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ADM 6277 - E-Business Energy Management

Oracle

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1. Introduction

1.1 Mission

Oracle aims to develop sustainability as an extension of its business operations and address sustainability challenges with solutions that can be easily combined with the company's business activities. Currently, the company is working on minimizing the consumption of electricity and at the same time maximize the efficiency and increase the usage of renewable energy across all its data centers/facilities. Oracle has reached a significant milestone in this regard as it received Energy Star certifications for 29 of its owned buildings in 2018. The company has positioned itself as a leader with respect to energy-savings and reducing carbon emissions. The company has also deployed certain water conservation schemes like rainwater harvesting, xeriscape gardening in most of its facilities and data centers around the globe. The company also follows various sustainability practices like recycling and composting at their offices and raising awareness among its employees for waste disposal. In 2017, Oracle was able to reduce its waste production by 6% than the previous year. The main goal of Oracle is to reduce the amount of greenhouse gas emissions. Oracle is determined to reduce 55% of the carbon emissions per unit of energy consumed by 2025.

1.2 Vision

Oracle is determined to reduce 55% of the carbon emissions per unit of energy consumed by 2025. These goals cover emissions from Oracle's real estate and facilities, as well as Oracle Cloud [1]. To achieve this objective, Oracle is focusing on deploying solar energy in t2he majority of its facilities and its data centers. The installation of new solar energy systems will lead to a decrease in carbon emissions along with increased usage of renewable energy. The organization is also focussing on implementing state-of-the-art intelligent energy management and cooling systems based on Oracle's industry-leading expertise and best practices.

1.3 Company Structure

Oracle is in the distinctive position of providing solutions that wrap all aspects of the nexus of IT and sustainable business practices, from cloud data centers to business intelligence to smart utility grids. There is ample room for Smart Grid to leverage advancements in Customer Technology, Operational Technology, Smart Metering and Information Technology. There are numerous pressures that are encountered in the Utility sector around the globe, from customers pressing for better energy convenience to regulators seeking measures on the smart grid and smart metering to re-examine the provision and consumption of energy. Hence, Oracle has positioned itself as a utilities' software partner in the quest to provide solutions to these pressures. It has been able to use flexible innovations to transform the utility sector into leading-edge utility by means of configuration, integration, innovation and collaboration with outstanding technology partners.

1.4 Relevant History

Since 2015, Oracle has completed five additional solar projects around the world. The company is constantly pushing itself to use more renewable energy as an alternative power source. The installation of solar panels at its office in Burlington, Massachusetts which provides 65% of the building's energy needs. Since then the company has completed five additional onsite solar

projects at facilities in the United States and India. These projects have helped Oracle move closer to achieving its long term objective of increasing renewable energy use and at the same time reducing carbon emissions. The Oracle public cloud is 100 percent renewable-powered in Europe. Oracle is continuously evaluating potential onsite renewable energy projects as well as renewable energy provided through local utility grids in their efforts to move towards the use of more renewable energy across global operations.

2. Products and Services

2.1 Description of goods

Some of the applications being used by Oracle for mission-critical utility operations are Meter Data Management, Field Service, Work and Asset Management, Project Portfolio Management, Network Management System, Supply, Visual Applications and Business Intelligence. There are solutions being provided for Smart grid which can be in multiples or integrated so as to optimize grid use, facilitate grid efficiency and security, improve demand and supply alignment to eliminate grid congestion, distributed generation of energy through renewable sources and lastly, the empowerment and management of customer's energy consumption. Oracle can leverage on these major smart grid advancements listed below:

- Customer technology: Focuses on solar, distributed generation, electricity storage and smart appliances etc.
- Operational/ Electrical technology: Focuses on telecommunication, mesh network, automation, sensor and control technologies etc.
- Smart Metering: Focuses on using an advanced meter that provides the remote collection of meter data from customers at frequent intervals and;
- Information Technology which focuses on consumer energy management.

2.2 Proposition Uniqueness

Since the organization's business revolves around customer technology & Information Technology solutions, the integration of sustainable practices with the way Oracle delivers its products and services to its customers is one of the key differentiating factors which would enable the company not only to achieve its sustainability goals but also at the same time executing its operations in a cost-effective method. The installation of solar photovoltaic (PV) and the deployment of solar energy will not only save the company the operating costs but would also lead to a significant decline in carbon emissions.

