**DATA DRIVEN DECISIONS FOR BUSINESS OF WFTT**

**TABLE OF CONTENTS**

[Task 1 3](#_Toc132730114)

[Introduction 3](#_Toc132730115)

[Overview 3](#_Toc132730116)

[Project plan 4](#_Toc132730117)

[Task 2 5](#_Toc132730118)

[Data quality issues and remedies 5](#_Toc132730119)

[Task 3 6](#_Toc132730120)

[Data analysis and commentary 6](#_Toc132730121)

[Task 4 11](#_Toc132730122)

[Data charting and commentary 11](#_Toc132730123)

[Task 5 14](#_Toc132730124)

[Conclusions 14](#_Toc132730125)

[Recommendations 14](#_Toc132730126)

[Reference List 16](#_Toc132730127)

[Appendices 18](#_Toc132730128)

# Task 1

## Introduction

Data has become the primary factor in many choices as the corporate world changes and technology develops. The practice of using data to make reasoned business decisions is known as data-driven decision-making (DDD). WFTT, a prominent supplier of digital media and information, is not an exception. Data-driven decision making has grown increasingly significant in all facets of the company as the organization expands and undergoes transformation. DDD's core idea is straightforward: gather data, analyses it, and then use the results to guide choices. It is feasible to spot patterns and correlations that might otherwise go undetected with the correct data and analytic techniques. This information may be utilized to learn more about consumer behavior, product performance, marketing initiatives, sales, and other topics. At WFTT, business strategy is determined by data-driven decisions. The company may better understand its consumers and provide more useful marketing, product, and service offers by researching customer data. WFTT can find areas for improvement and implement adjustments that increase success by analyzing performance data. Decisions concerning brand-new goods and services are also influenced by data. WFTT can create offers that satisfy clients' demands by analyzing customer data to learn what kinds of products and services they are interested in. This enables WFTT to maintain its competitive edge and guarantee client satisfaction.

The success of a firm may be evaluated using data-driven judgements. WFTT can pinpoint areas that want improvement and those where they are succeeding by monitoring key performance indicators and analyzing the data gathered. Making decisions based on this knowledge will ultimately improve performance as a whole. Making choices based on data is a crucial component of every profitable business. WFTT may use data to gather, analyses, and use data to make decisions that will increase success. WFTT can make decisions that will boost customer happiness and revenue if it has access to the correct data and analytical tools.

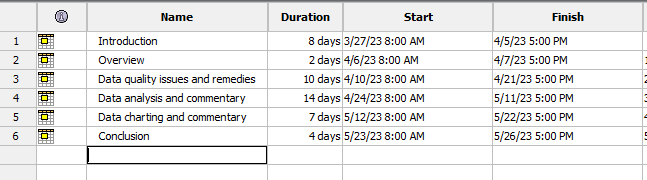
## Overview

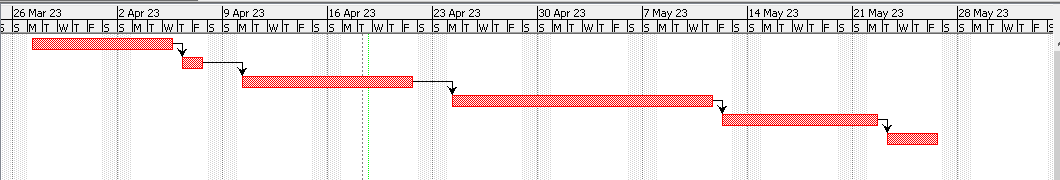
The technique of utilizing data to make business choices is known as data-driven decision making (D3M). Making business choices entails gathering, analyzing, and interpreting data. Data may be utilized by WFTT to better understand client demands, spot new possibilities, and streamline operations. Statistics may be gathered from sources including market research, sales statistics, and consumer feedback. The market's trends and patterns may then be determined by analyzing this data. It may be utilized to determine consumer preferences and purchase patterns. Data may also be utilized to evaluate performance and monitor advancement. Data that has been gathered and examined may then be utilized to develop plans and make choices.

