M.Sc. Data Analytics

Business Intelligence and Business Analytics

BIZ-ARTISTS CONSULTING

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1. Specification Report

1.1. Abstract

We have been hired by an e-commerce company known as ZenKart.com as Business Analysts (Biz-Artists Consulting) to supervise and facilitate implementation of innovative strategies using business intelligence and analytics systems for expansion of company interests in new and emerging markets globally and explore an untapped potential market opportunity.

Fig. 1. ZenKart.com Fashion Retailer Store in New Delhi, India

The year 2020 has been a turbulent time for all industries due to COVID-19, as many had to incur heavy losses and some couldn't even meet their sustainable targets. Due to unpredictable lockdown restrictions and public sentiment, companies had to push for innovative online/hybrid working models to operate and succeed. While many companies were struggling, the e-commerce and e-learning companies saw whopping growth.

Since 2020, more and more consumers have turned to online purchasing primarily due to the stores being closed more often than not. Even though the restrictions have eased over time, there is still a fear amongst consumers to shop in person to avoid unnecessary physical interactions. This seems like an ideal time for any new e-commerce company to enter the market and succeed, however, there are many hoops to jump through as entering a market and getting established can mean very different things.

When starting first or during regional expansion, companies with little to no experience in the market will have difficulty dealing with the regional competition and nervous buyers. Moreover, an organization lacking a Business Intelligence infrastructure may never overcome the cut-throat competition with the existing players and establish their business. That's why companies need to not only build trust with the audiences by delivering quality products and

good service support but also employ advanced Business Intelligence solutions to achieve their targets and retain customers in the long run. Customer trust and satisfaction not only increase sales but also increases customer retention, but utilizing crucial business insights from comprehensive market research before entering a new market could turn the tide for any new organization.

The business analysis illustrated in this report demonstrates the solutions and strategies for an e-commerce company named **ZenKart.com** which aims to get established in the Irish Market and gain a profitable market-share by contending with competition using innovative marketing strategies and plausible process improvements. This study utilizes various business intelligence and marketing tools and methods such as a Balanced scorecard, Enterprise Solutions, Customer Relationship Management (CRM), Marketing funnel, etc. to help with the organization's objective of progressive strategy, infrastructure management and solution implementation.

1.2. Background

1.2.1. Organization History

Fig 2: Fashion Segment Retail Store

Started in 2005 in India, ZenKart.com is a direct-to-consumer online retail company, providing a range of products to millions of consumers. ZenKart.com initially started as a transportation and logistics company based in New Delhi, India. The company operated across the country and provided quality delivery and porter service at affordable prices. It soared at the right time with very little competition and ultimately built a strong presence in the logistics market in India. Eventually, the company gauged a potential opportunity in the online retail sector, and gradually expanded into an e-commerce company in the year 2011. Eventually, ZenKart.com established itself as a leader in the e-commerce sector (Auto and Accessories, Fashion, Home & Furniture and Electronics) in India. Over the years, the company gained enough rapport to have a sustainable business going forward and has a saturated market-share in India. Now, the company wants to expand in a competitive European market by entering the Irish economy. In India, due to its high reputation, the company leads the

market, however, in Ireland, it will need cutting-edge technologies and solutions to compete and eventually succeed.

1.2.2. Early Mode of Operations

In 2011 ZenKart.com launched its e-commerce website, and since then the customers started majorly connecting with the company via the e-commerce portal (website). The company initially accepted orders over the phone, email and website. It provided the standard turnaround time and was dedicated to fulfil orders on time. Whilst most of the orders were taken on the phone, very few came through other modes. Now the e-commerce business is operated online with the help of a dedicated customer helpline and suitable infrastructure of local warehouses and vendors.

1.2.3. Impact of COVID-19

Just like many other companies across the globe, ZenKart.com was affected by the Covid-19 pandemic. Travel restrictions across all the countries and operations across the globe had come to a halt. While on the flip side, the demand for goods and products was surging. So, the company exercised some significant changes in its operations. It had to cut the Cash-on-Delivery option and made digital payments the only preferred option for contactless payments in India. In order to establish in the Irish market, the company will need to understand and comply with the regulations, research the consumer behaviour in the market, and come up with innovative marketing/ incentive schemes to attract customers from competitors.

1.2.4. Marketplace

Currently ZenKart.com is operating in India, hence the customer base of the company comprises of the individuals from India who order different categories of product as per the needs. Although the company has acquired a respectable customer base in Ireland up until now, it will need to invest on the advanced business intelligence frameworks to contend with the local competition and become popular.

1.2.5. Vision

The long-term vision of ZenKart.com is to become a global e-commerce company delivering Quality Products and Good Service Support. As Business Analysts, we will be facilitating the company to expand its Fashion retail business in Ireland and capitalize on the untapped and high potential market demand for Indian Spices.

