CASE 2#

**Question 1: Assess the management, organization, and technology factors that contributed to each organization’s pre- IT-initiative condition.**

An organization’s strategic initiative is an action plan to move it from its current stage to a desired state or result. This may come as a part of the company’s laid out mission and goals or could also evolve through the need to quickly adapt to varying and changing business and competitive environments. Either way, moving an organization to a targeted state necessitates an understanding of its current management, organizational, and technological structure especially if the action plans are focused on its information technological advancement. According to Mintzberg, an organization’s bureaucratic structure, the multiplicity of location, and its interaction with its competitive environment will all influence the success of its strategic initiative.

In their article on information technology and global operations management, Ekman, Thompson, and Whitaker (2017) highlight four distinct multinational manufacturing corporations (Equipment firm, Parts firm, Household goods firm and Consumer Products firm) and their bid at achieving globalization in operations using Information Technology (IT).

The Equipment firm manufactured products for industrial customers and had its operations in Asia, Europe, and North America (Ekman, Thompson, & Whitaker, 2017). Prior to their IT initiative, the Equipment firm moved from being an organization operating geographically where products were manufactured primarily within the region it was sold to a more functional structure where business divisions are created by the function they are responsible for within the organization. The focus was on specialty products which most likely indicates the absence of uniformity in business processes across its divisions. Equipment was sold through its owned dealerships and through independent distributors. These dealerships and distributors controlled their own customer information and relationships and their systems were not standardized across the organization, but IT was a shared service across the organization.

The Parts firm also served commercial customers, having four products organized into three divisions with forty segments across its customers' industry. Due to the varying geographies, its divisions had autonomy in operations indicating differences in business processes and operations across the organization. Research and development were performed at the division level to enable adaptability and flexibility when it comes to customer demand and environment. However, back-office processes and support were done centrally across the organization serving as a potential foundation for future globalization and centralization.

The Household goods firm was a top firm in its industry but still faced profit margin pressures due to its operating in a highly competitive environment and as a result, had to develop a cash flow and profitability focus in its operation. Like the Parts firm, its regional units were also autonomous in their operations and this even extended to back-office processes like finance, as they were accountable for their own financial performance. There was little or no product component sharing most likely due to varying business processes and like the Parts firm, research and development was a regional function.

The Consumer products firm manufactured its products in the region where it was being sold and currently, there was no synergy in business processes or IT application between its headquarters and subsidiary indicating independence in operations between these divisions, driven largely by different consumer preferences in each of these markets. Distribution channels were owned and operated by the firm in Europe, but in the United States distribution was outsourced.

Even though the article does not go into great detail as to the reason behind divisional and regional independence in operation and environmental differences across different regions, regional regulations, cost control, and competition are some of the assumptions that one can make to understand these differences.

The focus of the case study by Bolsinger, Hackel, Roglinger, and Walter (2016), was on Infineon Technologies, a technology company producing semiconductors for automotive and industrial electronics. The authors of this business transformation project redesigned Infineon’s financial IT roadmap. As of 2014, Infineon Technologies was a vast organization, consisting of 29,800 employees, 21 research and development facilities, and 12 manufacturing plants across the globe. This project served as the structure for future endeavors which would allow Infineon to continue to be a market leader in the semiconductor industry.

As manufacturers and resellers of semiconductors, Infineon Technologies had two conditions that needed to be addressed pre- IT-initiative: supply-side and demand-side. To combat the volatility, sluggishness, and uncertainty of the semiconductor industry, an architectural transformation at Infineon was needed to stay competitive.

Prior to the initiative, reporting did not cover the entire picture of the information needed by management to make decisions. The project intended to implement reporting guidelines and improve the flexibility of advanced reports including customization of information per management’s requirements. Infineon’s enterprise architecture had to be overhauled as was the IT support of these processes and services. Management comprised both corporate and academic members which created issues with communication as each had different interests and goals (Bolsinger et al., 2016). These silos created communication and organizational issues which caused the entities to not work together efficiently.

The IT initiative at the Heuman, Mahring, Remus, and Wiener (2015) case study was conducted at a major engineering firm headquartered in Germany, that designs, manufactures, and sells industrial technology. Prior to the IT initiative, each of the six business units operated its own product lifecycle management (PLM) project. The main goal of the IT initiative was to integrate production processes across the business units to facilitate collaboration and improve product quality.

PLM is a systematic, controlled concept for managing and developing products and product-related information. The core of product lifecycle management is the creation, preservation, and storage of information relating to the company’s products and activities (Immonen, &Saaksvuori, 2002). When the German engineering firm operates six different PLM for each different business unit, they are losing some of the PLM benefits. Work through the different business units should be exploitable, regardless of place, time, or data ownership, since they all belong to the same firm.