It can assist in locating potential improvement areas, such as raising productivity or cutting expenses. Data may also be utilized to create new options for goods and services. Additionally, data may be utilized to target particular client categories and personalize customer experiences. Data may also be utilized to enhance marketing initiatives (Akhtar *et al* 2019). Businesses may gain insight into the demographic they are targeting and develop more successful marketing efforts by analyzing consumer data. The effectiveness of campaigns may also be monitored using this data, and any necessary modifications can be made. Businesses of all sizes may benefit from data-driven decision making. It may help organizations make better decisions, run more smoothly, and generate more revenue. Data may be utilized by WFTT to better understand client demands, spot new possibilities, and streamline processes for increased productivity.

## Project plan

A Gantt chart is the perfect tool for managing a timetable for each work and for graphically tracking a project's progress. The introduction, data quality checks, data analysis, data graphing, and commentary on WFTT's Data Driven Decisions for Business may all be planned using this tool. It is a wonderful approach to spot any possible hazards, dependencies, or delays early on in the project.





**Figure 1: Gantt chart**

(Source: Self-created in Project Libre)

# Task 2

## Data quality issues and remedies

They may also evaluate how to effectively spend marketing resources to maximize return on investment and spot customer service improvement opportunities. Last but not least, WFTT needs to make sure that these insights are put to use in data-driven choices. This might entail creating focused marketing initiatives, investing resources to enhance customer service, or optimizing their product offers based on consumer input. To guarantee that these choices are wise and practical, data and analytics must support each one of them. Making decisions based on data is a crucial component of every organization. WFTT may get insight into their operations, spot areas for development, and make business-enhancing choices by utilizing data and analytics.

Data quality is a key consideration when making choices for any organization, but particularly for WFTT. Inaccurate insights, incorrect deductions, and ultimately bad business decisions can result from poor data quality. The data-driven decisions made by WFTT may be affected by a number of data quality concerns, including:

1. Incomplete data: Missing or incomplete data might result in faulty analysis and findings.

2. Inaccurate data: Analyses and conclusions might be compromised by data that contains mistakes, duplicates, or erroneous information.

3. Information which is inconsistent across providers or time periods might cause misunderstandings and incorrect conclusions.

4. Biased data: Information that is biassed in favor of a certain group or subgroup might produce incorrect conclusions and discriminating judgements.

The following actions can be taken by WFTT to address these data quality issues:

1. To guarantee that data is comprehensive, accurate, and consistent, clearly define data gathering and storage standards.

2. Put data cleansing and validation procedures into place to make sure that mistakes and duplicates are found and fixed.

3. To find discrepancies and anomalies in the data, use information profiling and analysis tools.

4. Keep an eye out for prejudice and take action to lessen it, such as making sure that sources of information and analysis are diverse.

5. Establish a structure for data governance to make sure that data quality is sustained throughout time.

# Task 3

## Data analysis and commentary

Today's corporate climate places an increasing emphasis on data-driven decision-making. Any organization that wants to succeed and remain competitive must be able to use data to guide its choices. In order to make the best judgements possible, WFTT, a woodworking company, has adopted data-driven decision-making.

Feedback from clients, surveys, financial accounts, inventory counts, and production statistics are among the types of information acquired by WFTT. This information is utilized to spot movements and trends that might point to shifting consumer demand, financial viability, and manufacturing requirements (Andronie *et al* 2021). Customers' preferences and opinions, for instance, may be revealed via customer satisfaction surveys, which may be utilized to modify product offerings, prices, and marketing tactics. Sales and spending patterns may be shown through financial accounts, which may be used to pinpoint areas that need to be improved. Inventory levels can be used to assess if a firm is generating too much or too little of a certain product. The manufacturing process can be shortened or enhanced in areas that can be found using production data.

