

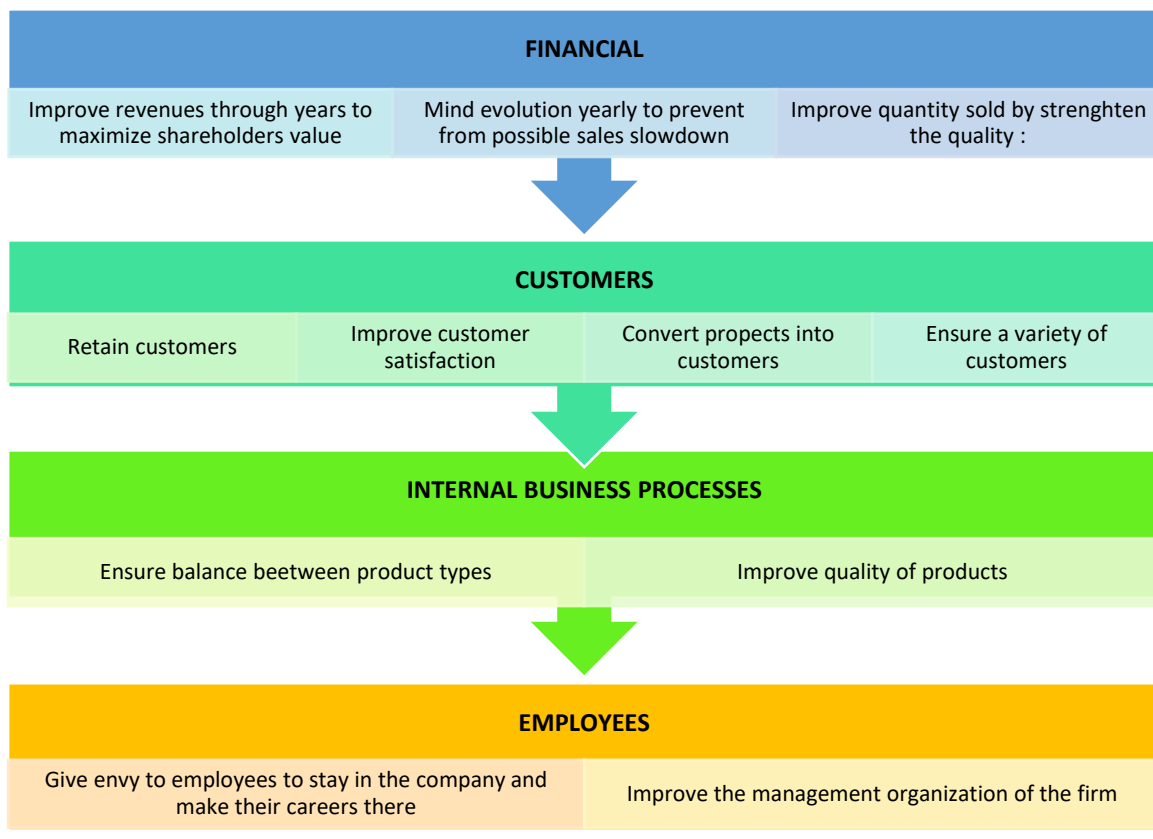
Business Report - Chinook Company

I. Mission and vision

Mission: Chinook strives to deliver music to their loyal customers at the cutting edge of trends through an effective and fair management.

Vision: Become the more successful and trustworthy music company.

II. Strategy map



III. Business analytics – Data-driven approach with SQL

*/*Each table is explained with a comment below*/*

a. FINANCE

Global_total_sales
\$2,328.60

Chinook has sold in total 2,328.60\$, but this is not really providing us insights. Let's go further in the with the next table

Year	Global_total_sales_per_year
2009	\$449.46
2010	\$481.45
2011	\$469.58
2012	\$477.53
2013	\$450.58

In this table, we can see the total sales per year chronologically. What we first notice is that years are quite similar in terms of sales and there is no significant changes in 5 years. Nevertheless, 2010 has been the best year for Chinook with 481.45\$ of sales. Chinook is not really evolving through the years and this is the point. We will go further in the analysis by month to check if the year is kind of cyclical and if some periods are more favourable for music sales.

