



INDIVIDUAL ASSIGNMENT

TECHNOLOGY PARK MALAYSIA

CT048-3-M-BIS

Business Intelligence Systems (BIS)

INTAKE APUMF2204 (DSBA) (DE)

TP067696

Investigation on GBI Higher Sales Revenue in March and April

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INSTRUCTIONS TO CANDIDATES:

- 1 This assignment should be submitted through outline facilities made available to the students.**
- 2 Students are advised to underpin their answers with the use of references (cited using the Harvard Name System of Referencing).**
- 3 Late submission will be awarded zero (0) unless Extenuating Circumstances (EC) are upheld.**
- 4 Cases of plagiarism will be penalized.**
- 5 You must obtain 50% overall to pass this module.**

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Introduction

The assignment is about business intelligence system whereby it is about how an organization, or a company combine and blend data gathering, data storage and knowledge management with data analysis method to evaluate, assess and transform complex and complicated data into something that is very meaningful and insightful for the company. This useful information is then can be used to support the company to make much more effective decision making using various method and techniques such as tools and technologies to improve the company business and profit. This assignment used the GBI datasets bike company to analyse business problems by applying business intelligence method such as descriptive analysis, knowledge analysis, information analysis, critical analysis, diagnostic analysis, and creative thinking. The business intelligence report of this data can be connected to a server from Victoria University and hence using this connected server the detail investigation on the business problems of GBI bike company can be done.

- GBI Bike company history.

Before going into the details of the assignment purposes, this section discusses about the background history of this company whereby this company was founded by an American and a German where both of them meet together in 2000 to form their company. John Davis is a world class bicyclist where he won lot of championships in mountain racing and because of that he created a company producing trail bikes in the United States. Meanwhile, Peter Weiss is an engineer from Germany where design bike frames and also races road bikes and also at the same time established a company that produce lightweight touring bike frames.

- GBI organisation

This part explains about the brief organisation of this GBI bike company whereby the main business model of this company is it serves the professional and pro-consumer market for off road and touring bike. This company bike model is famous for its carbon composite frames, which are strong, lightweight, and low maintenance and these frames are features in the professional line of bikes compare to the deluxe line of bikes uses an aluminium frame. On the other hand, GBI also sells accessories such as helmets, first aid kits, shirts and water bottles to their customers whereby this category of items falls under non-bikes segments.

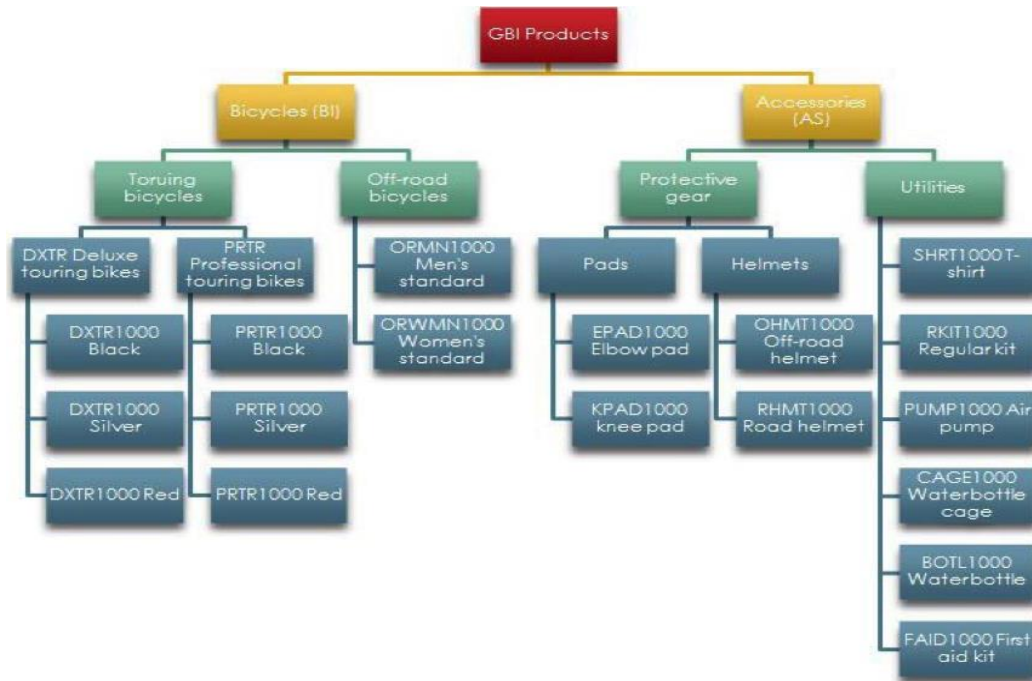


Figure 1

Figure 1 above shows the product list of GBI company whereby the motto of this company is always about innovation, reliability, safety, performance and therefore by implementing this core values this company able to compete in a competitive environment. Another information needs to know is that this company mainly focuses on high end clients and thus it does not sell directly product to its customers.

- Problem statement

The main investigation for this business problem selected for this company is the investigation on why there is higher sales revenue in the month of march and April of the bike sales compare to another month. Another problem statement that can be raised is to carry out investigation on the why there is less sales revenues in other months and there is lack of understanding on such high sales trends in March and April.

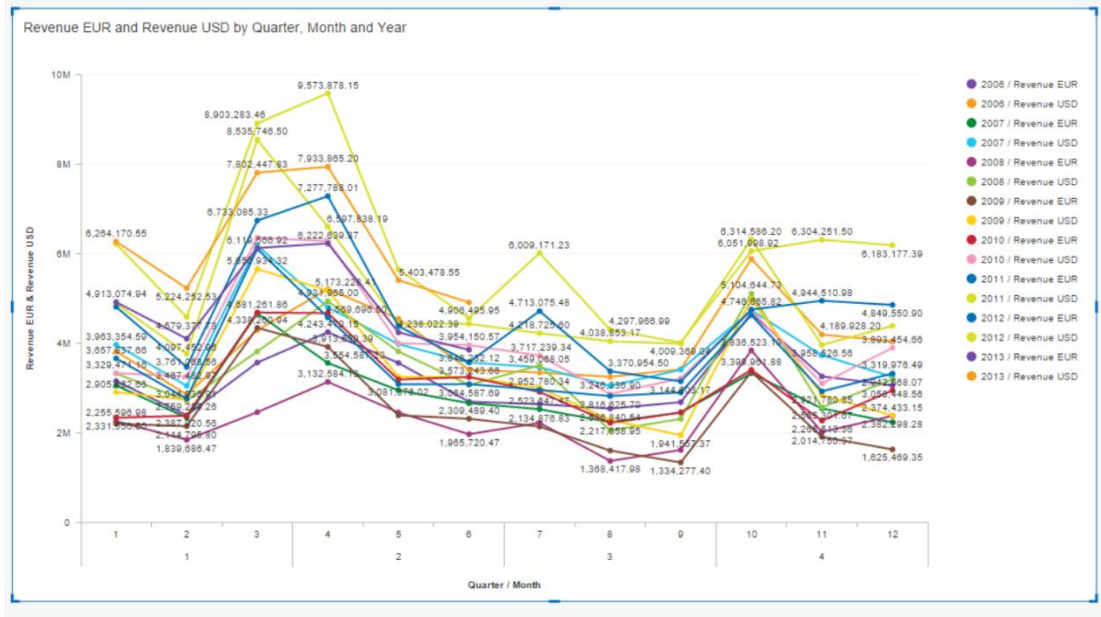


Figure 2

- Aims and Objectives

The aim and the significance of doing this assignment is to investigate why sales in March and April is higher and thus solutions is needed so that GBI can increases its sales revenue in other remaining months.

1. To carry out business analysis and investigation on the GBI bike datasets using SAP Lumira discovery to visualize the datasets
2. To conduct research on GBI bike company datasets and at the same time study the literature reviews
3. To come up with method and alternative approaches so that GBI bike company can increase sales in other months besides March and April.

Organisational memory and integration

- Organisational memory

This company structure starts with John and Peter are the co-CEOs and, in this company, it employs 100 people where most of them works in the United States and the rest of it in the Germany. Figure 3 below shows the organisational structure of the company where the headquarters located in Dallas, USA, whereby GBI subsidiary company, GBI Europe based in Heidelberg.

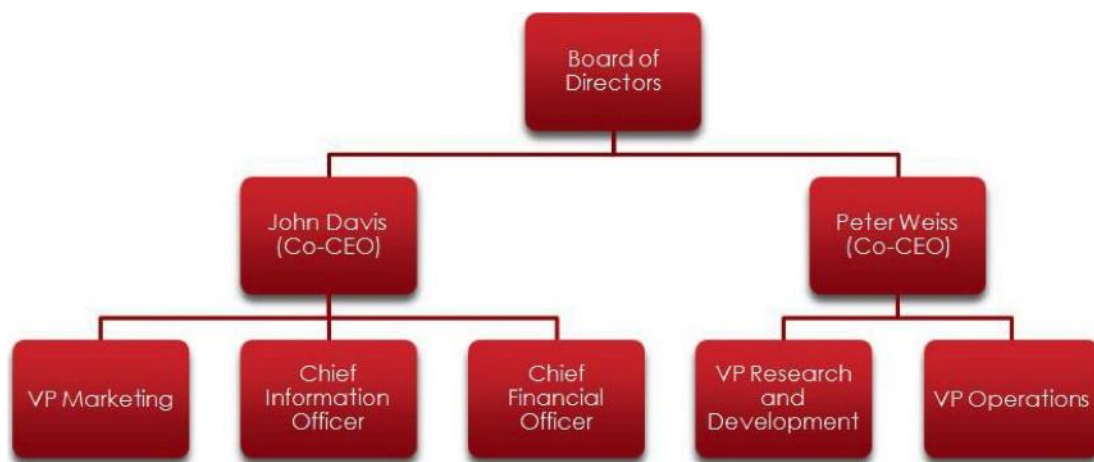


Figure 3

The Dallas headquarters is where the material plannings, finance, administration, IT and HR located where the facility produce products for the US markets and the exports markets. The warehouse in the Dallas manages production distribution for central US markets and internet retailers. Furthermore, GBI company also maintains its warehouse for shipping and exports its bike to San diego and Miami, whereby San Diego caters to west coast distribution and towards Asia and Miami to the East coast and latin America. The GBI Europe mainly handle most of the research development for GBI bike company and manufacture and distribute the bikes to Europe and to middle east and Africa. Figure 4 below shows the business structure of the company where GBI Global split into GBI US where it splits into Miami and San Diego distribution centre and Dallas manufacturing plant and GBI Germany split into Heidelberg manufacturing plant and Hamburg distribution center. The business partners for GBI their customers and vendors are such

that due GBI only sells its bikes exclusively only to independent bicycle dealers that very knowledgeable in off-road and tour racing. Figure 5 shows the customers list, and these dealers will help consumers the best GBI bike and accessories based on their need and requirements.

