disruption to the system components" (Swanson et al., 2010). The BIA consists of three steps; (1) Determine mission/business processes and recovery criticality, (2) Identify resource requirements i.e. facilities, personnel, equipment, software, data files, system components, and vital records, and (3) Identify recovery priorities for system resources (University of Maryland University College, n.d.).

Overall, KDC management staff must establish control policies, incident management, and incident reports; following some of the measures mentioned above, for improving internal operations and business continuity planning, KDC will be able to continue its ongoing processes and will be further supported by innovating each of its systems.

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