Fig 3: Delivered product

Fig 4: Quality Indian Spices for latent market in Ireland

1.2.6. Objectives:

After performing well in the Indian Market, now the company is on verge of expanding its venture in the European market, first starting with Ireland. Following objectives were pinned down for this project:

- Acquiring suitable infrastructure and Supply chain management for the company operations in Ireland.
- Selecting and Implementing suitable Continuous Improvement Programs (PDCA/ Six Sigma/ Kaizen) for accomplishing operations targets faster.
- Developing a reliable customer base by achieving a high satisfaction index.
- Reaching indifferent customers, especially those that may have been difficult to access or too costly to serve until now.
- Introducing innovative new components of the digital experience — AR technology, 360-degree view.
- Offering a unique service of 'Fit and Try' service in the Clothing segment.
- Providing Sales, faster product delivery and quality after-sales support.
- Strategize to introduce popular Indian spices brands such as MDH, Everest, Nilon's, Maggie, Patanjali and Mother's Recipe (Indian Spices) in Ireland and capitalize the potential high market demand under a new brand name.
- Spreading Awareness of Indian Brands and their counterfeit products (from Bangladesh and Pakistan) currently circulating in Ireland.

We will implement a system of Customer Relationship Management (CRM - Salesforce) and Business Intelligence (Data Visualization - Power BI) suite to perform analytics and find solutions in order to accomplish the mentioned objectives and help the organization get established and to start a new venture in the Food business in Ireland.

1.3. System Design

1.3.1. Current Situation

The company operates in India and is aiming to gain a greater market share in the Irish economy by employing advanced analytical methods to establish its presence. It has the necessary infrastructure and knowledge base to excel in the Indian market, however, facing Irish culture and dynamic competitive forces is not that easy. Initially the company is facing following obstacles:

- Struggling to understand the behavior of target customers in Ireland.
- Struggling to understand local culture and traditions.
- Lack of scalable data storage infrastructure.
- Under-utilization of communication/ marketing channels.
- Infrastructure solutions for end-to-end sales and customer service management.
- Need of using advanced analytics tools to gauge and implement competitive marketing and sales strategies, and inventory management.
- Strategy for marketing and setup of supply chain strategy for importing spices from India.