2.3 Development Status

In 2018, it was found that Oracle's energy consumption increased by 4% (due to the increase in the number of data centers). But at the same time, the company was able to reduce its dependence on fossil fuels by 70%. The Oracle cloud carbon footprint was reduced by 68,878 metric tons of carbon dioxide. Oracle currently has 94 leased data centers that use 100% renewable energy. And, in fact, all data centers in Europe meet this criterion.[2] However, solar energy has not been deployed at its full potential in the mid-sized facilities and data centers of the company and there is still a scope of expansion in this area.

3. Market Analysis

3.1 Market Opportunity

Oracle has a diverse market with a wide range of products distributed over several dimensions. They provide services for industries like computing infrastructure, by allocating storage and computing needs of the customers. They also provide other services like database, cloud computing, middleware, data analysis, etc. Meanwhile, in the business sector, they serve the needs of finance, HR, marketing, supply chain, e-commerce and automation fields. It has roots worldwide serving in 145 countries to various small and large scale enterprises with dozens of applications like cloud services, sales operation, and other industry-specific requirements. In altogether the portfolio of the market works on different dimensions of customer need, size, location, budget, and industry. There is an ample expansion of deploying Oracle's sustainable solutions to major industries like Financial Services, Hospitality, Construction, Education, Life Science, Telecommunication, Government and Retail.

3.2 Risk Factors

Various risk factors involve while achieving sustainability, from the risk management point of view now companies establish certain rules and protocols and endure transparency in their work to mitigate the impact of risks. In Oracle risk is evaluated in four categories under the name of financials, operational, customer and strategic. To protect the company from high-risk exposure, few agendas can be applied which will help the organization to create value for stakeholders and integrate the business unit into one. Such measures are like monitoring and auditing, setting short and long term goals, reporting progress, the involvement of stakeholders and customers for improvement. All these factors will allow the growth of the organization in balance with social and environmental aspects. Oracle follows a sustainability scorecard that allows the institution to check on all four aspects of customer, process, growth, and financials.

3.3 Competitors

Oracle founded in 1977 is one of the largest market shares in terms of cloud services, having a $39.6 B annual revenue. The top competitors are Amazon web services, Microsoft and IBM. Oracle is creating its business value by providing cloud services, and cloud infrastructure. It also provides business solutions for the design of sustainable products, and other strategies to minimize resource usage. Monitoring the progress and with the use of technologies IoT, AI and Blockchain to innovate new design helps Oracle to be a top scorer in the market.

4. Feasibility Analysis

4.1 Budget

While keeping in mind the approach of sustainability, Oracle developed ERP solutions and they are planning to implement these solutions across the vision city in California. Thus we will look over the planned budget to operate over the city with reduced environmental impacts. The

expenditure is divided into five components which are general fund, wastewater fund, capital fund, city debt fund and internal service fund. The sources of revenue are sales and income tax merely. While the general fund is widely distributed across different sources i.e. Public Safety, Government, Community development, Public works, Parks and Recreation. The budget cycle comprises four stages mainly planning the budget, implementation, monitoring of expenses, and Reporting. Oracle has an estimated $43M for the public works budget for the vision city, while other expenses like safety, sanitation, and cultural impact share the rest of the fund.

4.2 Technical Analysis

Oracle is denoted by ORCL in the stock market, looking over the market trend and investments ORACLE has made highest close in the last week, Oracle can find buyers now $51.26. It has closed above the opening price after recovering from the early selling pressure. It has closed to highest consecutively five days in a row. While earlier in fall 2019, under lacklustre session, it closed within the price range of the previous day. The Oracle stock market price has touched sky after the news of the implementation of green energy and signing projects for sustainable improvements. Thus improving the market value of oracle.

4.3 Social Analysis

Oracle has innovated many products and services for the ease of individuals and organizations. Oracle uses the SRM (Social Relationship Management) strategy to improve its network and social influence. As most of the customer uses types of social networking platforms to find solutions to their needs and design methods. Thus Oracle has come with a solution of unified platforms where it will provide the user with solutions and at the same will integrate different phases of the design so the user end requirements get satisfied. Oracle provided the complete business solution via three platforms i.e. Oracle cloud platform, for providing the user with cloud source to store the data and build their projects and designs. Secondly, the Social Innovation and Expertise team helps the end-user to get solutions as per their specific industry need and design methods. And at last, the Oracle CX team that helps and support the customers 24*7 at each touchpoint connecting user via different social platforms. These three-point solutions adapted by Oracle giving him more powerful capabilities with greater efficiency and effectiveness.

5. Conclusion

In order to ensure Oracle’s efforts to create a sustainable business are worth the investment, the company needs to take action both at the strategic and tactical levels. A dedicated corporate sustainability and social responsibility department need to be put in place and the senior management needs to be put in charge of the company’s sustainability strategies and initiatives. The company needs to devise a viable strategy that combines profits with intangible factors such as protecting the environment and improving the quality of life.