Month	Year	Global_total_sales_per_month
1	2009	35.64
2	2009	37.62
3	2009	37.62
4	2009	37.62
5	2009	37.62
6	2009	37.62
7	2009	37.62
8	2009	37.62
9	2009	37.62
10	2009	37.62
11	2009	37.62
12	2009	37.62

Month	Year	Global_total_sales_per_month
1	2010	52.62
2	2010	46.62
3	2010	44.62
4	2010	37.62
5	2010	37.62
6	2010	37.62
7	2010	37.62
8	2010	37.62
9	2010	36.63
10	2010	37.62
11	2010	37.62
12	2010	37.62

Month	Year	Global_total_sales_per_month
1	2011	37.62
2	2011	37.62
3	2011	37.62
4	2011	51.62
5	2011	42.62
6	2011	50.62
7	2011	37.62
8	2011	37.62
9	2011	37.62
10	2011	37.62
11	2011	23.76
12	2011	37.62

Month	Year	Global_total_sales_per_month	Month	Year	Global_total_sales_per_month
1	2012	37.62	1	2013	37.62
2	2012	37.62	2	2013	27.72
3	2012	37.62	3	2013	37.62
4	2012	37.62	4	2013	33.66
5	2012	37.62	5	2013	37.62
6	2012	37.62	6	2013	37.62
7	2012	39.62	7	2013	37.62
8	2012	47.62	8	2013	37.62
9	2012	46.71	9	2013	37.62
10	2012	42.62	10	2013	37.62
11	2012	37.62	11	2013	49.62
12	2012	37.62	12	2013	38.62

The first year of Chinook was very stable because 11 months over 12 reported sales almost equals of 37.62\$. 2010 was a very good year and has started very well in terms of sales. January 2010 was the best month for Chinook, we will go further to understand during the beginning of this year to explain such a rebound. Most of the months are around 37.62\$, this a “normal” month. However, our goal is to go up this number and improve sales of Chinook. On the contrary, the worst month of Chinook was November 2011 with only 23.76\$.

average_items_per_invoice
5

In average, one sale e.g. one invoice is constituted of 5 items. This is a good thing, because customers are buying several products on the same shop at the same time. But let’s look at the median because the mean could be disturbed by outliers.

median_items_per_invoice
4

The median is a bit lower than average, but it means that people are not buying only one or two items most of times they buy more: 4. The goal is to give us envy to buy more items and never lower this number. We will see how to improve it with the other data analysis about customers.

b. CUSTOMERS

number_of_customers
59

First important thing about customers is to check how many customers we have in the database. We have 59. Now, we will check if all the “customers” in the database have already bought something at Chinook. Sometimes customers databases are mixing prospects and customers.

number_of_customers_clients
59

After checking, the customer database is constituted of only real clients. A good thing for Chinook could be to create a prospect database. They will be available to receive the Chinook’s newsletters, some discounts, some related content to the company, to convert them into prospects.

Average_amount_spent_by_customer
\$9.31

In mean, customers are spending 9,31\$. Those customers can have multiple invoices. So, this is poor knowing that a “normal” month in mean from 2009 to 2013 is 37.62\$. It means around 4 clients per months. This should be more for Chinook and its promises. Let’s look further at the distribution of customers.

number_of_good_customers	number_of_Bad_customers
13	46

Here, we have the composition of the customers in the database. Among 59 clients, 13 are buying more than average amount spent by customers (9,31\$) and 46 clients are buying less than this

average. It means that there is not a balance between the customers and the balance is more on the side of bad customers. Chinook must resolve this issue to incite their customers to buy more and overcome this average.

average_recency_in_years
6

In average, customers have not bought anything for 6 years. Our database is stopping in 2013, so we consider that this recency is not reliable. 6 years ago, we were in 2014, so we consider that customers in average are loyal and until the ending point of the database that we have they were still buying music at Chinook.

average_items_per_customer
37

In average, customers have bought 37 items in total each. We will split, the same way as we did the amount spent, the customers in two categories: the good customers that buy more than average in quantity and the bad ones that buy less than average in quantity.

number_of_good_customers	number_of_bad_customers
59	0

We can observe that all customers are good and are buying more than average in terms of quantity. This is good news for Chinook.

average_tenure
11

In terms of tenure, customers are in average long-time customers. It means they are customers since 2009, the opening year of Chinook. Long term customers is an advantage for the company. However, Chinook should expand its horizons and recruit new customers also that will stay a long time with them.