**Question 2: What were the key risk factors of each system initiative? How well did each organization control, or plan to control, these risks? What would you have done additionally or differently to manage these risks?**

In general, globalization and centralization introduce various risks to an organization’s operational success, two of the most crucial being profitability and positional risks. Multinational corporations create shareholder value from productivity and operational success at regional and localized points Their ability to serve different regional bases with different expectations results in gains in market share and overall profitability. With globalization, regional confidence may begin to erode if there is a sense that products and services will begin to lose local uniqueness for broader appeal especially when organizational decision making takes a more broad and centralized approach. As a result, profitability may be affected as customers shift focus to alternative products or products that accommodate the needs of their immediate environment. Positional or political risk comes in the form of potential friction and conflict with foreign economic regulators and governments. Globalization initiatives mean that geopolitical decisions now become a part of overall corporate decisions.

The four firms at Ekman, Thompson, and Whitaker's (2017) case study started to centralize their IT functions resulting in job losses and a reduction in Gross Domestic Product (GDP) of the affected localities or regions. Governments in these regions will not be pleased and as a result, may enact regulations and laws that would be adversarial to the corporation’s overall operational success. Mitigating and eliminating risks associated with the globalized strategic initiative is a very complicated and complex task as centralized decision-makers do not have the adequate knowledge and expertise to grasp the operational nuances and uniqueness of these different geographical and political environment, they simply cannot adequately comprehend these highly differentiated environments as the definition of governance differs from region to region. This is why globalization initiative of any kind must be delicately and strategically carried out and it would be most beneficial if corporations strive to maintain some elements of their regional structure enough to maintain and sustain profitability and value creation in these regions.

Unfortunately, Ekman, Thompson, and Whitaker’s article does not go into any detail to talk about the specific risks each of these four firms had to deal with and how they mitigated these risks, one can only make an assumption based on an understanding of their business processes.

Infineon Technologies had two conditions that presented the greatest risk in the semiconductor industry: supply-side and demand-side. On the supply-side, the semiconductor industry adheres to Moore’s Law, which states that the capabilities and speed of semiconductors double every two years and the cost decreases by 50%. The industry is comparatively sluggish and requires a long-term commitment and planning as innovations and demands change rapidly. The industry is reliant on a global supply chain including precious metals and rare earths, of which the availability is not always obtainable due to sourcing and political instability in the regions that the elements are mined.

The demand-side can be volatile because the shelf life of a semiconductor is short once again due to Moore’s Law. Just-in-time (JIT) manufacturing, is preferred to deal with the volatility of the industry and the customer demand for chips. JIT allows for a leaner inventory so that the producers are not left with antiquated inventory that they cannot sell.

Value-based management was implemented to manage risk. Beyond risk management, value-based management was involved in many other aspects of the business including cash flow management, investment and project valuation, planning, and forecasting.

The project managers also implemented a modular project framework which grouped projects so that they interlaced to cover any gaps in the management of the processes. These complimentary projects functioned as independent projects but could be seen as interdependent. This ensured that all aspects of the projects were covered. The modular project framework seemed like a logical and practical way to control the risks as it provided checks and balances. By closing the gaps with existing projects, redundant systems would not have to be implemented to ensure success.

The study targeted the needs of the company and no additional work would need to be done. Communication and aligned goals between the business entities are important and the study addressed these elements. Centralized management fits the company best since decentralization is inefficient, not cost-effective, and can be chaotic for businesses.

The main risk factor at the German engineering firm IT initiative at the Heuman et al. (2015) case study was the project size. The new PLM project was implemented in four major system releases. The third release was the largest one and it replaced the legacy system used by 10,000 end users in more than 100 locations in 15 countries and engaged more than 200 persons. They implemented different controls throughout the project, divided mainly between control over the project (exercised on the senior management level), and control within the project (exercised on the project management level) (Heuman et al., 2015).

The first control implemented was that they clearly distinguish between the different roles in the project. The programmer manager was responsible for overseeing the different releases and primarily concerned with managing the interface between the project organization and the business units, and the release manager was responsible for the day-to-day management and control of the team leaders. Since one of their main concerns was transparency, they wrote a detailed project plan derived from the project scope document, that was accessible through Microsoft SharePoint. Senior managers also asked team leaders for feedback on the feasibility of milestones (Heuman et al., 2015), allowing team leaders to feel they were important in the implementation.

Another important feature in the control strategy adopted was the concept of repair. Each team kept track of their own independent tasks and the team leaders could constantly assess where they were in the implementation plan. Also, weekly status meetings between team leaders and senior managers allowed every level to be in sync with timing and deliverables which is important in such a complex IT project implementation. Open communication is an important control mechanism in such high task complexity assignments. For example, the team leaders responsible for migration and architecture management needed to be informed about the work status and progress in all the other teams to avoid setbacks and schedule overruns (Heuman et al., 2015).

The controls changed whenever the senior managers and team leaders ran into performance problems. They switched to coercive control style, making clear and unambiguous announcements of what needed to be done. Efficiency concerns were another reason team leaders exercised coercive control. Since schedule overruns would have caused considerable costs and production downtime, no deviation from the plan was allowed (Heuman et al., 2015).

Ultimately, there were four risks within the major risk project size: task complexity, legitimacy concerns, performance considerations, and efficiency concerns. Senior managers influenced project activities on lower levels by enabling team leaders and by implementing controls that were readily transmitted (Heuman et al., 2015) through the project plan and weekly meetings.