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Appendices

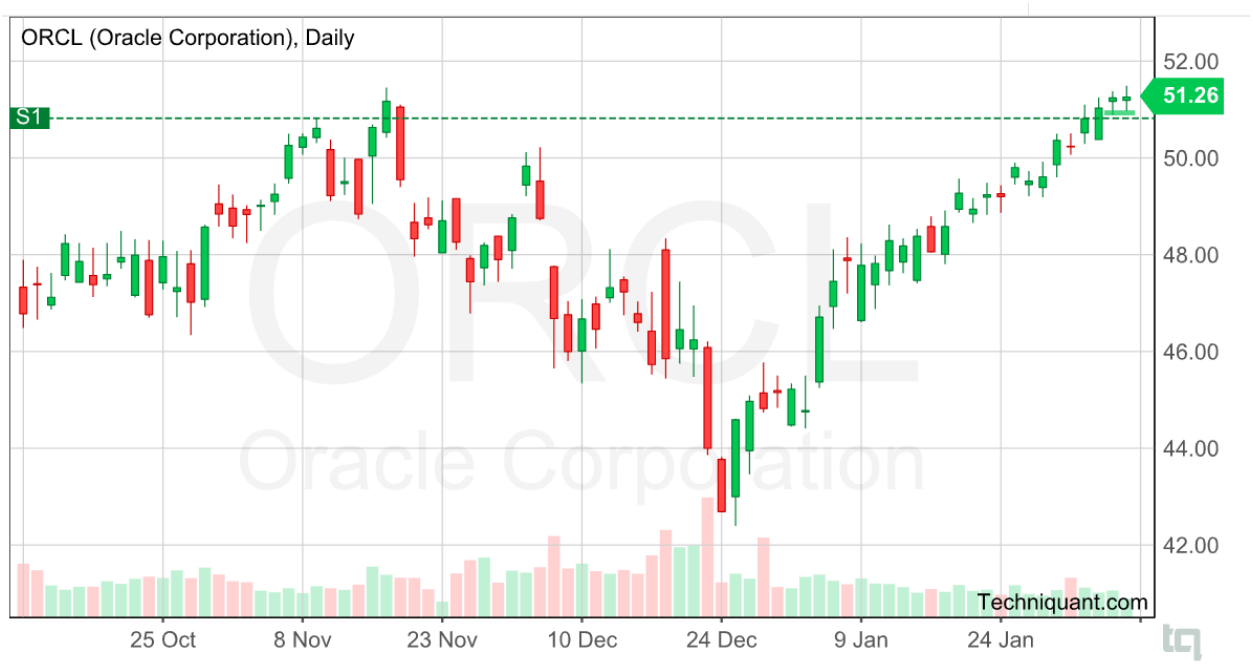

Figure 1: Oracle Stock (Technical Analysis)