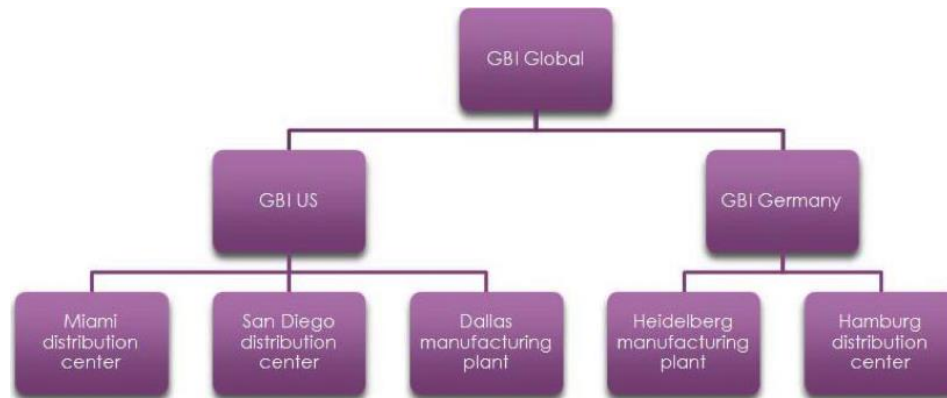


Figure 4

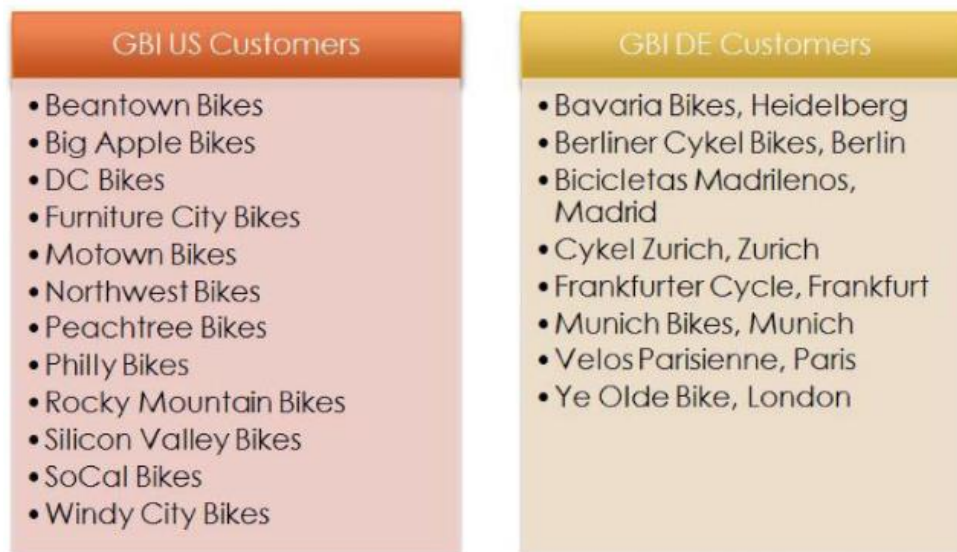


Figure 5

The organizational memory or OLTP is about how an organization collects sources of data or information in an organization and it has three main core principals such as retention, retrieval and acquisition. For the acquisition part the organizational memory collects past data, but the organization do not store it centrally but instead in a few retention facilities. In the retention parts the repositories of the organizations split into individuals, culture, transformations, structure and external activities. Culture indicates frameworks of an organizations, transformations show the

recorded knowledge stored in organizations, structures indicate connection between people and environment and the last one external activity is data can be kept about the organization surrounding such as competitors, government agency. The last part is retrieval is where past data or knowledge of an organization is retrieved and often learnt to prevent the same mistakes on foreseeable future. Figure 6 shows the GBI organizational data and SAP database system is used to store all the data of the GBI bike sales.

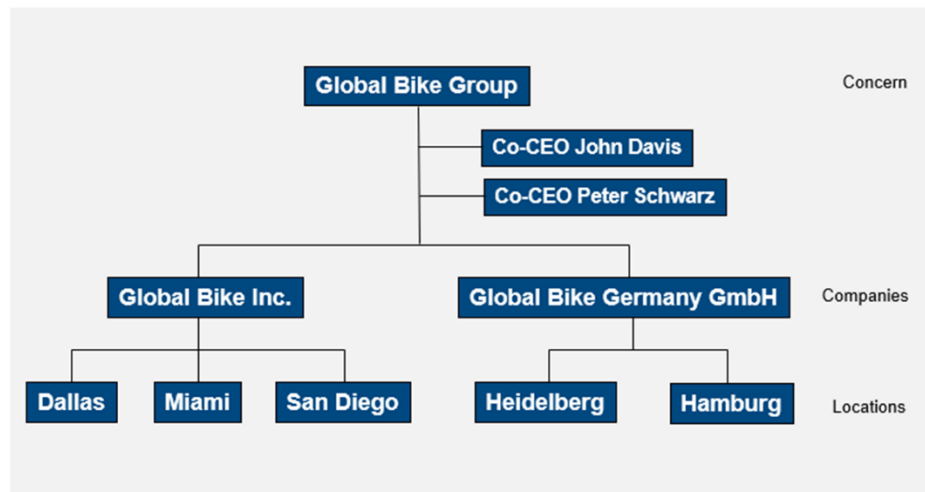


Figure 6

To understand the basic organizational memory, it must relate back to the problem statement of this assignment where the main objectives is to understand the business process faced by GBI bike company and solve their business problems. The main key point of this problem statement chosen was why there is a major change in revenues and thus the problem is about sales data. Before that, it is known that GBI customers are bulk buyers and not end users and thus it is selling wholesales products to the customers.

The SAP process order starts with the GBI company accounting team made purchase order and after that enquiry about the quotation of products and parts from the customers confirmation. Hence after the sales has been made, it notifies the warehouse to check the stock inventory and after that logistic department starts to deliver the products after the sales office received the invoice/ bills from the customer through accounting process. This whole process is a part of ERP (Enterprise Resource Planning) where SAP and Tableau are used as tools for CRM (Customer Relationship Management) to understand customers interactions in a business organization. The

GBI data stored in ERP server at QUT Australia and as SAP HANA is part of the big data platform, it can process ELT (Extract, load, transform) or ETL ((Extract, transform, load) process.

-Integration

This part is about the data integration where it can be defined as combination of technical and business processes used to combine data from disparate sources into meaningful and valuable information and involves a system locating, retrieving, cleaning, and presenting the data. Data integration tools is very important for company like GBI as it enables connectivity between two different systems as shown below.

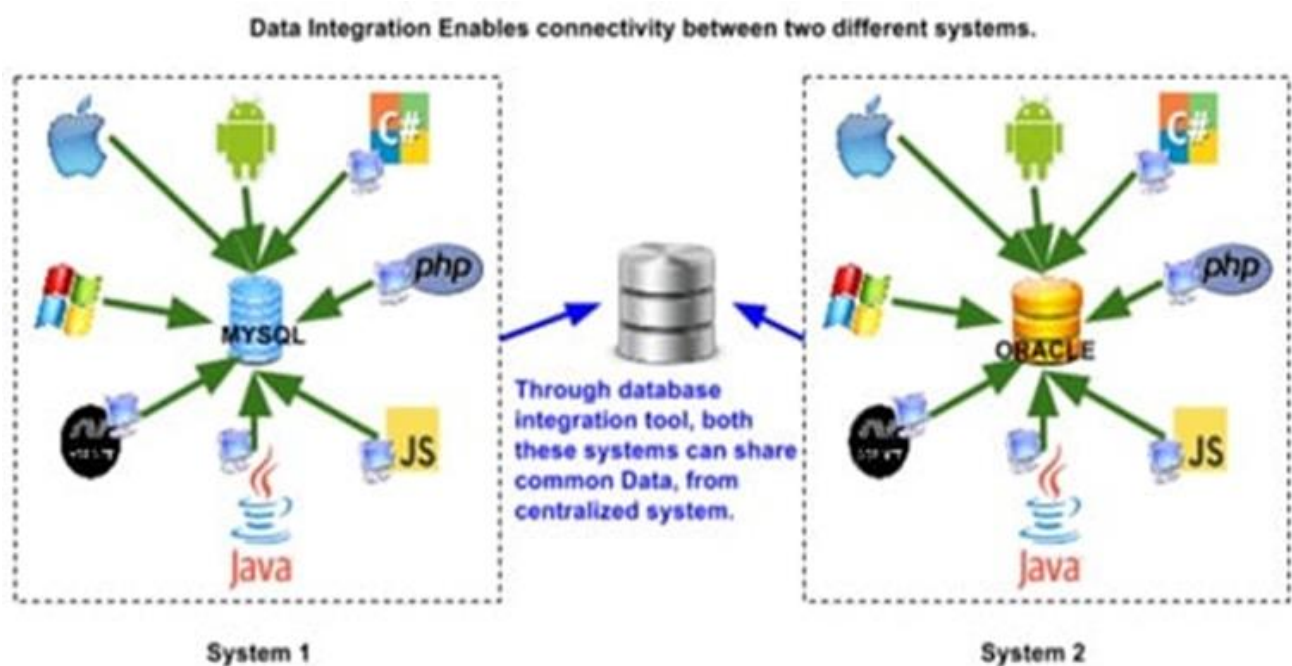


Figure 7

Thus, GBI company need to implement system architecture for their IT solution to handle all the software and database management side of their company and organization for a centralized business operation. These data integration tools able to provide transformation, mapping, and cleansing of data and it able to communicate between one another as data integration is very crucial for companies to have unified view of company data assets with others. For GBI company the data integration tools selected that is the best for this organization is Microsoft, IBM, Oracle, SAP and SAS. Microsoft data integration is hybrid where it uses Microsoft azure to run SQL server and it fully managed ETL services in the cloud and has its own SQL Server Integration Services for

connecting SQL Server Data of different databases. Oracle is used for cloud-based data integration where it capable of machine learning and Artificial Intelligence, data migration and governance. On the other hand, Oracle offers good data management, flawless data integration, manageable data migration and allows metadata to be extracted from Oracles or other sources.