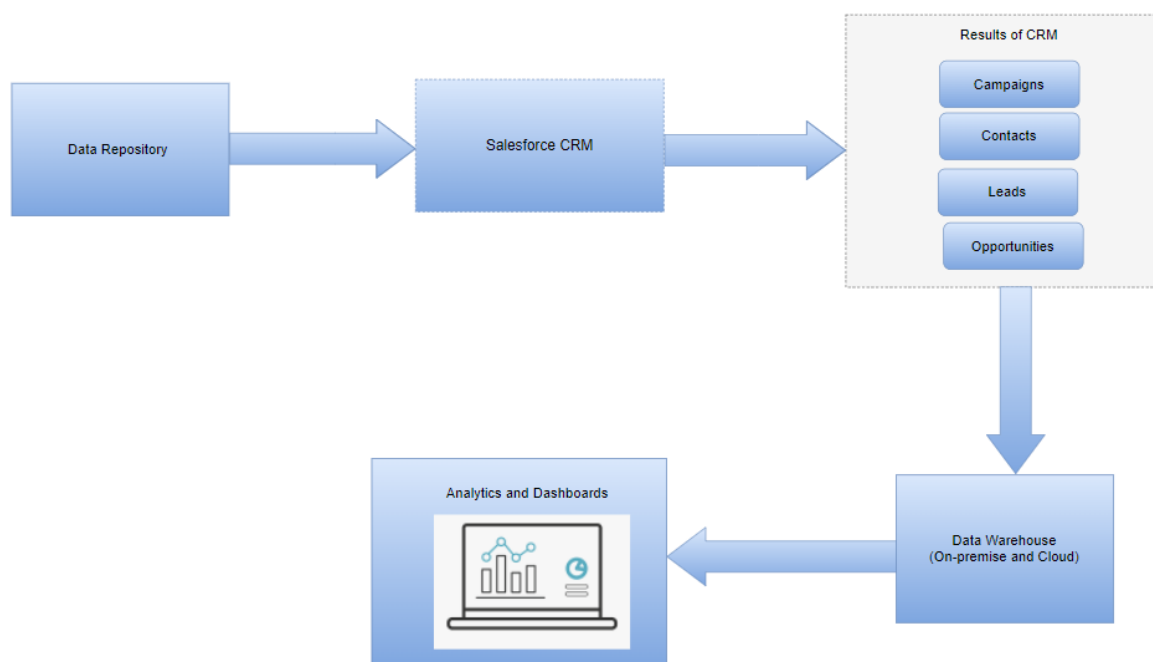### 1.3.2. Process Flow Diagram

Fig 5: Proposed process flow for the solution

The Enterprise was designed in a way to provide the company an ability to record data end-to-end, and at one place, throughout the customer interaction lifecycle effectively from customers using CRM systems and integrate the data at every step by regular updates.
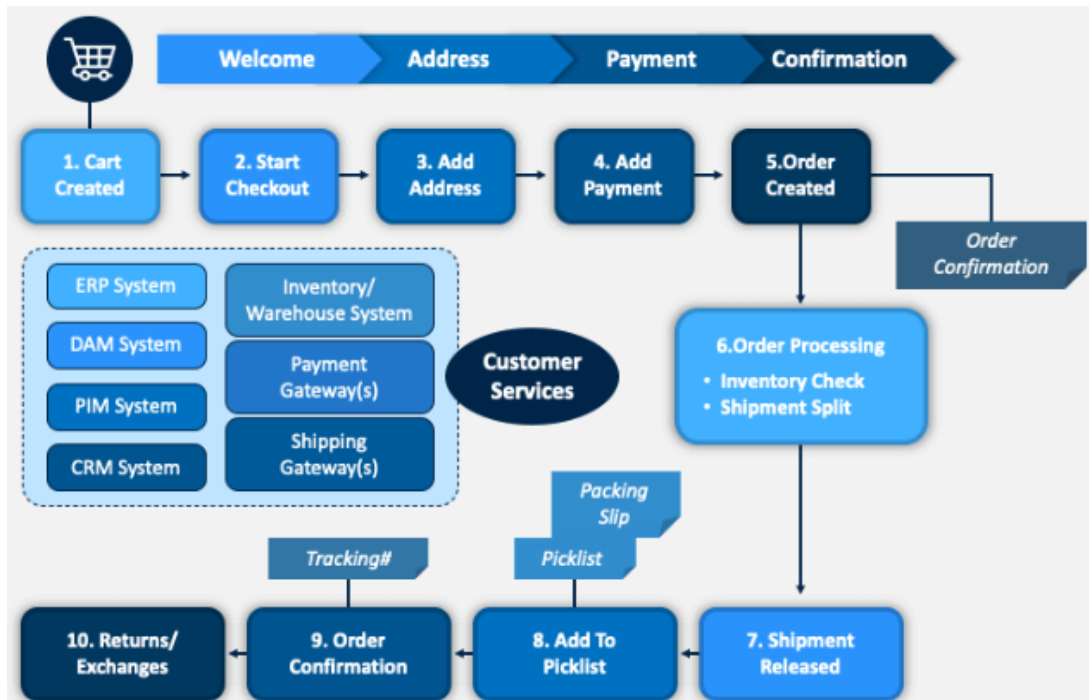
Fig 6: E-commerce Website process flow

The use of the CRM will provide a solution that will allow the Customer to be the central axis of the solution. It will also be helpful in facilitating compliance with legal requirements regarding data governance and provide single point access to critical live data for all departments. It can also provide a knowledge base for future use.

1.4. Enterprise Data Structure

1.4.1. Data Dictionary

The data of this organization is divided into three process flows. The process flows and the associated objects are as follows:

1st Process flow: Inventory
- Warehouses and their holdings

Product ID	Product	Category	Warehouse ID	Current Quantity	Minimum Quantity Required	City
6028	Tablet	Electronic	5	170	300	Dublin
3815	Samsung Mobile	Electronic	5	167	300	Dublin
8506	Mixer/Juicer	Electronic	5	199	300	Dublin
6028	Tablet	Electronic	5	214	300	Dublin
6028	Tablet	Electronic	5	129	300	Dublin
6383	LED	Electronic	5	272	300	Dublin
3632	Watch	Electronic	5	114	300	Dublin
4049	Apple Laptop	Electronic	5	129	300	Dublin
7393	Speakers	Electronic	5	134	300	Dublin
4049	Apple Laptop	Electronic	5	111	300	Dublin
3815	Samsung Mobile	Electronic	5	182	300	Dublin
6028	Tablet	Electronic	5	208	300	Dublin
6383	LED	Electronic	5	167	300	Dublin
6028	Tablet	Electronic	5	184	300	Dublin
2970	Mouse	Electronic	5	121	300	Dublin
6556	Iron	Electronic	5	263	300	Dublin
6715	LCD	Electronic	5	209	300	Dublin
8506	Mixer/Juicer	Electronic	5	209	300	Dublin

This table contains the details of the quantity of the products held by each of the Warehouses.

- Product ID - ID of the product
- Product - Name of the product
- Category - Category of the product
- Warehouse ID - ID of a particular Warehouse
- Quantity - Current quantity of the product
- Minimum_Qty - Minimum expected quantity to be maintained
- City - Name of the city where the Warehouse is located.

