**Module Two Capstone Element 3: Analysis and Visualization of Additional Data Set**

**Dataset: Retail Sales and Marketing (Key Findings Summary, Insights, Correlations)**

MIS 490: Management Information Systems Capstone

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**Executive Summary (Retail Sales and Marketing)**

ABC Company is looking to expand as it grew from a small company to a multi-national company. As a result, the CEO needs to conduct a thorough review of product-related information such as cost, revenue, price and so on across the years as well as ordering methods. This comes as a necessary step as stakeholders would like to gain insight into the steps taken that worked and made a difference and the steps that did not work as intended. Therefore, this report shows insights into key findings as well as correlations related to the sales and marketing of the company as well as its profit and loss.

**Introductory Preparation and Correlations.**

The retail sales and marketing dataset was imported into the Power BI software portfolio. This dataset details metrics pertaining to the current marketing campaign and resulting sales because of it, thereby dictating the health of the company. There were no correlations found between the IT Help Desk, Employee Attrition, and this dataset as this dataset focuses solely on the performance of the company and not issue resolution or employee sentiment.

**Key findings Summary, Insights.**

From the analysis of the Retail Sales and Marketing dataset, the product cost is high across all years and the order method that was utilized the most at the time is Web. The product cost in the year 2015 also spiked higher compared to other years. This indicates that products sold via the web ordering method are generally more expensive as they accumulate costs related to shipping and handling as well as storage. It also indicates that there might have been a particular event that impacted web-related costs of products in 2015.

Furthermore, the sum of unit cost per year is consistently lower than the sum of unit price per year. This indicates a healthy profit margin. The sum of unit sale line closely follows the sum of unit price line. This indicates a consistent pricing strategy across the years. The trend also has unit sales price fluctuating a bit, indicating promotional discounts or other price reduction related activities.

From the analysis, it is evident that the sum of unit cost, price, and unit sale price is the highest for the web order method. This again indicates, thereby reinforces that web-based activities dominate other order method types concerning revenue and cost generation.

Furthermore, the year 2015 shows a noticeable increase in gross profit with it fluctuating a bit for the rest of the years. The order method types that account for the most gross profit generation is again the web order method. This indicates that web channel drove the profits and made 2015 a particularly profitable year as the web order method is a major contributor to gross profits.

A screenshot of a graph

AI-generated content may be incorrect. From the analysis of pie chart, it is evident that the largest portion of gross profit is contributed by the United States, indicating the importance of the US market for the company. The company will have to maintain its grip in the United States market if it wants to stay profitable in the coming years.

Upon analyzing the planned revenue and revenue year by year, it is evident that both lines deviate around the year 2015. This is a sign that the company forecasted revenue for 2015 may be inaccurate. This further indicates a potential planning issue in the management or some external market factors outside of company control.

Lastly, web-based order method types surpassed planed revenue when revenue and planned revenue are analyzed year by year. This indicates that there may be a strong demand for web-based shopping or a marketing campaign may have been successful if it was launched in the same period.

**Technology Solutions.**

It is evident from the analyzation of current systems and company trajectory that a lot of revenue is generated when the web-based transactions are involved. To ensure that this revenue stream does not get affected negatively, few solutions are recommended.

The e-commerce system used by the company should be upgraded to improve the overall experience of the user. The checkout process may be streamlined, and recommendations may be personalized. Moreover, the e-commerce system can be integrating with a CRM system such as Salesforce to gain an in-depth view of customer preferences and behavior. A CRM system stands for customer relationship management system and helps organizations manage customer relations. Targeted marketing campaigns can also be improved by increasing customer engagement via the implementation of marketing automation tools, thereby automating repetitive marketing tasks. Lastly, performing real-time analysis of transaction data will aid the company in identifying trends, thereby strengthening the effectiveness and efficiency of the web-based sales. A decent analytics platform needs to be built to enable this.

Conclusively, these solutions will support the immediate needs and long-term strategic goals of the company if implemented.

**IT Infrastructure Assessment and Recommendations.**

ABC Company relies heavily on web-based sales. As a result, a thorough assessment of the current IT infrastructure is necessary as well as recommendations for improvement.  
 The current platform is functional but lags in providing personal recommendations and a faster checkout experience. The system may be hosted in a shared server environment. This will limit its functionality during times of extreme usage. To mitigate this, a cloud-based solution such as Google Cloud and AWS can be incorporated to enhance user experience. Relational databases may be used to store relevant data. This means data is stored in local servers, creating data loss issues in times of disaster. A data warehouse can be implemented to mitigate this. This also provides the company with the ability to perform comprehensive analytics and data-driven decision making. If the volume of web sales increases, the current bandwidth capacity may not be enough to handle operations. Increased traffic and demand need to be handled by applying load balancing and upgrading network bandwidth, making sure web sales are not affected by network issues.

Security features also play a vital role in sustaining daily operations. The current infrastructure may include antivirus software and firewalls. However, the company can implement a security information and event management system (SIEM) to ensure threats are detected and resolved in real-time (Thurnmond, 2024). It is also recommended that the company conduct regular security audits and design a complete recovery plan in cases of disaster. Lastly, more budget needs to be allocated so that hardware components of the IS can be replaced at regular intervals, reducing the risk of hardware failure.

**Information Security Policies and Procedures.**

It is in the company’s best interest to develop information security policies and procedures that are aligned with laws and regulations at the national and international level (Thurnmond, 2024). These policies should dictate how sensitive data is to be handled across the company and the penalties that the company may be liable for in case of any violations. As a result, the following procedures, laws and regulations are recommended be applied so that sensitive and financial data is safeguarded.

Data at rest and in transit should be encrypted at all ends. Moreover, role-based access control should be implemented to ensure only the personnel who need to access data accesses data and nobody else (Thurnmond, 2024). To ensure all established policies and procedures are effective, regular security audits should be conducted. This ensures all loopholes are taken care of. In case of data breach, an incident response plan should be established. This would be helpful in mitigating the effects of data breach and loss (Thurnmond, 2024). Lastly, data privacy regulations should be complied with such as CCPA and GDPR. These regulations ensure that all sensitive data always remain confidential and safe.

**References:**Thurmond, T. (2024, February 6). *15 information security policies every business should have*. KirkpatrickPrice. https://kirkpatrickprice.com/blog/15-must-have-information-security-policies/