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| Arden University |
| MSc Operations Management and Data Analytics |
| Quality Management (BUS7007) |
| Assignment 2 |
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**Literature Review:**

At Jaguar Land Rover (JLR) we seek to be the market leader in the luxury car market, we have an objective to meet our customer’s requirement and to facilitate comfort in our products and establish a recognized name brand that will continue for generations to come. As a product-driven business the structure we adopt for ourselves in the operation and for the sake of the continuity of the brand and of our business can spell the difference between achieving prestige to the benefit of our shareholders and other stakeholders or of the end of an age of innovation and development at JLR. Fortunately, there are several business management tools and techniques that serve to address these issues of this type. With the aim of business continuity, the principles which show the highest potential for business transformation all embody a series of management principles that are based on the principles established out of the need to ignite the spark of production in post war-ridden Japan and beyond to the end of the industrial age. This very same philosophy is responsible for the era of mechanization in the manufacturing sector due to the identification of major touchpoints be it through the process leading to technologies that encapsulate repetitive tasks with the aim to reduce human error. The management philosophy I speak on evolved by drawing on the knowledge of behavioral science, analysis of quantitative and non-quantitative data, economic theory, and process analysis known as total quality management (TQM). How might the pillars of TQM ensure the continued successes of our business and lead to a continuous improvement and transformation at the core of how our business operates? Based on the contribution of several pioneers and practitioners in the field, TQM not only spans the width and breadth of a business’ operations but can be implemented in other areas of the business for consistent revenue growth and effective cost management and reduction.

As for implementation, we require the leadership of the company to facilitate an environment suitable for TQM through the engineering of a culture of excellence and improvement through communication. The implications of TQM reach beyond the operations and manufacturing processes of the organization and will require real change in areas spanning from human resources to marketing and innovation. The examples that show how TQM can affect our business include pensive questioning along the lines of what quality measures are used to determine promotability of staff, and recognize their contribution to the overall benefit of the organization? Where can we emphasize a culture of Lean through change management to ensure that our best minds are at the helm of decision-making at JLR? What part does Six Sigma have to play in the development of a low error production line whose cost savings could potentially offset research and development costs which are incorporated into establishing the final price of our vehicles to end consumers?

**Introduction:**

Drawing from business practices both present and old; since the introduction of total quality management (TQM) by Walter Shewhart and the critical work put in place by Joseph Juran in the 1950s onward, TQM has shown its fullest potential in transforming the operation of businesses through cost savings and profit maximization by customer loyalty, process optimization and, waste reduction to name a few. TQM has been implemented through tools and techniques which specified by a sequence of ideologies which can be applied in everyday tasks to derive maximum engagement with staff, decreased deflection from customers and improved supplier relations, spanning the whole stakeholder interest in the business. Through this document we will specify the quality management tools available to the corporate leaders at JLR and establish a link to how these systems and processes improve and support business objectives.

From the theory of TQM we will explore Quality Function Deployment (QFD) in the realm of electric vehicle (EV) production and the steps being implemented now by JLR to facilitate the need for vehicles that suit the public outcry for sustainability and pollution reduction through the green initiative, also how total quality management (TQM) in our recent partnership with Tata Motors to deliver end-to-end integrated ERP potentially leading to more efficient use of technology further to the incorporation (on a similar note) for the use of Six Sigma ideologies to provide an in-depth set of analyses cradling techniques which management would need to employ to successfully transfer the body of knowledge that is available in theory to the production floor and across departments representative of JLR’s titanic drivers for the future; through improvement initiatives in supply chain management which require a sense of what areas are dysfunctional in streamlining operations as detailed by the use of statistical process charts (SPC) and benchmarking the usage of these quality management techniques herald the complementation of the service we deliver to our customers and to the develop relationships of value with our stakeholders, finally we will close by examining the impact of our latest recruitment campaign on JLR in a European Foundation for Quality Management (EFQM) framework to explore how the initiative will fair in the overall development of the business towards a culture of quality management. Our focus will entail a thorough appreciation of the theory and serve to translate theoretical practices to the realm of practicality in our corporate operations and future proofing for the sake of continuous improvement.

**The technology of the future:**

Let us begin with the most recent development from JLR, the electronic vehicle (EV). With a greater push into the realm of sustainability for the conservation of environment for the preservation of the many different species which inhabit our planet, sustainability will become a cornerstone for the advancement of technologies and, for the very same reason and governments across the world are proposing for these advancements in a bid to reflect the voices of their voters to a green future for humanity. With the implementation of new legislative policies, firms such as JLR will need to eventually upgrade their manufacturing capabilities to accommodate the need to meet industry expectations surrounding the advancement of responsible and sustainable choice for our customers while all at once allowing for quality as a gauge for the performance of future models. As stated on the JLR website “We continue to lead the industry with more responsible materials... values such as premium textiles and wool blends, natural plant fibres and recycled plastics.” (Continuing to increase our more responsible and sustainable choices for our customers, 2024) These are reflective of the needs of the new age 21st century climate enthusiast while meeting the standard expected of our luxury brand.