Values of USA in 2018, 2019 and 2020

|  |  |
| --- | --- |
| ***USA 2018 Value*** | |
|  |  |
| Mean | 77533.45123 |
| Standard Error | 6765.788753 |
| Median | 86027.71 |
| Mode | #N/A |
| Standard Deviation | 51080.58491 |
| Sample Variance | 2609226155 |
| Kurtosis | -0.90662772 |
| Skewness | 0.0282891 |
| Range | 200465.16 |
| Minimum | -2129.38 |
| Maximum | 198335.78 |
| Sum | 4419406.72 |
| Count | 57 |
| Largest(1) | 198335.78 |
| Smallest(1) | -2129.38 |
| Confidence Level (95.0%) | 13553.50353 |

|  |  |
| --- | --- |
| ***USA 2019 Value*** | |
|  |  |
| Mean | 70048.95965 |
| Standard Error | 6492.18905 |
| Median | 62558.73 |
| Mode | 2073.58 |
| Standard Deviation | 49014.95245 |
| Sample Variance | 2402465563 |
| Kurtosis | -0.95683376 |
| Skewness | 0.393364436 |
| Range | 178750.5 |
| Minimum | -1659.82 |
| Maximum | 177090.68 |
| Sum | 3992790.7 |
| Count | 57 |
| Largest(1) | 177090.68 |
| Smallest(1) | -1659.82 |
| Confidence Level (95.0%) | 13005.41746 |

|  |  |
| --- | --- |
| ***USA 2020 Value*** | |
|  |  |
| Mean | 68492.6925 |
| Standard Error | 10419.38633 |
| Median | 46407.065 |
| Mode | #N/A |
| Standard Deviation | 80708.21948 |
| Sample Variance | 6513816691 |
| Kurtosis | 2.339807033 |
| Skewness | 0.99256164 |
| Range | 469095.67 |
| Minimum | -167971.71 |
| Maximum | 301123.96 |
| Sum | 4109561.55 |
| Count | 60 |
| Largest(1) | 301123.96 |
| Smallest(1) | -167971.71 |
| Confidence Level (95.0%) | 20849.14389 |

Values of UK in 2018, 2019 and 2020

|  |  |
| --- | --- |
| ***United Kingdom 2018 Value*** | |
|  |  |
| Mean | 38660.1112 |
| Standard Error | 3832.769064 |
| Median | 27448.75 |
| Mode | 1495 |
| Standard Deviation | 27101.76996 |
| Sample Variance | 734505934.8 |
| Kurtosis | -0.868645255 |
| Skewness | 0.662758154 |
| Range | 94086.16 |
| Minimum | 1495 |
| Maximum | 95581.16 |
| Sum | 1933005.56 |
| Count | 50 |
| Largest(1) | 95581.16 |
| Smallest(1) | 1495 |
| Confidence Level (95.0%) | 7702.2378 |

|  |  |
| --- | --- |
| ***United Kingdom 2019 Value*** | |
|  |  |
| Mean | 34508.02096 |
| Standard Error | 5559.669995 |
| Median | 18157.395 |
| Mode | #N/A |
| Standard Deviation | 40091.35048 |
| Sample Variance | 1607316383 |
| Kurtosis | 0.827138121 |
| Skewness | 1.478104488 |
| Range | 135370.5 |
| Minimum | 500.16 |
| Maximum | 135870.66 |
| Sum | 1794417.09 |
| Count | 52 |
| Largest(1) | 135870.66 |
| Smallest(1) | 500.16 |
| Confidence Level (95.0%) | 11161.50325 |

|  |  |
| --- | --- |
| ***United Kingdom 2020 Value*** | |
|  |  |
| Mean | 38955.6231 |
| Standard Error | 8088.239204 |
| Median | 13418.5 |
| Mode | #N/A |
| Standard Deviation | 61598.1946 |
| Sample Variance | 3794337578 |
| Kurtosis | 3.707039886 |
| Skewness | 2.114136496 |
| Range | 247992 |
| Minimum | 0 |
| Maximum | 247992 |
| Sum | 2259426.14 |
| Count | 58 |
| Largest(1) | 247992 |
| Smallest(1) | 0 |
| Confidence Level (95.0%) | 16196.41963 |