Country	number_of_customers	amount_spent
USA	13	\$523.06
Canada	8	\$303.96
Brazil	5	\$190.10
France	5	\$195.10
Germany	4	\$156.48
United Kingdom	3	\$112.86
India	2	\$75.26
Portugal	2	\$77.24
Czech Republic	2	\$90.24
Ireland	1	\$45.62
Austria	1	\$42.62
Hungary	1	\$45.62
Chile	1	\$46.62
Sweden	1	\$38.62
Finland	1	\$41.62
Spain	1	\$37.62
Poland	1	\$37.62
Denmark	1	\$37.62
Norway	1	\$39.62
Argentina	1	\$37.62
Australia	1	\$37.62
Belgium	1	\$37.62
Netherlands	1	\$40.62
Italy	1	\$37.62

Most of the customers came from USA, Canada, Brazil or France. There is also a variety of other countries, but the presence there is poor. Let's see the repartition of sales in terms of geographical zones.

sales	Market
\$1,101.36	America
\$1,037.12	Europe
\$190.12	Asia

We can see that the main market is America, closely followed by Europe while Asia is staying apart. Thus, one of the market to conquer for Chinook is Asia. Chinook needs to look for new opportunities there.

c. INTERNAL BUSINESS PROCESS

genre	quantity_sold
Rock	835
Latin	386
Metal	264
Alternative & Punk	244
Jazz	80
Blues	61
TV Shows	47
Classical	41
R&B/Soul	41
Reggae	30
Drama	29
Pop	28
Sci Fi & Fantasy	20
Soundtrack	20
Hip Hop/Rap	17
Bossa Nova	15
Alternative	14
World	13
Heavy Metal	12
Electronica/Dance	12
Easy Listening	10
Comedy	9
Science Fiction	6
Rock And Roll	6

Music is art and art is a question of taste, so the first thing we would like to analyse at Chinook corporation is the most sold genres.

The top five appears below:

genre	quantity_sold
Rock	835
Latin	386
Metal	264
Alternative & Punk	244
Jazz	80

Other genres are less appreciated and for the least one only bought times could be removed as it could cut costs and be interesting for the company to put those costs in marketing for instance.

average_quantity_sold_per_genre
93

In average, a genre sold 93 units of tracks.

genre	quantity_sold
Rock	835
Latin	386
Metal	264
Alternative & Punk	244

Here, we have the good performing group, it means that this is the genres who sell more than average: 93. When looking for new prospects, accent could be made on those genres as they are safe bet, Chinook has quality products for this genres.

genre	quantity_sold
Jazz	80
Blues	61
TV Shows	47
R&B/Soul	41
Classical	41
Reggae	30
Drama	29
Pop	28
Soundtrack	20
Sci Fi & Fantasy	20
Hip Hop/Rap	17
Bossa Nova	15
Alternative	14
World	13
Heavy Metal	12
Electronica/Dance	12
Easy Listening	10
Comedy	9
Rock And Roll	6
Science Fiction	6

On the contrary, those genres are selling less than average quantity sold per genre. They are less appreciated. We notice that Comedy, Rock and Roll and Science fiction are really the odds one out.

media_type	quantity_sold
MPEG audio file	1976
Protected AAC audio file	146
Protected MPEG-4 video file	111
Purchased AAC audio file	4
AAC audio file	3

Good_performing_genre	quantity_sold
MPEG audio file	1976

Bad_Performing_group	quantity_sold
Protected AAC audio file	146
Protected MPEG-4 video file	111
Purchased AAC audio file	4
AAC audio file	3

We have here an overview of the quantity of items sold per media type. We can clearly see that the most demanded media type is MPEG audio file. The least ones are purchased AAC audio files and AAC audio files, mostly not sold at all. If it is a cost for the company, they better should be removed of the products lists. However, if the company should choose only one media type to smooth the process and the product list, they should choose MPEG audio file.

NOTE: No rows were selected.

Regarding tracks, the first thing I did is to check if some tracks where not being sold at all. The fact is all tracks have been sold at least once.

total_number_of_tracks	tracks_sold_only_once
3503	1568

1568 tracks are sold only once over 3503. In means 44% of the total number of tracks are sold only once. Regarding this big proportion, we can not really delete all that tracks because this is quite common to be sold only once but we can always check the artists of those tracks not well sold.

total_number_of_artists	artists_of_Bad_tracks
275	158

Those tracks concern about 57% of artists. The problem is not coming from one artist in particular. However, we can calculate the storage that could be saved through deleting those files

total_space	place_saved
117.386.255.350	54.730.358.998

Here, we can see that if we delete the tracks that don't well well, we could reduce the storage of 46%. If storage is a big cost, Chinook should think about it.