Although we observe the shift in mindset as the call to innovate, the complexity of this transition can best be exemplified by the beneficial features of electric vehicles (EVs) in the face of practical application “To overcome these challenges, potential solutions include enhancing the charging infrastructure, increasing the number of charging stations, using battery swapping techniques, and improving battery technology to address range anxiety and reduce charging times.” (Alanazi, 2023) This introduces the need for services to the customer outside of traditional EV production and network deployment as we are required to account for charging infrastructure, charging stations and battery technologies that would require us to develop additional infrastructure through the deployment of these infrastructure for the business to perform based on the voice of the customer (VOC) in our future dealings accompanied by an increased set of analytics to accompany the observation of input from the customer “The application of QFD (Quality Function Deployment) can be particularly valuable to link customer expectations with the technical characteristics of the product. In the case of products, such as batteries for electric vehicles, where technology is not yet mature, and the technical requirements (e.g., autonomy) are continuously more demanding, this is particularly relevant.” (Fonseca et al., 2020) The future of JLR depends on the ability to meet the requirements of its client base, this would give a position of dependency on the brand in that JLR would in essence service what it sells causing a shift in our business model as now JLR seeks to “our goal of becoming net zero carbon business across our supply chain, products and operations by 2039.” (Powertrain Innovation, 2024)

**Technological advancement with ERP:**

We now shift dynamics one of the more recent developments in the wake of innovation using TQM as a basis for technological and procedural advancement in the end-to-end enterprise resource planning (ERP) and the use of principles of TQM that embody the use of statistical methodology in supply chain such as statistical process charts (SPC) and benchmarking. “ERP systems have become a very useful software for corporate management, and it is also a pre-requisite for competitive and modern firms.” (AlMuhayfith & Shaiti, 2020) The updates in ERP have led to a drastic increase in efficiency of systems and processes in the face of challenges such as competition for scarce resources, as a tool for corporate management the question begs to be asked of what was the stimuli which allows for SPC to “scientifically distinguish normal and abnormal process volatility.” (Li & Ji, 2011) Primarily, the focus of SPC specifically control charts “is a kind of map designed by a statistical method that measure, record, assess the quality characteristics of the manufacturing process and examine whether the process is in steady state.” (Li & Ji, 2011) Where ERP helps to provide a fluid and continuous scheduling and demand-planning integration to determine the business or manufacturing process we will also benefit from the analysis of the process in a time series to determine “whether the process capability can meet the technical requirements.” (Li & Ji, 2011) which will serve to regularize the inflow of products on a needs basis while optimizing the flow of cars that are distributed throughout the market. Tata would serve as the direct force to the satellite needs of JLR to ensure global reach of the supply chain while we seek to reduce operational overheads with TQM. Another benefit to this move is the initiation of JLR as a benchmark for the industry being able to compete with other brands which have a similar market structure in the luxury vehicle line, such as Audi and VW and other household names such as Lexus and Toyota. This was made possible through our own exploration as a global brand with an identity for competing with said rivals, which shows the practice of benchmarking was critical in our logical deduction of the next frontier of operations management in direct response to our competitors for price reductions, better supply chain relations and reduced risk and complexity in the supply chain all of which are key features of total quality management (TQM).

**Sustainable Recruitment:**

In the area of European Foundation for Quality Management EFQM like TQM we are focused on a management philosophy that can implement structural and sustainable gains in processes, people, and innovation. EFQM is based on several components: value for customers, creating a sustainable future, developing organizational capabilities, harnessing creativity through innovation, leading with vision and integrity, managing with agility, succeeding through talent acquisition, and sustaining outstanding results. From the prior examples explored in this report we see the overlap between both fields and now we shall set apart the human resource component of EFQM.

In addition to the advancement of JLR into the electric vehicle (EV) market based on several new models of the Jaguar Range Rover line, JLR now opens the floor for innovation and further sustainable breakthrough technologies through its recruiting of 250 electrification engineers who are stated to be assigned to “working across disciplines including advanced energy storage systems, battery cell design, and cell stack assemblies, as well as hardware and software essential to battery and electrical systems. These roles will be dedicated to JLR’s next generation vehicle architectures.” (JLR ramps up recruitment with 250 new electrification jobs, 2024) With the increase in these technical staff the track for growth at JLR has begun to be shaped by developing organizational capabilities that yield exponential returns based on creating a mutually beneficial relationship with these new hires and, in assigning to their role a breadth of working disciplines across departments they will find value in their continued career progression should they choose to utilize the track now afforded to them and provide for us an innovative and creative line of assessments and improvements based on their ability to gather the necessary information and feedback to reflect and grow. This will not happen overnight and it would be in the best interest of JLR to create a friendly and rewarding set of working conditions, also leading with a vision will be the difference between further growth expansion and detriment leaders need to share problems with staff possibly in a think-forum, idea sessions, hackathons and workshops such a musters could create the ideal setting for the next planet shifting innovation led by the luxury afforded by Jaguar Land Rover.

**Conclusion**

The work of quality management, though seen by many as a waste of money, can stir the right set of philosophies and principles starting from management to the lowest rungs of the corporate ladder. The trick is to deploy the reinitialize the process on an ongoing basis. With the correct allocation of resources, capital, and initiatives the introduction and subsequent improvement of operations based on quality management. The responsibility falls square into the hands of management to future-proof the company using total quality management (TQM) tools which have formed basis of operations for our top competitors in the market as they much like us look for breaking edge methodologies to effect business sustainability through reduction of waste, to increase efficiency and create a corporate culture of inclusion and engagement. With special projects and growth initiatives in place JLR can be sure to maintain the high standard of production expected of the business, with the drive to change we must remember that the exercise of TQM is iterative and not be discouraged in the absence of immediate results, but rather press to the mark of excellence by using failures as a benchmark and pivot into the more intricate internal operations that cost the most waste of resources while allowing for recommendations for improvements from those most experienced with managing the processes that drive the aspects of the business for which they have direct responsibility and are in the line of contact.

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