IBM on the other hand, is suitable for data integration that uses structured and unstructured data where the features it has parallel processing and data quality such as profiling, standardization, matching and enrichment. At the same time, IBM provides big data integration with traditional enterprise for business insights, deliver data in real-time day to day business operations, secured data migration and end-to-end migration for data cleaning, monitoring and rendering. SAP Data integrator can visualize structured and unstructured data, provide parallel processing and quick migration and batch processing using SAP HANA. The last part is SAS where it suitable for data management where it generates of data warehouses, data marts, and data streams.

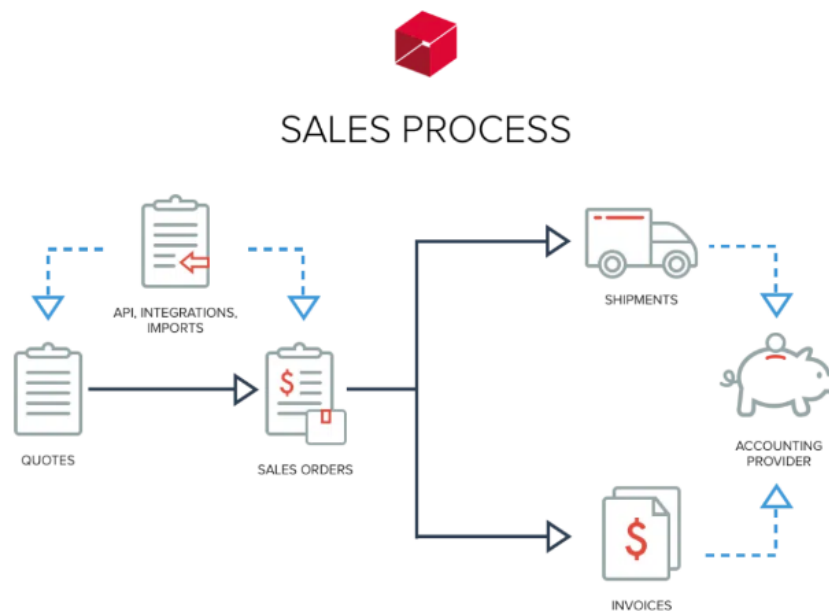


Figure 8

Figure 8 shows the sales order process flow of GBI bike company the whole IT architecture of the company regards to the sales process using data integration that will help the whole business process flow. The whole process starts involves from sales order, warehouse distribution, logistics, shipment, customer invoice and record all the customer transaction and because of in an organization due to its complex structure big data tools stated previously will help tremendously

GBI bike company to simplify and unified any unorganized data in their organizations. These data integration tools will have single data rendered on various Front-end clients on mobile applications or websites of this company as these front-end clients has different style of user interfaces. The front-end clients share common data platform or database where it is fetched and rendered for visualization and GBI bike company will tremendously improve their business process by accessing the data using data integration tools for more informed decisions in the future.

Analysis

This part is to discuss about the data mining technologies and the data preparation and understanding where this part here to explain on detail about the ETL process such as the explanation of using the measure and dimensions of the GBI bike company using big data tools such as SAP Lumira Discovery and SAP HANA. This includes data exploration, summarization and data cleaning. Analysis part are divided into three section such as data analysis where it discusses about the OLAP cubes process, dashboards visualizations and summarization of the GBI bike company sales data.

The next part is information analysis where it involves in getting information about the problem statement of GBI bike company where in this case is major changes in revenues about sales data and do analysis and information summarization. The last part of analysis is knowledge analysis where literatures review paper is used to support the problem statement theory parts of the assignment and do analysis and summarization.

Before going into further explanation on the data analysis data preparation and understanding need to be done on for this assignment its about the understanding of less revenues on other months besides march and April and why there is huge increases of demand of GBI bike sales in March and April. Figure 10 and 11 shows the line and bar graph of the major changes of revenues about GBI bike company by month, quarter and year and figure 9 shows the step before getting the Revenue EUR and Revenue USD by quarter, month and year. It shows that revenue in USD for GBI bike company is higher than in EURO as shown in figure 9 and in figure 10 and 11, the revenue is higher in quarter 1 and 2 while 3 and 4 there is significance drop in sales revenue for GBI bike company.

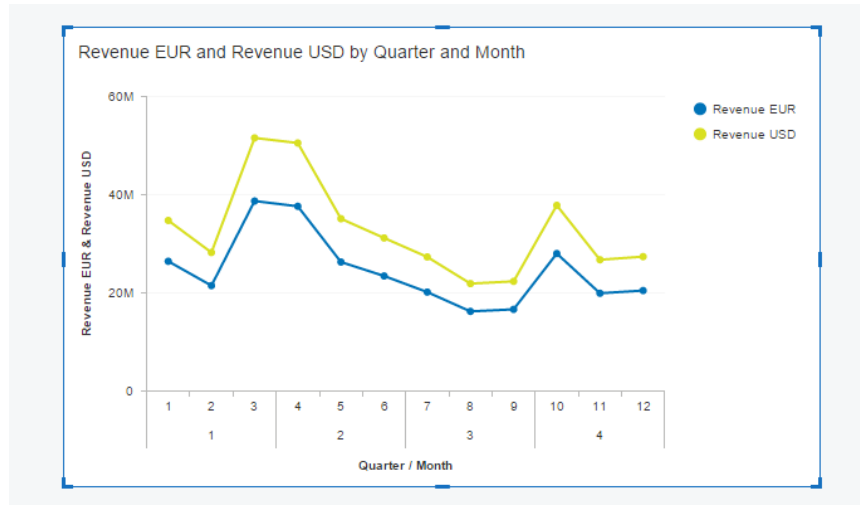


Figure 9

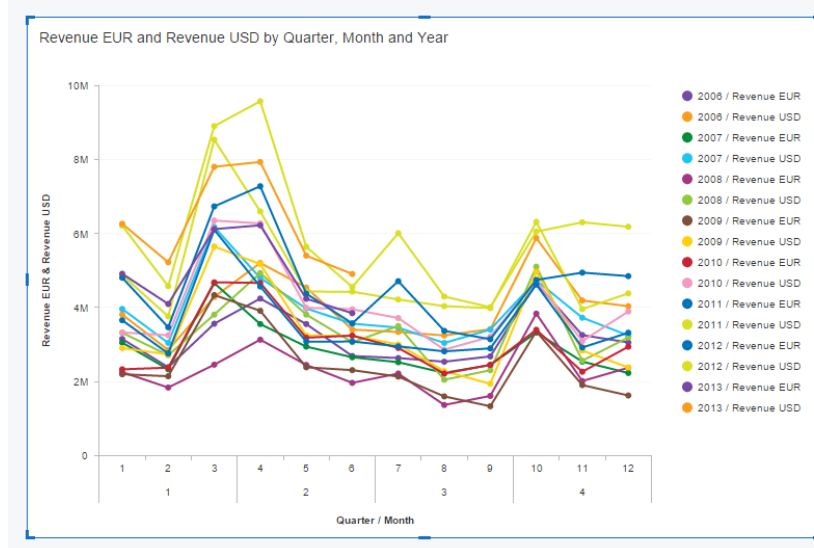


Figure 10

Thus, for further analysis and investigations it will be discuss on the data analysis, information analysis and knowledge analysis where another possibility can be explored regards to GBI bike company customer, billing information, cost of good, distribution, discount, exchange rate of the currency, sales organizations, materials information, payment receipt, order number, price, profit margin, revenues, quantity and more. It can be said that GBI Bike company way of obtaining raw materials for their business is buying from vendors and for their semi-finished goods such as seat cover, lamp is purchased from vendors as well and not made by GBI bike company itself. The only

components made by GBI is finished goods and other than that trading goods is bought and sell together with the finished goods.

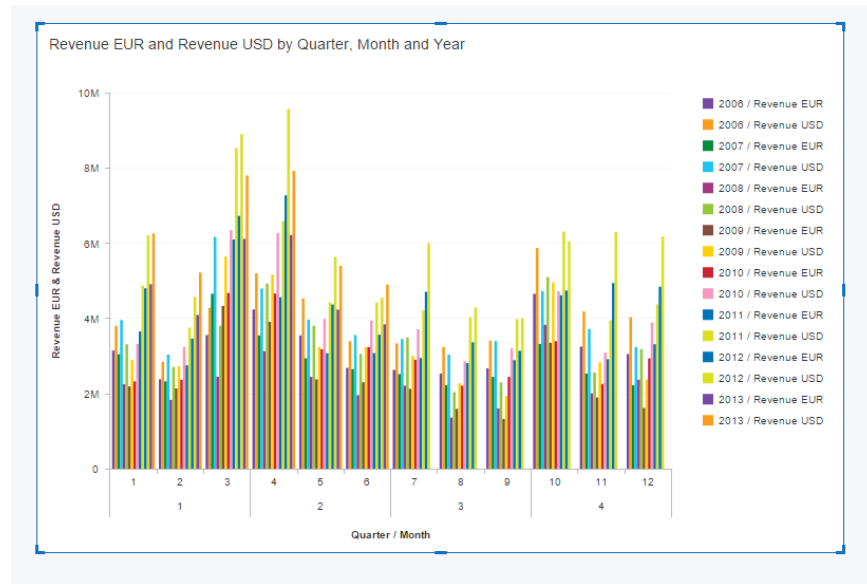


Figure 11

Data analysis

This part discusses about the data analysis obtain the GBI bike datasets where diagnostic and descriptive analysis is done on the data organizations to understand the business process and solve the problem statement for this assignment. Thus, SAP Lumira discovery is used to gather information from the questions raised in the data analysis part.

1) What country dominates the revenue in EUR and USD

Based on figure 12 below it shows that between Germany and United States, USA shows more revenues by quarter and month compared to Germany on March and April and by quarter 1 and 2. There is sudden drop in revenue in EUR and USD on august and September which is in quarter 3 and the revenues bounce back in October in the fourth quarter.