Values of Japan in 2018, 2019 and 2020

|  |  |
| --- | --- |
| ***Japan 2018 Value*** | |
|  |  |
| Mean | 124919.7218 |
| Standard Error | 26873.36235 |
| Median | 29472.5 |
| Mode | #N/A |
| Standard Deviation | 188113.5364 |
| Sample Variance | 35386702588 |
| Kurtosis | 0.875204603 |
| Skewness | 1.52929753 |
| Range | 663920.04 |
| Minimum | 0 |
| Maximum | 663920.04 |
| Sum | 6121066.37 |
| Count | 49 |
| Largest(1) | 663920.04 |
| Smallest(1) | 0 |
| Confidence Level(95.0%) | 54032.51639 |

|  |  |
| --- | --- |
| ***Japan 2019 Value*** | |
|  |  |
| Mean | 109138.3913 |
| Standard Error | 24352.7195 |
| Median | 33427.91 |
| Mode | #N/A |
| Standard Deviation | 180604.6015 |
| Sample Variance | 32618022097 |
| Kurtosis | 11.11341807 |
| Skewness | 2.974388018 |
| Range | 1007521.18 |
| Minimum | 3683.88 |
| Maximum | 1011205.06 |
| Sum | 6002611.52 |
| Count | 55 |
| Largest(1) | 1011205.06 |
| Smallest(1) | 3683.88 |
| Confidence Level(95.0%) | 48824.26294 |

|  |  |
| --- | --- |
| ***Japan 2020 Value*** | |
|  |  |
| Mean | 68873.85083 |
| Standard Error | 11117.50291 |
| Median | 28497.095 |
| Mode | #N/A |
| Standard Deviation | 86115.80725 |
| Sample Variance | 7415932258 |
| Kurtosis | 1.951496055 |
| Skewness | 1.697244824 |
| Range | 350120.67 |
| Minimum | 884.71 |
| Maximum | 351005.38 |
| Sum | 4132431.05 |
| Count | 60 |
| Largest(1) | 351005.38 |
| Smallest(1) | 884.71 |
| Confidence Level (95.0%) | 22246.07194 |

# Table 1: Sales prediction table

(Self-made on MS Excel)

# Task 4

## Data charting and commentary

Businesses may make educated decisions that are supported by data by using data-driven decision-making. Organization is not an exception in this regard. WFTT may make judgements based on data rather than hunches and speculation by using data-driven decision-making. WFTT may use data to better understand consumer behavior, spot potential areas, and increase return on investments. WFTT uses data to identify patterns, trends, and linkages in the data in order to make decisions (Cavalcante *et al* 2019). As a result, organization may make judgements that are supported by data and facts rather than speculation. Data may be used by WFTT to better analyses consumer behavior, spot potential growth areas, and increase investment returns. A system for gathering, handling, and retaining data must be developed. This must contain a strategy for keeping track of how data changes over time and structuring it in a way that's practical sense for the enterprise.

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **Sales of Japan (in euro)** | **Sales of UK (in euro)** | **Sales of USA (in euro)** |
| **2018** | 663,920 | 1,933,006 | 4,419,407 |
| **2019** | 6002,612 | 1,794,417 | 3,992,791 |
| **2020** | 4132,431 | 2,259,426 | 4,109,562 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **Volume(quantity) of Japan** | **Volume(quantity) of UK** | **Volume(quantity) of USA** |
| **2018** | 462 | 121 | 175 |
| **2019** | 610 | 186 | 186 |
| **2020** | 227 | 316 | 299 |

**Figure 2: Sales Value**

(Source: Self-made in MS excel)***[Refer to appendix 1]***

**Figure 3: Volume**

(Source: Self-made in MS excel) ***[Refer to appendix 2]***

The WFTT editorial the information Driven Decisions for Organizational" emphasizes the need of making business decisions based on data. The article emphasizes a number of significant concepts, including the significance of data collection and analysis, the importance of using data to guide business strategy, and the utility of statistical representation in decision-making. In this data commentary, I'll elaborate on these concepts and provide more information on the issue. The relevance of data gathering and analysis for making defensible business decisions is emphasized in the first paragraphs of the essay. Without solid facts, it is hard to make wise judgements, therefore this is a crucial topic (Costa *et al* 2019). According to the article, companies should gather data from a range of sources, including market research, consumer feedback, and internal corporate data. The essay emphasizes the value of data analysis, pointing out that gathering data is only the first step in analyzing it for insights that may guide decision-making.

The problem of data quality is one that the essay does not completely address. Information needs to be accurate and trustworthy in order to be valuable. This means that organizations must take efforts to assure the high quality of their data, such as by standardizing data gathering techniques and putting in place data validation procedures.