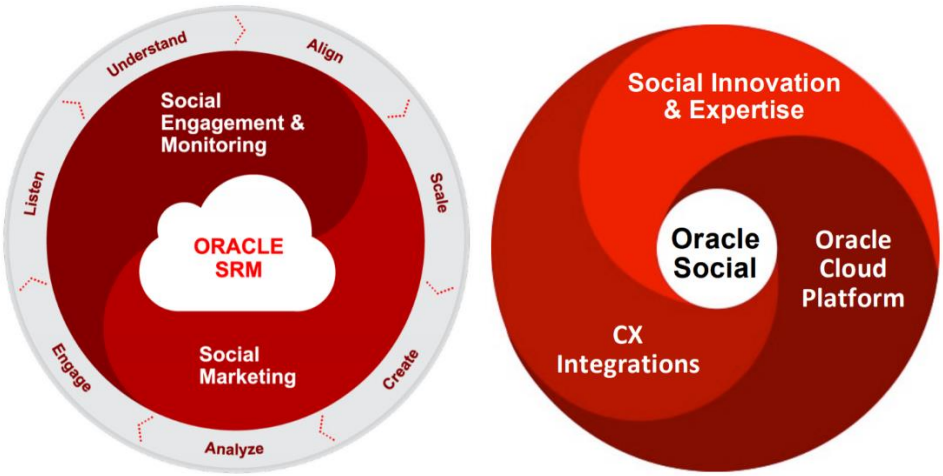

Figure 2: Social Analysis

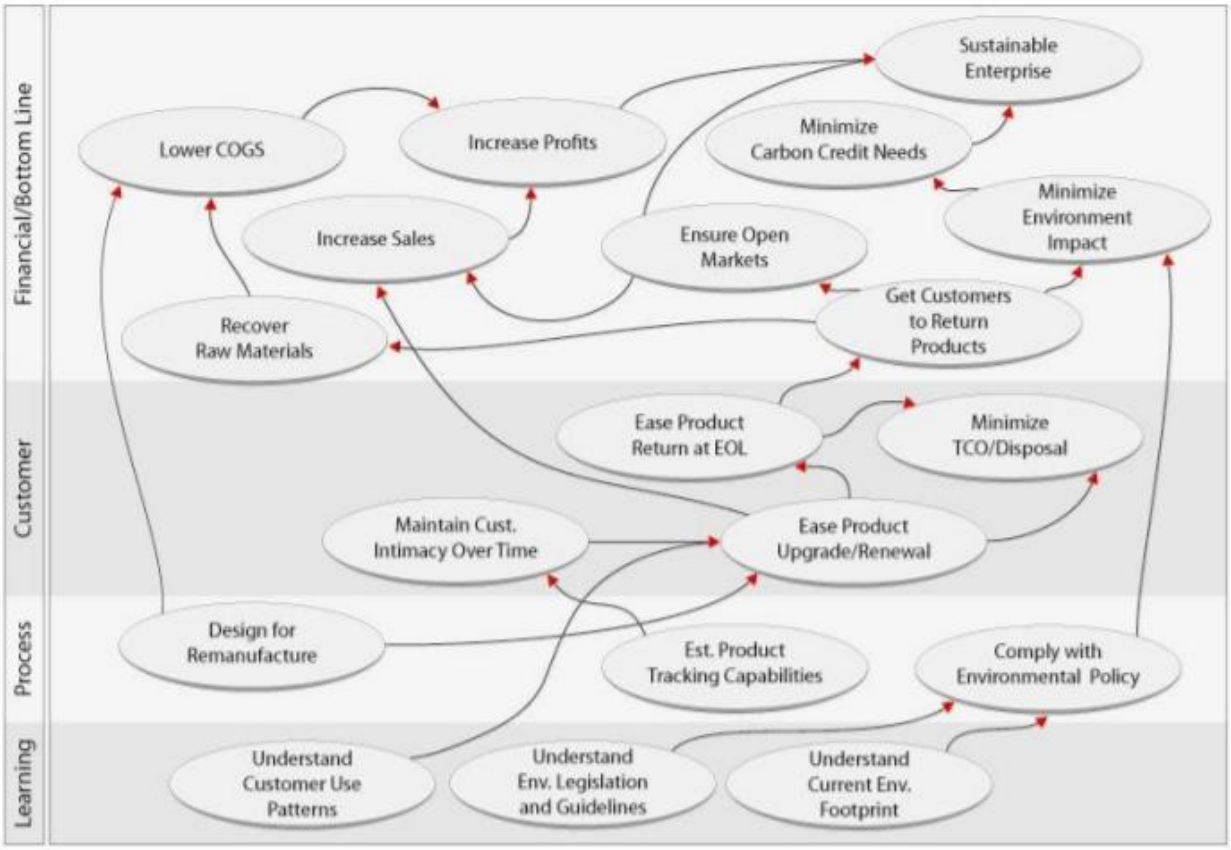

Figure 3: Sustainability Scorecard

Sustainability Plays a Role in All Four Balanced Scorecard Perspectives	
Customer Perspective • Adds to the Customer Value Proposition, competitive differentiation • Serves as a source for watching trends • Should be treated carefully as PR	**Processes Perspective** • Supports internalized control, compliance and transparency • Serves as a process optimization tool
Growth/Learning Perspective • Adds to employee satisfaction • Can be a soft investment • Enables organizational learning	**Financial Perspective** • Feeds sustainability-weighted indexes • Helps attract long-term investors

Table 1: Impact of Sustainability on Business Model

Category	Aspects
Economic	Economic Performance Market Presence Indirect Economic Impacts
Environmental	Materials Energy Water Biodiversity Emissions, effluents, and waste Products and services Compliance Transport Overall
Labor Practices	Employment Labor/management Relations Occupational Health and Safety Training and Education Diversity and Equal Opportunity
Human Rights	Investment and Procurement Non-Discrimination Freedom of Association and Collective Bargaining Child Labor Forced and Compulsory Labor Security Practices Indigenous Rights
Society	Community Corruption Public Policy Anti-Competitive Behavior Compliance
Product Responsibility	Customer Health and Safety Product and Service Labeling Marketing Communications Customer Privacy Compliance

Table 2: Sustainable Reporting Framework