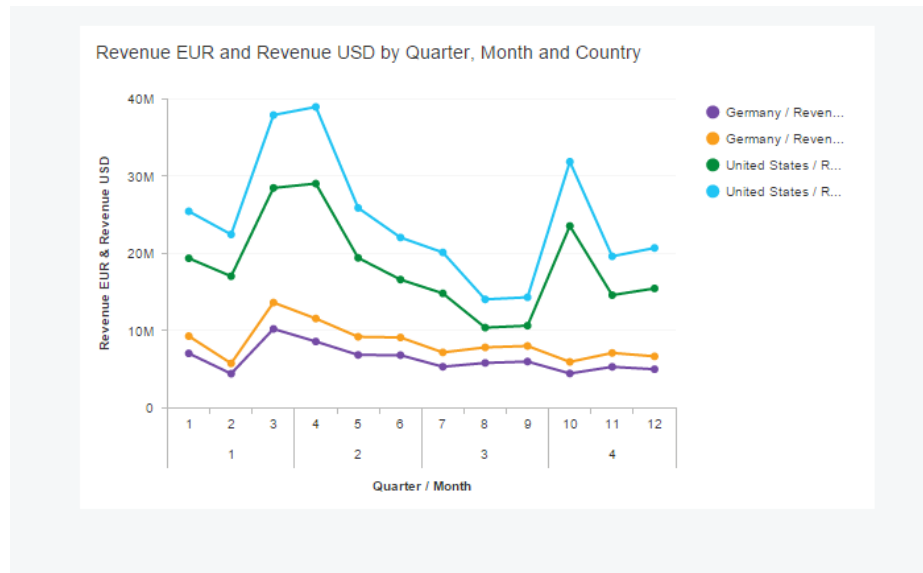


Figure 12

2) What city dominates revenue in EUR and USD by quarter, month and city

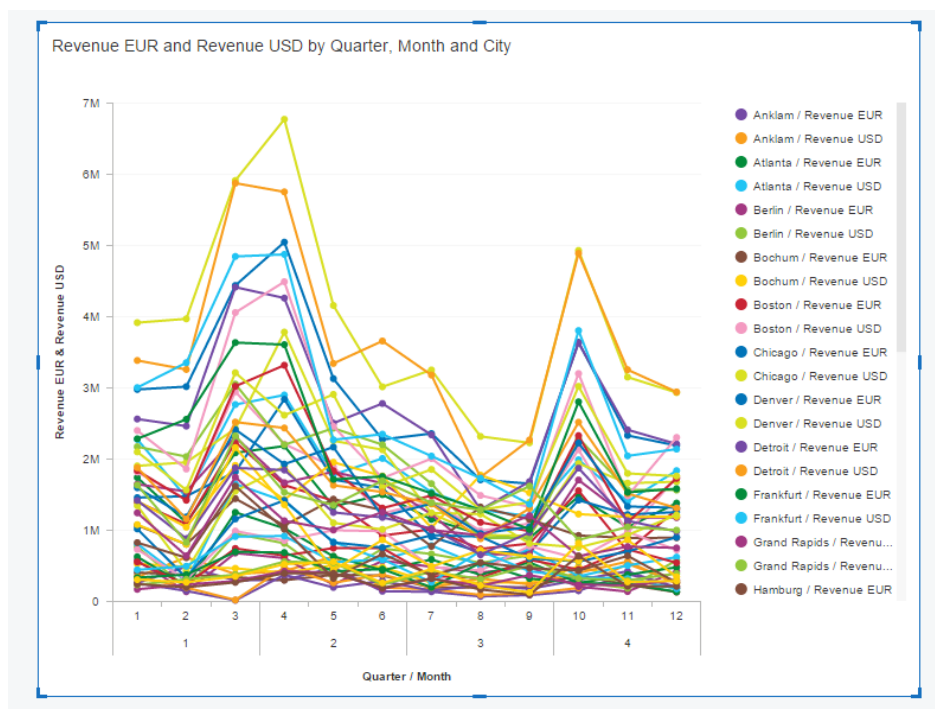


Figure 13

Figure 13 above shows which city in terms of revenue for both country that sales the most of GBI bike company products but due to the graph line so complicated its being further break down into figure 14 and 15 to gain more insights which city gain revenues the most for this company. For

figure 14 top three rank is used and thus it shows that Denver and Irvine are the city with the most revenues for GBI bike company. This also can be seen on the heatmap in figure 15, where Irvine and Denver are the city that shows the highest revenue in March and April at third and fourth quarter where the revenues of the bike sales 5.5 million euro as indicated by the blue colour region.

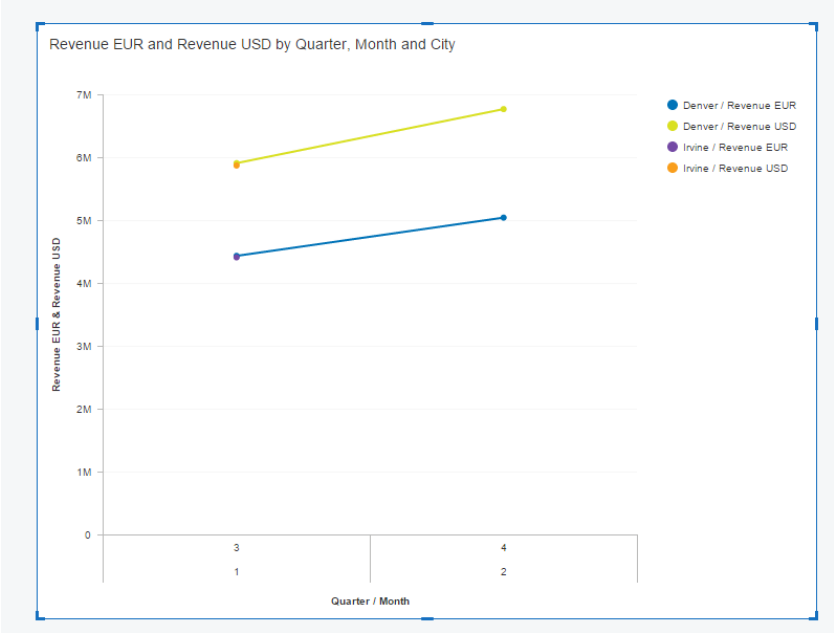


Figure 14

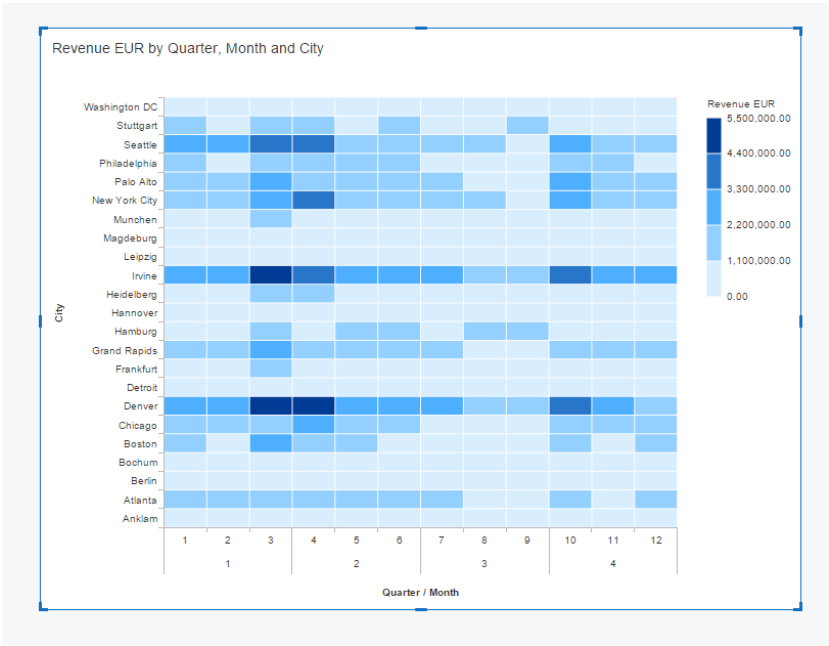


Figure 15

3) What is the customer's name of GBI bike company that bring revenues the most to the company

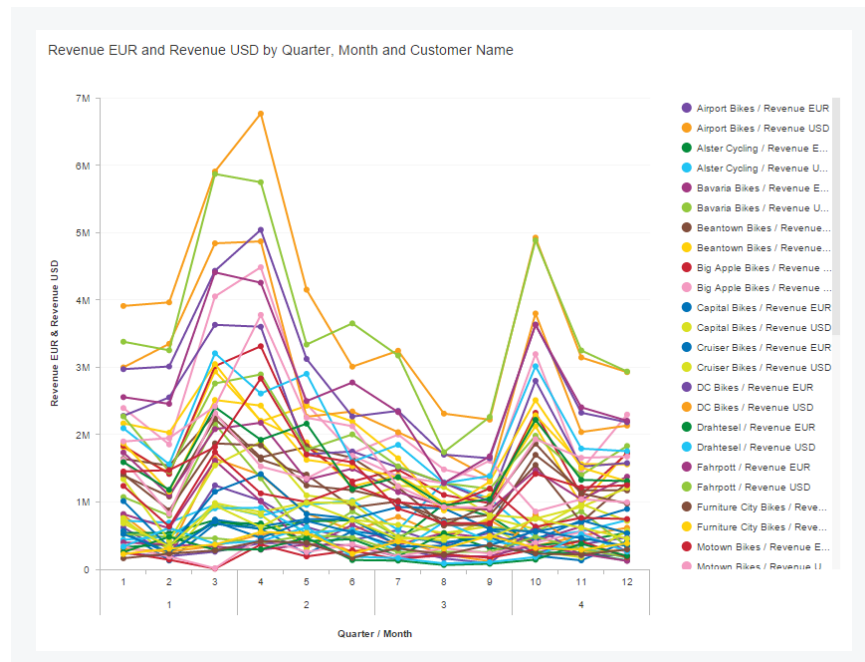


Figure 16

Figure 16 shows the revenue USD by quarter, month and customer name and this complex line graph can be simplified to find the customer's name who bring the most revenues to the company.