The article's discussion on data visualization's significance in decision-making is another important theme. Data visualization, according to the paper, may aid decision-makers in comprehending large data sets and seeing patterns and trends that may not be immediately apparent in raw data. According to the article, companies should spend money on dashboards and other technologies that may help them visualize data.

The possibility for oversimplifying complicated data sets is one possible drawback of data visualization. While data visualization may undoubtedly aid in increasing data accessibility, it is crucial to make sure that decision-makers are also engaging with the underlying data and not only depending on visualizations.

The essay concludes by highlighting the significance of leveraging data to inform corporate strategy. This is a crucial aspect since, in the current fast-paced business world, data-driven decision-making may help organizations stay competitive. Businesses may make better judgements regarding product development, marketing tactics, and resource allocation by leveraging data to guide their strategic decisions.

# Task 5

## Conclusions

WFTT, for instance, may utilize data to examine client involvement with the brand, buying habits, and preferences. Using this information, focused advertisements may be developed that are catered to consumer demands, ensuring the retention of high-value clients and pinpointing growth opportunities. Data also gives organization’s information on how its goods and services are doing and how its clientele is reacting. WFTT can identify which goods and services are popular with customers and which ones want improvement by analyzing data from customer surveys, customer feedback, and customer reviews. This information may be utilized to optimize pricing, enhance the client experience, and develop more specialized marketing efforts.WFTT can foresee and predict events more precisely thanks to data-driven judgements. In order to anticipate future trends, consumer behavior, and product performance, WFTT can utilize data to create predictive models. This makes it possible for WFTT to remain ahead of the curve, foresee consumer demands, and create market-specific strategies. WFTT can make well-informed judgements because of data-driven decision-making. WFTT may make judgements based on information rather than speculation by utilizing data. WFTT is also able to spot opportunities, maximize returns on investments, and keep a step ahead of the competition thanks to data-driven decision making.

## Recommendations

Every business, including this organization, must make decisions using datasets, and this is no different. With the proper data and analytics, businesses may get insights into their regular activities that may help them make superior judgements and ultimately improve their bottom line. The first step in the process of this organization's data-driven decision-making is identifying the data that is most important to the company's operations. Data about consumer usage, sales, customer opinion, etc. may fall under this category. Following the identification of the data, it's critical to gather and store it in a safe database. So that WFTT can monitor changes over time, this database should be able to hold both historical data and current data points. The next step is for WFTT to create a collection of analytics and data mining tools to examine their data. These technologies may be used to find connections among many data pieces, offering significant insights that can assist guide decision-making (Dash and Ansari, 2022). For instance, WFTT can identify which goods are the most and least popular by looking at consumer usage statistics. By recognizing patterns in consumer feedback, they can decide how to best serve their clients. The next stage is to develop practical insights using this study. For instance, WFTT may utilize their information to determine which goods work best at boosting sales and which ones need work.

In the corporate world, data-driven choices are becoming more and more crucial, and WFTT is no exception. There are a few actions that may be made to guarantee that WFTT is making the most effective data-driven judgements. Making ensuring the data being used is correct and current is the first step. This entails gathering data from dependable sources, confirming its correctness, and double-checking every data piece. It is necessary to create a system for acquiring, processing, and storing data. This should include a strategy for tracking how data evolves time to time and organizing information in a way that's intuitive and makes sense to the firm. Second, this company has to create a strategy for making data-driven choices. This include formulating a method for analyzing the data, establishing goals for the study, and formulating a plan for putting the analysis' findings to use. The company should think about how data may be utilized to improve consumer experiences and operational efficiency. The firm should make sure that everyone in the organization is informed about the data-driven choices. This entails giving frequent updates on the findings of data analysis and ensuring that everyone has an understanding of how data is used to inform decisions.

To verify that data-driven decisions are having the desired impact, it is imperative to track and monitor all of them. Any organization must make decisions based on data, thus WFTT has to take action to make sure their data analysis is as efficient as possible. WFTT can make sure that their data-driven decisions are having the expected effect by successfully collecting, analyzing, and disseminating data.

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# Appendices

**Appendix 1: Sales Value**

(Source: Self-made in MS excel)

**Appendix 2: Volume (Quantity)**

(Source: Self-made in MS excel)