quantity_sold_in_best_month	quantity_sold_in_best_month
36	24

At the beginning of the analysis, we noticed that January 2009 was the best month in terms of sales while November 2011 was the worst. I wanted to go further in this analysis. First I analyzed the number of tracks sold during this periods.

artists_sold_the_best_month
Accept
Accept
AC/DC
AC/DC
AC/DC
AC/DC
AC/DC
AC/DC
Aerosmith
Aerosmith
Aerosmith
Aerosmith
Alanis Morissette
Alanis Morissette
Alice In Chains
Alice In Chains
Antônio Carlos Jobim
Antônio Carlos Jobim
Apocalyptica
Apocalyptica
Audioslave
Audioslave
Audioslave
BackBeat
Billy Cobham
Black Label Society
Black Label Society
Black Sabbath
Black Sabbath
Body Count
Body Count
Bruce Dickinson
Buddy Guy
Caetano Veloso
Caetano Veloso
Chico Buarque

AC_DC
6

We assume that the best month should be linked to the realase of a new album. In order to be sure, I extracted the list of artists bought during January 2009. In this period, Aerosmith and AC/CD was the most sold. AC/DC was found 6 times in this list. With similar queries, I checked if AC/DC was constantly bought a lot, but it does not. This rebund in sales should be linked to this event.

d. EMPLOYEES

EmployeeId	Title	age	time_in_the_company
2	Sales Manager	61	18
4	Sales Support Agent	73	17

We first had a look at the employees about to retire, meaning that they are more than 60 years old. We have only 2. Those two employees are in the company since 17 and 18 years old, so it is been a long time. It translated the trust of employees in the business of Chinook. They ae the sale manager and a sale support agent. It means that they work together, and the sales team will have to be renewed

soon. This is the opportunity to hire some experienced people in the international to expand the offer in ASIA for instance and resolve other issues found I the database.

Title	number_of_roles
General Manager	1
IT Manager	1
IT Staff	2
Sales Manager	1
Sales Support Agent	3

The team is distributed as in the table: 8 persons in total.

EmployeeId	sales	Employees_ID_not_sales	Average_sales_per_employee
3	\$833.04	1	\$776.20
4	\$775.40	2	
5	\$720.16	6	
		7	
		8	

Among the three support sales agent, the employee number is selling the most with 833.04\$. However, we notice that there are not strong inequalities between them, this is a good point for Chinook. In average, employees are selling 776.20\$.

Sales_per_employee_3	Country	Sales_per_employee_4	Country	Sales_per_employee_5	Country
\$191.10	Canada	\$239.72	USA	\$163.48	USA
\$119.86	USA	\$77.24	France	\$75.24	Canada
\$81.24	Germany	\$77.24	Portugal	\$75.24	Germany
\$80.24	France	\$75.24	Brazil	\$49.62	Czech Republic
\$77.24	Brazil	\$40.62	Czech Republic	\$46.62	Chile
\$75.26	India	\$39.62	Norway	\$42.62	Austria
\$75.24	United Kingdom	\$37.62	Belgium	\$40.62	Netherlands
\$45.62	Hungary	\$37.62	Canada	\$38.62	Sweden
\$45.62	Ireland	\$37.62	Denmark	\$37.62	United Kingdom
\$41.62	Finland	\$37.62	Argentina	\$37.62	Spain
		\$37.62	Australia	\$37.62	Brazil
		\$37.62	Poland	\$37.62	France
				\$37.62	Italy

We get an overview of the sales of each salesperson per country. We observe that employee 3 has sold in less countries while it is the best. Therefore, the strategy could be to concentrate on specific areas: One in Europe, One in America (basically the more performant as it is the most important market for Chinook), and one in Asia (could be the new employee which will replace the one about to retire).

In fact, the employee 5 which is the least one, has sold in many countries compare to his colleagues. This confirm the fact that the quantity of countries is not necessarily related to more sales.

Countries_served_by_3_not_5
Finland
Hungary
India
Ireland

Moreover, I made a comparison between the country served by employee 3 and 5. As the employee 5 is the last one of the list but served many countries: I would like to check which country Employee 3 is serving that employee 5 is not serving.

Result: Finland, Hungary, India and Ireland are supported by employee 3 and are quite important.

The strategy of the salesperson should be better as I said because the balance between the areas served is not efficient.