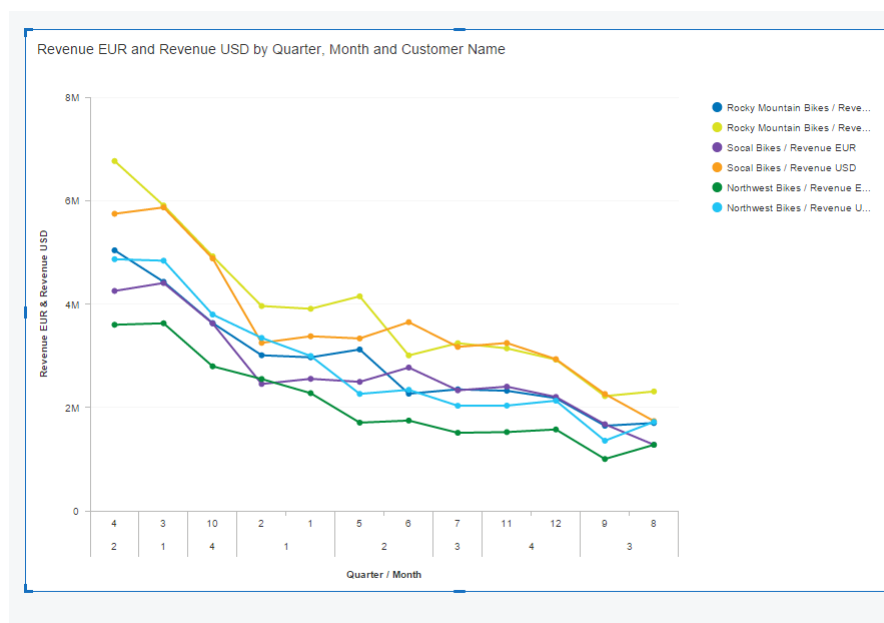


Figure 17

It can be seen the customer's name who bring the most revenue in the first two line is Rocky Mountain bikes and Social Bikes which bring the most sales and both is in USD where it makes profit the most in United States.

4) What is the day of the month where revenues of the bike took place.

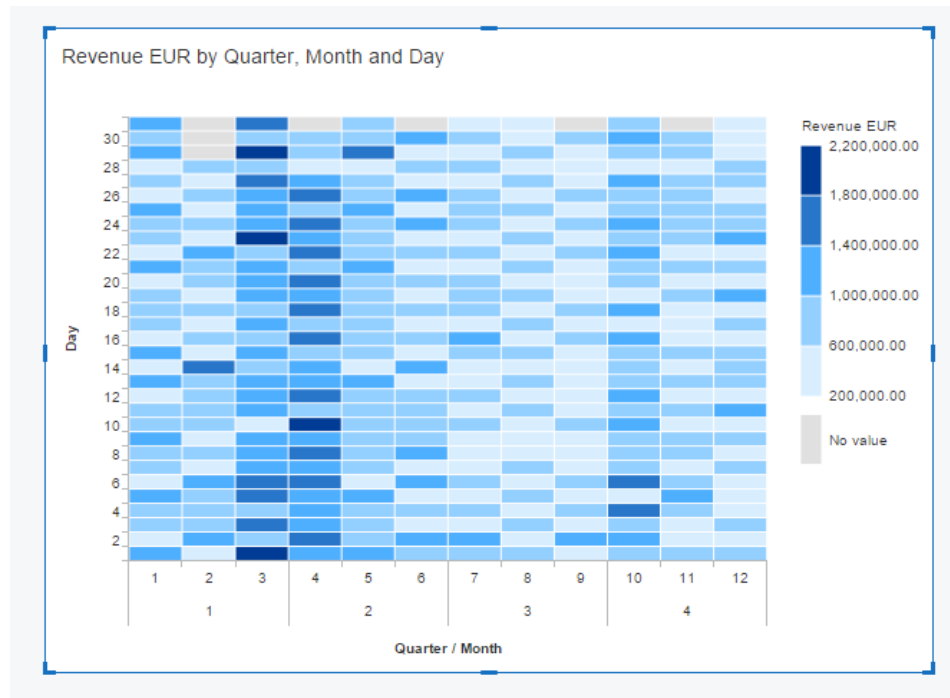


Figure 18

Based on figure 18 that shows the heatmap of the revenue EUR the day where the GBI bike company makes the most sales and revenue happen on 1st, 23rd and 29th of march and in April it happens on 10th. This revenues in EUR are around 2.2 million for the GBI bike company.

5) Which customers who bring the most of revenue by quarter and month

Based on figure 19, the customers who bring the most of revenues of bike sales for GBI company is 1000 customers as indicated by the blue colour region and as usual the month of it happens is in March and April. The second customer who bring revenue is 9000 and the least who bring revenue is 12000. For the most the common trend can be found for 1000,9000 and 12000 is that on august and September is where the least revenue occurs on quarter three.

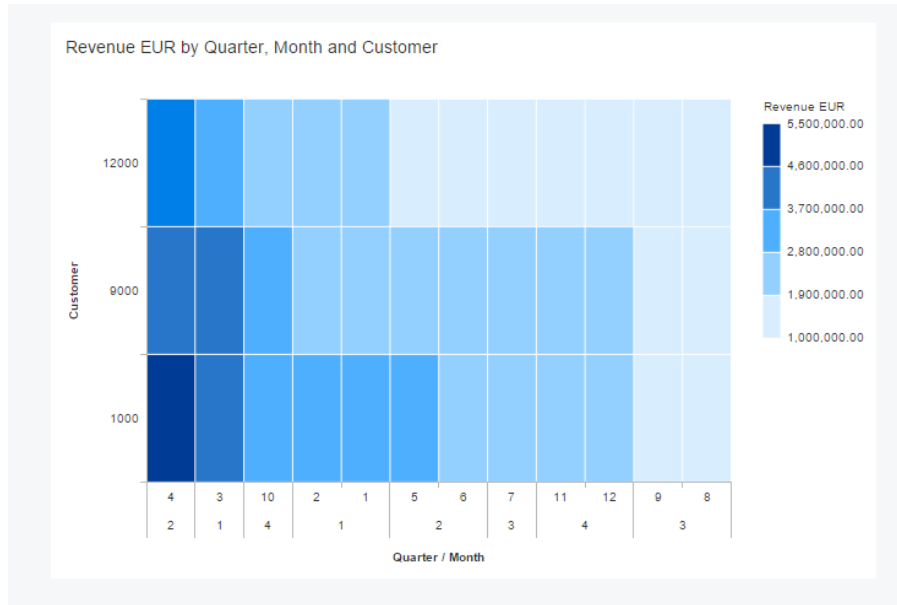


Figure 19

6) What is the revenue in euro by quarter and month after discount has been given in Euro.

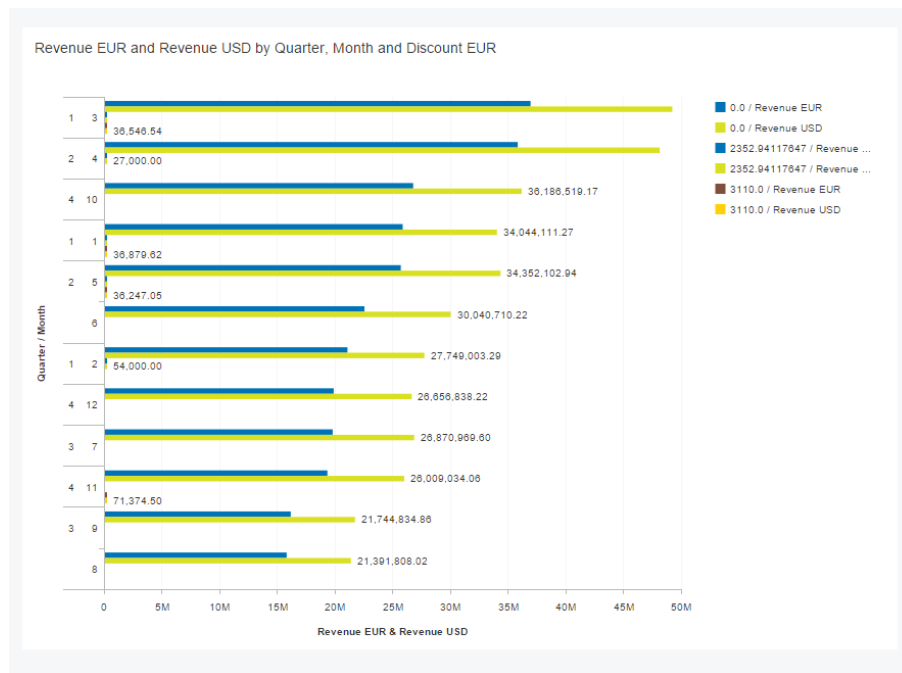


Figure 20

Figure 20 shows the revenue EUR and USD by quarter, month after discount in EUR and after discount is given the least sales occurs on third quarter same goes in figure 21 for revenue EUR and USD by quarter, month after discount in USD in the range of below than the 25 million USD and EUR currency.

7) What is the revenue in USD by quarter and month after discount has been given in USD.

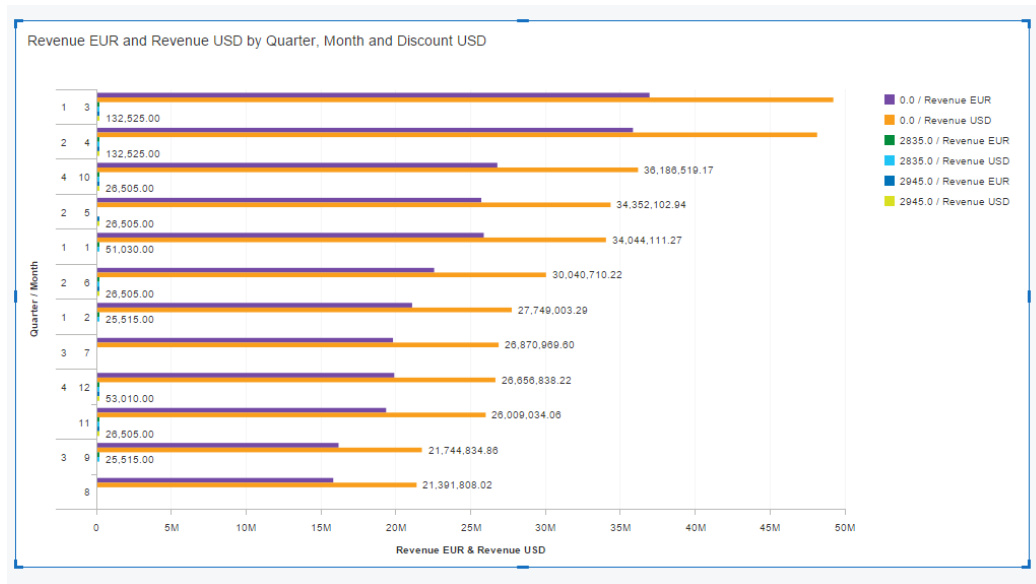


Figure 21

8) What is the Revenue in euro and USD by quarter and month in terms of division description