**Question 3: How did each IT initiative help align the organization better with its goals? What business value was achieved in each instance?**

In the Ekman, Thompson, and Whitaker (2017) article, each firm sought to improve its global operations and move towards a more centralized organizational structure. In the process of improving and expanding their IT architecture, they did experience some success. Successful execution and implementation of IT initiatives create value across the chain structure of an organization. From improved relations and coordination between the corporation and its suppliers to reliable distribution channels and ultimately productive and profitable customer interactions, IT initiatives seek to get a corporation to the point where it is fully maximizing its value creation.

Within the organization itself, there is better synergy and cross-collaboration within the divisions or business units, business processes are supported by adequate technology resulting in a more optimized production environment. Decision-makers gain more insight and access to various development and production phases enabling them to make more real-time and realistic decisions that put the organization at a competitive advantage.

As a result of the global ERP implementation, the Equipment firm was able to access a global customer base in order to optimize their pricing models, better procurement pricing due to availability of a global supplier base, and also optimized production and inventory management through access to global inventory data. The Parts firm had a global view of their financial performance through the implementation of their global financial system, as their divisions were able to transmit financial data and results to their headquarters. The Household goods firm experienced central coordination for procurement and marketing functions. Tangible benefits to the firm’s value creation were not recorded but according to the article, upon successful completion of their global technology standardization project, they would be able to harmonize processes, improve efficiency to strengthen controls, lower costs, manage risks, and increase information transparency that will support better decisions. Finally, the Consumer products firm was able to gain access to consumer purchase data from its small retailer sales segment for which it was unable to do prior to their IT initiative.

Similarly, the initiative at Infineon Technologies was to redesign and transform the financial IT setup, business, and process to support the firm’s overall business goals. This initiative demonstrated that corporate and academic entities were interdependent and were able to work together to meet the goals of the company and was supported by both management and the departments (both academic and corporate employees). This demonstrated that cooperation between the two segments of the company was needed and ultimately proved a success. The methods implemented, conceptualizing and operationalizing the target state, identifying and prioritizing gaps, and compiling a project portfolio and deriving transformation roadmaps were instrumental in the success of this project.

Value-based management help align the organization's business process management, business intelligence, and corporate performance management by involving all of the company’s enterprise architecture layers. “Value-based management directly affects corporate activities such as risk management, cash flow management, investment, and project valuation, planning and forecasting; it also affects the interfaces of these activities that one uses to operational finance services (e.g., Aretz& Bartram, 2010; Hahn & Kuhn, 2012; Malmi&Ikäheimo, 2003). All these activities were important for Infineon’s financial management activities and, thus, for the finance IT setup. Our choosing value-based management was in line with the aspirations of Infineon’s financial management department” (Bolsinger et al., 2016).

The business transformation project aligned the organization’s IT initiatives better with its goals by using synergies. The project requires associates and employees from inside and outside of the company and different business entities and IT departments to coordinate efforts. Centralization information and efforts helped fill the gaps between systems and initiatives and allowed management to see the big picture for better decision making. By pooling the company’s outputs, synergies allowed for the sharing of the data from one entity to another, thus closing the gaps where they existed. Centralization also allowed for the projects to be synthesized, developed, and matured according to the project roadmap developed by the project managers. Effectively, synergies and centralization allowed for a top-down view of the company’s processes for an overall understanding of the projects as they align with the project roadmap. Responsibility and tasks were clearer with the roadmap in place. The business value of the IT roadmap optimizing efforts and improving efficiencies in the company. Efforts were focused and not duplicated by business entities that were not communicating with each other.

Furthermore, the goal of the implementation of the integrated PLM in the engineering firm was to integrate production processes across business units in an effort to facilitate global collaboration and improve product quality (Heuman et al., 2015). The economic impact was achieved since the German engineering firm was able to complete the third phase of the new PLM project. In this case, the relative costs of information have decreased with the integrated version of PLM. The six business units were using a decentralized version of PLM, but now they all have access to the same data and can cross-reference during the production of their specific product in their business unit since although each business unit could produce a different product, they could have the same need for parts and use the same vendors.

On the organizational and behavioral impact side, the implementation of the new PLM project is assisting the German engineering firm to flatten hierarchies by broadening the distribution of information to empower lower-level employees and increase management efficiency (Laudon & Laudon, 2020). During the implementation of the IS, senior managers assigned different responsibilities to lower-level team managers and involved the team members in the decision making through feedback and daily and weekly meetings. Although the project is now complete, when using the new PLM, the same project teams will feel a better connection with the IS and will feel comfortable suggesting improvements which in turn allows continuous improvement.

In Porter’s competitive forces model, the strategic position of the firm and its strategies are determined not only by competition with its traditional direct competitors but also by four other forces in the industry’s environment: new market entrants, substitute products, customers, and suppliers (Laudon & Laudon, 2020). With the new integrated PLM, the German engineering firm will be able to produce at a lower price than competitors, assuming that the integrated PLM will allow the different business units to reach to vendors and negotiate better prices and reduce overall production inefficiencies. They will also use the information systems to develop strong ties and loyalty with customers, this way strengthening customer intimacy.

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