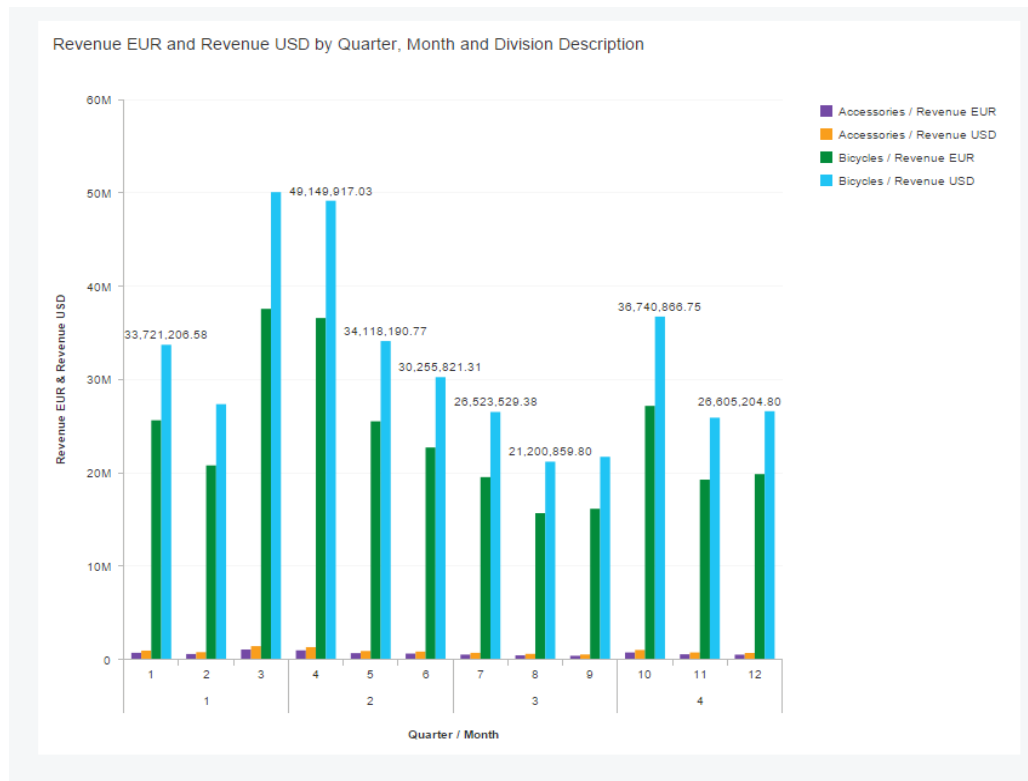


Figure 22

Figure 22 shows the division description of what materials bring the most revenues by quarter and month for GBI bike company and from the bar chart above it shows that bicycles are the divisions of GBI bike company that bring the most sales revenues or profit in both Germany and United States compared to accessories components that bring less profits.

- 9) What materials that needed by GBI bike company that bring the most revenue in EUR and USD

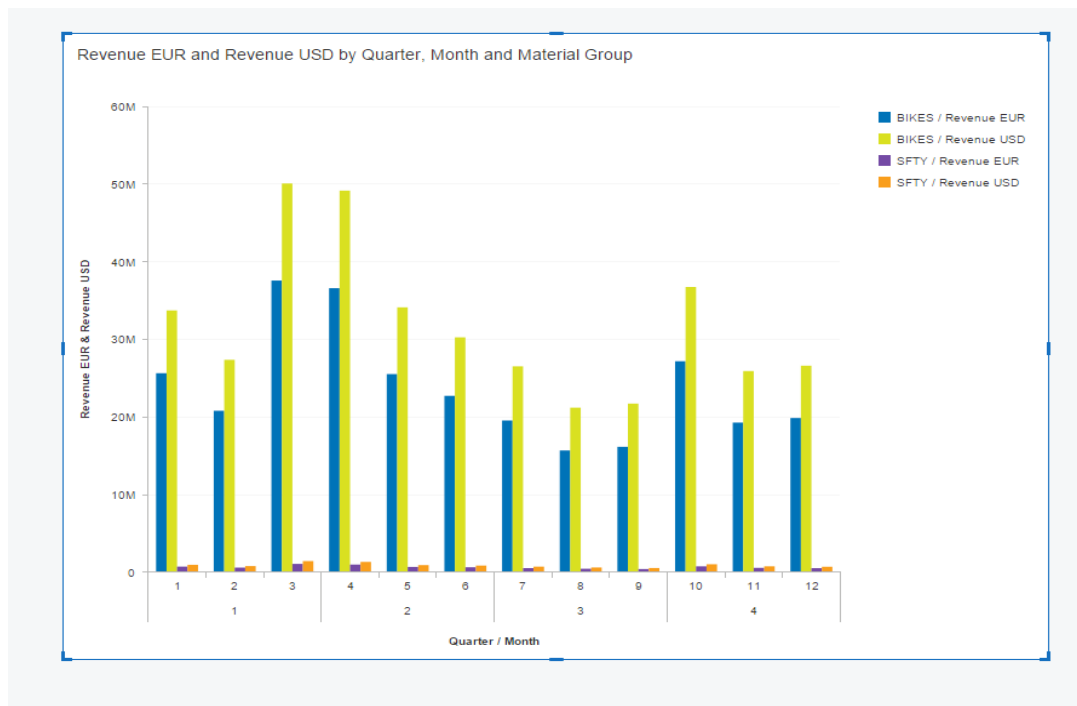


Figure 23

Based on figure 23 bikes is the material groups in GBI bike company that this company prioritize the most as shown in the bar graph where bikes materials dominate the revenue for this company instead of safety materials/gears that bring less profit as shown above.

- 10) What type of material master description that bring revenue the most to the GBI bike company

Based on figure 24 below it shows the heatmap of what type of material master description that dominates the sales revenue of GBI bike company and from the figure below it shows that Professional touring bike silver, red and black and deluxe touring bike silver, red and black bring

the most revenue. Other material master description such as water bottle cage, water bottle, t-shirt, road helmet, repair kit, knee pads, first aid kit, elbow pads and air pump.

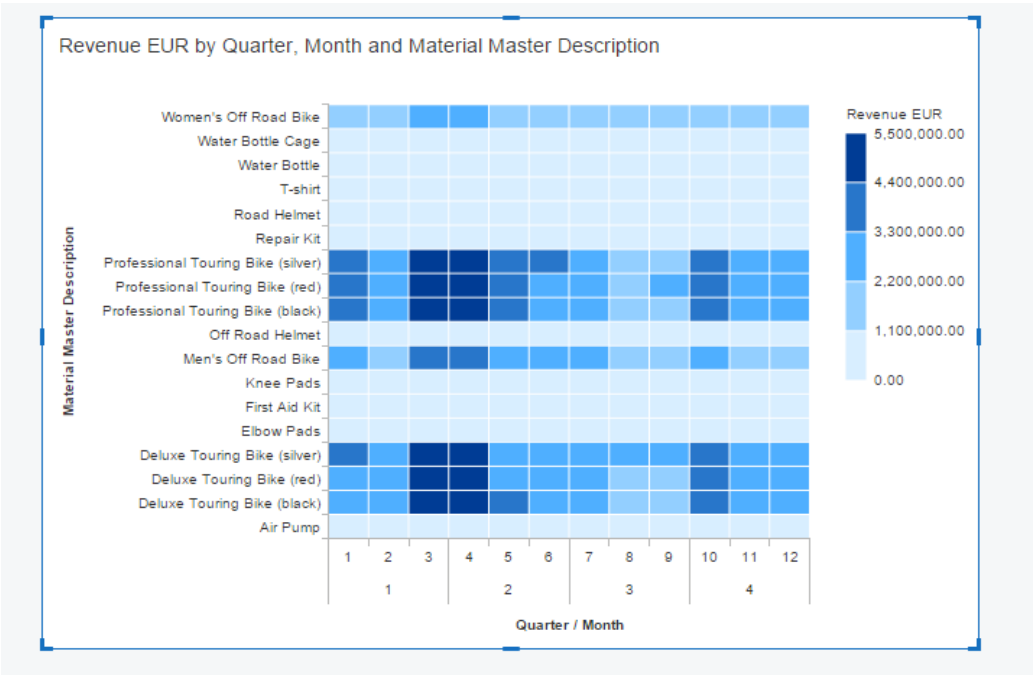


Figure 24

11) What is the top 3 rank of sales area of GBI bike company revenues by quarter and month

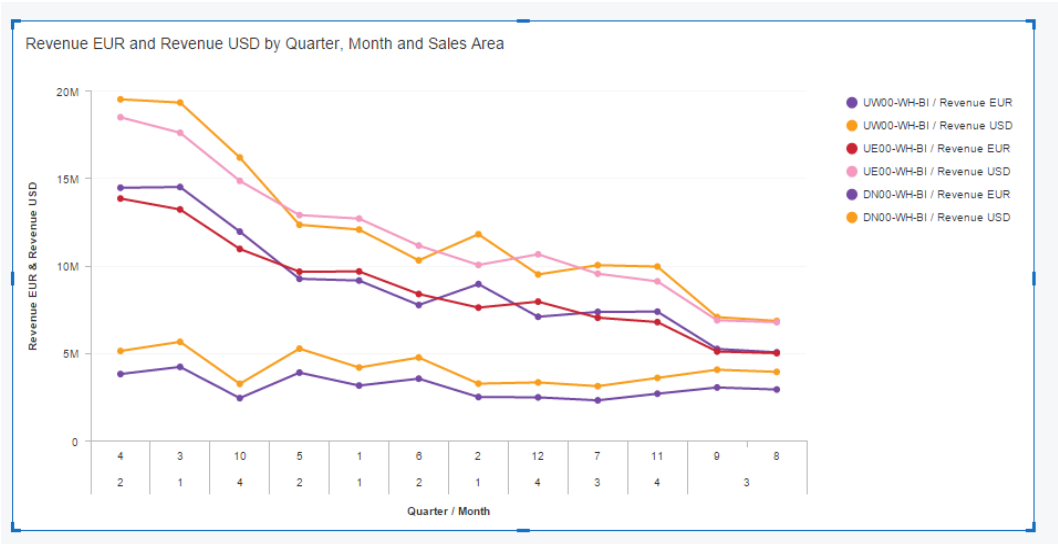


Figure 25

Based on figure 25 it shows UW00-WH-BI/ Revenue USD and UE00-WH-BI/ Revenue USD is the sales area that bring the top profit or sales to GBI company more than 15M in March and April

while DN00-WH-BI for USD and EUR bring the least profit as the line shows it is on the bottom part of the line graph.

12) What is the state that bring the revenue to GBI bike company by quarter and month

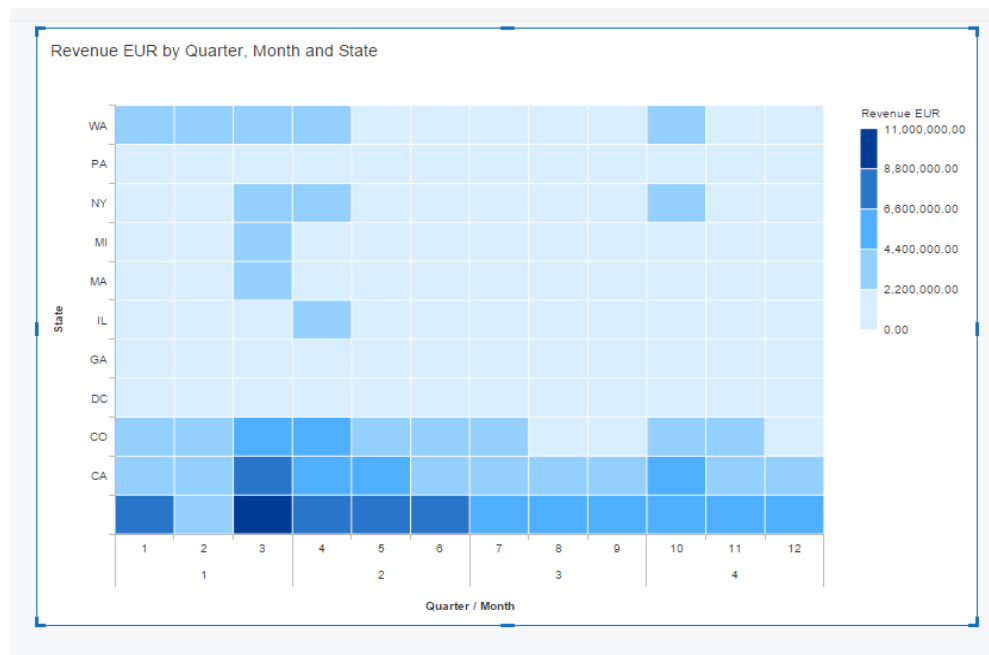


Figure 26

Based on figure 26 above state or region in USA that bring the most revenue in EUR for GBI bike company is CA, CO, WA and NY

13) What sales organization description that bring profit to GBI bike company

Based on figure 27 below, the sales organization description that bring the most profit is United states west and east both in USD. United States west revenues EUR is the third most profitable and follow by United States east revenues EUR.

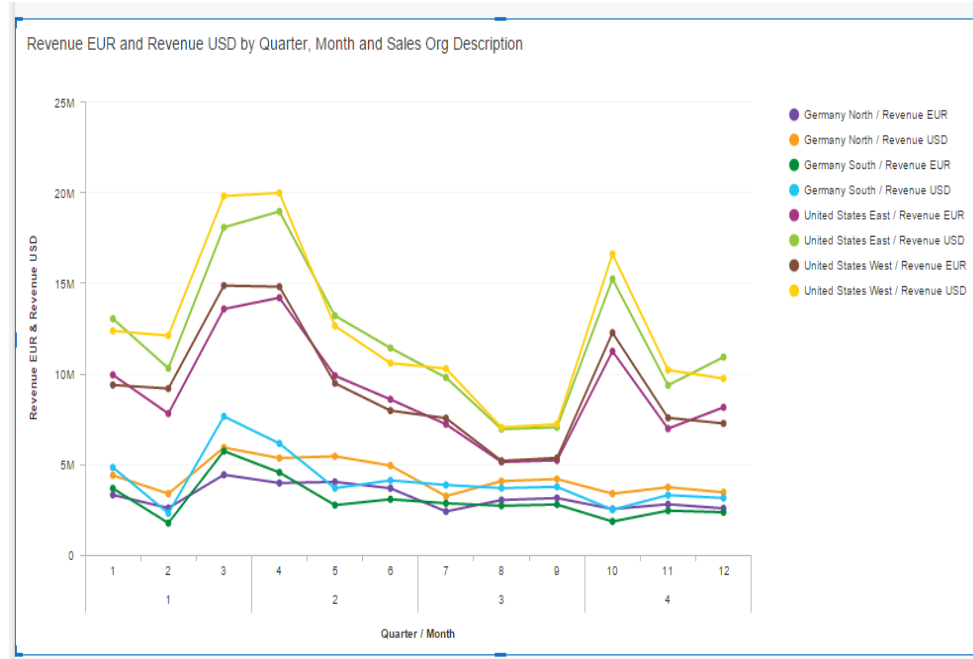


Figure 27

It can be summarized that from the data analysis done from question 1 until 13 is that lot of insights can be gained from the analysis such as:

- USA shows more revenues by quarter and month compared to Germany and thus more profit is being made in the north America than Europe
- Denver and Irvine are the city with the most revenues for GBI bike company.
- the customer's name who brings the most revenue are Rocky Mountain bikes and Social Bikes
- The day where the GBI bike company makes revenue happen on 1st, 23rd and 29th of march and in April it happens on 10th.
- Customers who bring the most revenue is 1000, follow by 9000 and the least is 12000.
- The revenue in euro by quarter and month after discount has been given in Euro
- The revenue in USD by quarter and month after discount has been given in USD
- The material groups in GBI bike company prioritize the most are bikes materials instead of safety materials
- Material master description that brings profit are professional touring bike silver, red and black and deluxe touring bike silver, red and black bring

- UW00-WH-BI/ Revenue USD and UE00-WH-BI/ Revenue USD is the sales area that bring the top profit
- The state that brings the most revenues are CA, CO, WA and NY.
- Sales organization description that brings profit is United states west and east both in USD

Information analysis

This section discusses about the factors affecting the problem statement proposed in the earlier part of the report where the main concern is major changes in revenues such as higher sales in March and April and another one why there is less revenues in other months. There are four major reasons why there is changes in the revenues such as weather, season, holiday and personal income.

Weather plays a huge role in influencing the purchasing trends or patterns of buying bike as usually in certain months of the year the weather is quite warm and pleasant for cyclist to do outdoor activities. This warm weather usually happens in the month of march and April in the United States where during the Spring season which is the best time for cycling season.



Figure 28

The justification for weather is that temperature, humidity, and rainfall could affect cyclists' journey and the best condition for weather such as cool temperature, low humidity and no rain will attract more cyclists outside. This explained why on the data analysis part exists such a huge spike

of sales is in March and April for the GBI bike datasets, and it is known fact that in the transportations sector weather influenced cyclist (Sabir, 2011), (Miranda-Moreno and Nosal, 2011). Around 58% of cyclist use weather as indicator to bike or not to bike (Gallop, Tse and Zhao, 2012) and around 80% of daily fluctuation of bike volume affected by weather conditions (Thomas, Jaarsma and Tutert, 2013).

The next factors are season which the justifications are that typically in the United States spring season is the best time to do outdoor activities such as cycling because this is the time where the plants are growing, and the weather is nice. Spring festival is enjoyed by American as the natures, trees and plants starts to wake up between ending of march and beginning of April and the average temperature of US spring month are 12 degrees Celsius in March and 18 degrees Celsius in April. Figure 29 shows the condition of spring weather in USA.



Figure 29

The season factors play pivotal roles such as the effect of weather or seasons on cycle volume such as summer, autumn winter and spring where different seasons conditions will affect cycling volume. Figure 30 shows the hourly and daily weather datasets where the justifications is that on spring there is more usage of bikes or cyclist going out and thus more sales and revenues of bike

for the GBI bike company. It is found that season factors impact on cycling volume such as air temperature, precipitation, sunshine, humidity, cloud cover, and wind strength.

Table 1 Weather variables of interest

	2009			Summer			Autumn			Winter			Spring		
	Mean (SD)	Min	Max	Mean (SD)	Min	Max	Mean (SD)	Min	Max	Mean (SD)	Min	Max	Mean (SD)	Min	Max
<i>Hourly weather data (6:00 am - 8:00 pm)</i>															
Maximum gust speed (km/h)	25.9 (10.5)	2.9	79.6	26.2 (9.3)	3.2	61.2	24.6 (10.9)	4.0	79.6	24.9 (11.8)	3.6	67.0	27.9 (9.6)	2.9	55.4
Rain (mm)	0.1 (0.6)	0	14.8	0.1 (0.7)	0	13.8	0.1 (0.5)	0	7.8	0.1 (0.6)	0.0	10.6	0.1 (0.7)	0.0	14.8
Maximum temperature (°C)	16.4 (4.2)	3.4	28.1	21.1 (2.7)	13.4	28.1	17.1 (3.6)	5.4	25.5	12.5 (2.5)	3.4	18.4	15.3 (2.5)	4.8	22.3
Sunshine duration (hour)	0.4 (0.4)	0.0	1.0	0.5 (0.4)	0.0	1.0	0.4 (0.4)	0.0	1.0	0.3 (0.4)	0.0	1.0	0.4 (0.4)	0.0	1.0
<i>Daily weather data</i>															
Maximum gust speed (km/h)	36.6 (9.8)	15.1	79.6	35.6 (8.6)	20.2	68.0	35.8 (10.0)	16.9	79.6	36.7 (11.8)	15.1	67.0	38.2 (8.3)	17.6	55.4
Rain (mm)	2.7 (6.0)	0.0	45.6	2.5 (7.5)	0.0	45.6	2.3 (4.8)	0.0	25.6	3.7 (6.2)	0.0	31.6	2.3 (5.3)	0.0	36.2
Maximum temperature (°C)	18.5 (3.9)	8.1	28.1	23.2 (2.4)	15.6	28.1	19.1 (3.0)	12.2	25.5	14.6 (1.7)	10.6	18.4	17.3 (2.0)	8.1	22.3
Total sunshine hours	6.0 (3.9)	0.0	13.8	7.6 (4.3)	0.0	13.8	5.9 (3.3)	0.0	11.4	4.8 (3.3)	0.0	10.2	5.6 (4.0)	0.0	12.6

Figure 30

The next factor that influences higher sales in March and April is public holidays where there is a lot of notable public holidays happening in these months and thus lot cyclist enthusiasts will have more ample and free time to go for cycling. This again explained the reason more people buying GBI products and thus explained there is spike in sales of bicycle in the month of march and April and typically there are several explanations on how public holidays affects business which in this case GBI bike company sales revenue. There are several factors on how holidays affect businesses such as

1. Changes in revenues

It can be said that holiday can have major changes in revenue whereby in this scenario in March and April USA has major holiday than other months.

2. New marketing needs

Thus, new marketing style is a must such as during public holidays GBI bike company need to adjust their marketing and target more customers by having more aggressive marketing campaign to target bike lovers to sell their products. By knowing holiday season affect marketing thus new strategy is required.

3. Increasing the competition

During the holiday season it is known that GBI will have more competition and thus GBI bike company should consider and study what their competitors is doing as other companies also preparing for holiday rush.

The last factor is personal income where typically in the United States in the first quarter (where March is in) people in the United States have the highest personal income and thus it allows people to go out and spend more money to buy GBI bike products. Thus, in this case it is related to payday whereby it is known that people who get paid tend to purchase or buy promotion focused products and thus GBI bike gained lot of revenues because of this during March and April.

The summarization of information analysis is as follow

- Weather (How it affects cyclist activities which later affect the sales revenues)
- Season (Same explanation as weather part)
- Holiday (How public holiday affect sales revenue)
- Personal income (Related to pay day influencing GBI bike customer purchasing behaviour)

Knowledge analysis

This part discusses about literature reviews, theories and standards about the problem statement regarding the GBI bike company where several understandings need to be answered for the problem statement. There are several factors that contribute to the less revenues in other months besides March and April such as:

- 1) Customer needs and demands
- 2) Marketing and sales are not aligned
- 3) Not paying attention to competitors
- 4) No organic web traffic to support sales

Customer demand and needs

Besides the four factors explained beforehand, the other reason why the other month has drop in sales is due to the possibility of GBI bike company do not listen to their customer demands and requirement. Paying attention to customers is very crucial to survived a business and it can be said that GBI bike company need to make sure if the customers satisfied with the products (Bike) to ensure the company success. One way to ensure the customers demands and needs on their specific

specification or products GBI should have a good customer and employees' interaction as having a rude customer service in GBI retails tore will results in customers not to buy GBI bike products (Farrell, A., Souchon, A. and Durden, G, 2001). Another reason that explained the importance of good customers and employee's interaction is that by having good service experience, it can be concluded that for a good and memorable customer service experience by having employees put extra attention to customer (Bitner, M.J., Booms, B.H. and Tetreault, M.S, 1990) (Price, L.L., Arnould, E.J. and Deibler, S.L, 1995). Thus, overall good customer experience would increase the sales revenues of GBI bike company for another month besides march and April.

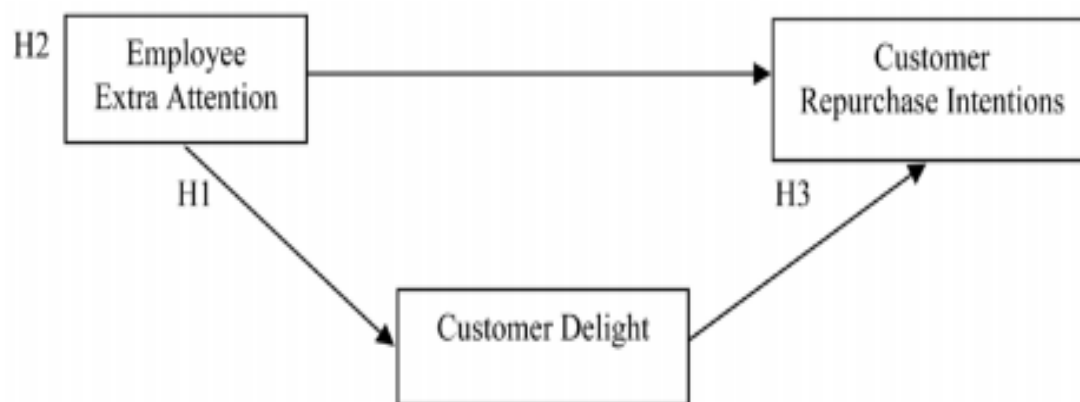


Figure 31

Figure 31 above shows the framework on the relationship between the employee and customer, and this is very crucial component on the business strategy of this company especially in the retail side to ensure high revenues. One of the crucial aspects of customer service experience is emotions (Nyer, P,1997) and it can also be proven that customers behaviors are affected by emotion (Gardner, M.P, 1985). Thus, one of the solution this company need to enforce is that to train their staff or employees to communicate effectively with customers so that by showing competency and professionalism customers will trust the company more. It is found that customers who has a pleasant customer experience would likely to purchase again and come back to the retails store of GBI bike company (Tsai, W.C. and Huang, Y.M ,2002).

Marketing solutions

Another factor is that there is a possibility that the marketing team of GBI bike company are not aligned with the sales team and thus this eventually would have effect on GBI sales revenue. It is

known that by having good team on both sides which are sales and marketing would have a tremendous impact on the revenue for GBI bike company. Example can be seen by huge corporations and company worldwide such as Apple, Samsung, Coca Cola, Redbull and more big multinational companies that spends billions in marketing so that it can influence customers on the branding and at the same time maintain their image or brand prestige. Marketing and sales is two side in the same coin and often both are the driver for sales and revenue for the company.

$$[\text{Rev} = (\text{PipeOpp} \times \text{Avg Deal} \times \text{WinRate}) / \text{CycleTime}) \times \text{Sellers}]$$

The equation above indicates the revenue, and the explanation is that opportunities in pipeline is multiplied by average deal size multiplied by win rate and then the product is divided by sales cycle time. Thus, revenue is the results multiplied sellers in the organization and small increase in one of these variables would make huge changes in the results. Thus, in order for GBI bike company to increase their revenues as in selling more of their products their marketing and sales need to have effective and efficient collaboration to increase profits. There are several reasons that happen to GBI company that maybe has lack of alignment between sales and revenues such as below:

1. Longer sales cycles
2. Missed quotas
3. Productivity
4. Sales efficiency

These are the possibility of the drop in sales due to sales not aligned with the marketing team. The other reason maybe due to marketing department of GBI bike company accuse sales team of don't follow the lead and do not want to track leads through sales cycle. On the other hand, sales team accuse marketing team by not providing good leadership and direction. This alignment maybe contributes to one of these factors:

1. Different goals and objectives
2. Different performance target and metrics
3. Different timeline
4. Different psychologies
5. Market dynamics such as commoditization, internet growth, mobility, virtualization

Competitors' products

Other reason is maybe due to GBI do not understand and pay attention to what their competitors is doing. This is because not only GBI that sell bike products as other company also compete on the same stuff and this can be explained as the term called “product competitors”. Product competitors can be defined as company that provide goods and services similar to GBI bike company that often sometimes offer unique features for example benefits, similar products in the marketplace, competitive price and more. Thus, this poses some challenge and threat to GBI bike company and thus GBI must provide effective solutions to beat their competitors.

Online sales supports

In today digitalized world most sales happen using e-commerce and thus GBI as a global company that has operations and services worldwide in north America and Europe must have a good online customer service to appeal to the global customers. One of the reasons drop in sales happen is because maybe due to GBI don't have good online sales support and thus from the analysis done beforehand the graph, bar charts shows that there is drop in sales revenue in other months besides march and April.

It can be said that GBI as a company must have a good and robust digital presence as in today world with the rapid growth of data generated day by day, having a good server to keep with sudden demand of purchase is a must. This is very important for this company as by having digital presence is very crucial for business and sometime during peak hours web traffic will results in server crashed in this must be avoided at all times to ensure customer overall online support satisfaction.

Thus, GBI can have solution by using social media such as Instagram, Facebook to sell their products and also efficient server to provide server traffic during peak sales or demand during online shopping. By knowing where to find special, organic traffic that built on relationships which eventually moved into sales.

It can be summarized for the knowledge analysis as shown below:

1. Customer needs and demands where GBI need to ensure their loyal customers specific demands on their products to be delivered as promised

2. Marketing and sales department should be aligned so that sales revenue can be high
3. GBI should pay attention to their competitors so that they can dominate the bike off-road market
4. Efficient web traffic is needed to ensure smooth online user experience when selling GBI products on web or online platforms.

Critical analysis and insight creation

This part discusses about the summarization and interpretation of data analysis, information analysis, knowledge analysis and applied creative and innovative thinking in the design aspect of the critical analysis.

It can be interpreted from the data analysis is that sales increase in the month of march and April due to few reasons such as season, weather, payday and public holiday and it can be concluded that in the information analysis that these four factors play huge influence on the sales drop for the GBI bike company. After that, for knowledge analysis another factor that might influence the sales drop is due to GBI don't pay attention to their customers, no web traffic support, lack understanding of their competitors and there is no alignment between marketing and sales team. For further details on the dashboard, it can be seen as below using the SAP Lumira discovery.

Final Deliverables

This part discusses about the findings and insights gained from section 4 which is the critical analysis and insight creation where it must contain one of the following stuff and items such as guidelines, recommendations of future work, strategies, scoreboards, KPI, dashboards, models, frameworks, recommendations of standards such as BPM, ISO, solutions and reports. Thus, to solve the problem faced by GBI bike there are several suggestion and proposed solutions to solve the problem faced by GBI bike company. There are three proposed solutions such as:

1) Proposed solution 1

Increase product prices in march and April, but at the same time maintain normal prices of other items in other seasons. So basically, this method is useful to solve the problems faced by GBI bike company as this will compensate the loss of revenues from other months besides march and April.

2) Proposed solution 2

Another proposed solution is to create and sell new bike products from their line up (GBI bike company) that is water resistant and thus this will increase the bike sales as customers will gain more trust on the company as they provide good quality products.

3) Proposed solution 3

The last proposed solution is holding a competitions prize for the customers to partake and the conditions to join or enter is that customers must buy a certain unit to be eligible to enter. This kind of customer engagement is very important to gain more customers and make GBI bike company stand out than competitors and thus gained customers loyalty.

Conclusion

It can be deduced that GBI company loss of revenues happen due to seasonality problem and it can only thrive and gained profit only in the month of march and April where the weather is warm and nice. This is because seasonality happened mostly due to weather, season, holiday and personal income and thus to overcome the problems three proposed solutions are made.

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