2nd Process Flow: Sales

- Product Sales

Invoice No	Order ID	Order Date	Delivery Date	Aging	Ship Mode	Product Category	Product	Sales	Quantity	Discount	Profit	Shipping Cost	Order Priority	Customer ID
4058661079	FA-2015-203	8/19/2019 8:41:59 AM	8/23/2019 11:01:17 AM	4	Standard Class	Fashion	Sports Wear	$85	3	0.04	$28.3	$2.8	Medium	LD-0010409
9823251432	FA-2015-253	7/20/2020 9:28:23 PM	7/30/2020 11:25:52 PM	10	Standard Class	Fashion	Fossil Watch	$159	3	0.04	$59.9	$6	Medium	BS-0010459
1373285894	FA-2015-451	11/2/2020 8:06:31 PM	11/14/2020 6:51:27 PM	11	Standard Class	Fashion	Fossil Watch	$159	3	0.04	$59.9	$6	Medium	RY-0010657
4957976103	FA-2015-454	10/4/2020 11:29:16 PM	10/16/2020 9:55:09 AM	11	Standard Class	Fashion	Jeans	$218	3	0.04	$111.8	$11.2	Medium	EZ-0010660
9965815594	FA-2015-542	3/12/2020 3:10:44 AM	3/19/2020 9:19:32 PM	7	Standard Class	Fashion	Jeans	$218	3	0.04	$111.8	$11.2	Medium	OS-0010748
8662019035	FA-2015-566	10/7/2019 6:26:40 AM	10/12/2019 5:38:23 AM	4	Standard Class	Fashion	Sports Wear	$85	3	0.04	$28.3	$2.8	Medium	RD-0010772
240413480	FA-2015-665	4/27/2020 3:55:53 PM	5/6/2020 5:56:18 AM	8	Standard Class	Fashion	Sports Wear	$85	3	0.04	$28.3	$2.8	Medium	RE-0010871
869802152	FA-2015-697	11/3/2020 11:20:23 AM	11/15/2020 10:21:34 AM	11	Standard Class	Fashion	Suits	$109	3	0.04	$15.9	$1.6	Medium	EZ-0010903
7168347684	FA-2015-810	10/5/2019 9:20:42 AM	10/10/2019 7:44:18 AM	4	Standard Class	Fashion	Running Shoes	$224	3	0.04	$117.1	$11.7	Medium	EK-0011016
7623954461	FA-2015-904	8/4/2020 7:32:01 PM	8/15/2020 3:51:33 AM	10	Standard Class	Fashion	Shirts	$196	3	0.04	$92.5	$9.2	Medium	ER-0011110
8274031956	FA-2015-969	5/19/2020 5:28:00 PM	5/28/2020 4:53:27 PM	8	Standard Class	Fashion	T - Shirts	$248	3	0.04	$138.2	$13.8	Medium	NI-0011175
5055845897	FA-2015-975	8/30/2020 8:43:14 AM	9/10/2020 3:57:03 AM	10	Standard Class	Fashion	Running Shoes	$224	3	0.04	$117.1	$11.7	Medium	BS-0011181
474815484	FA-2015-988	9/22/2020 1:25:00 AM	10/3/2020 6:20:02 AM	11	Standard Class	Fashion	Sneakers	$62	3	0.04	$20.7	$2.1	Medium	BS-0011194
8734158914	FA-2015-1243	6/19/2020 4:50:05 AM	6/28/2020 5:15:56 PM	9	Standard Class	Fashion	Fossil Watch	$159	3	0.04	$59.9	$6	Medium	ER-0011449
9698871489	FA-2015-1319	7/19/2020 7:39:17 AM	7/29/2020 8:56:24 AM	10	Standard Class	Fashion	Titak watch	$228	3	0.04	$120.6	$12.1	Medium	IS-0011525
5815286433	FA-2015-1358	10/15/2020 2:52:01 PM	10/27/2020 5:50:24 AM	11	Standard Class	Fashion	Sports Wear	$85	3	0.04	$28.3	$2.8	Medium	IR-0011564

This table encapsulates the customer and product sales details of the company

- Invoice No - Unique Invoice Number
- Order ID - Unique ID for each of the order
- Order Date - Date on which the order was placed.
- Delivery Date - Date on which the product was delivered
- Aging - Number of days between the the date of order and date of product delivery
- Ship Mode - Shipping Mode of the product
- Product Category - Category of the product
- Product - Product name
- Sales - Sales earned by selling the product
- Quantity - Quantity of the product sold
- Discount - Discount offered in %
- Profit - Profit earned from the order
- Shipping Cost - Shipping involved in delivering the product
- Order Priority - Priority of the order - high, medium, low.
- Customer ID - Unique ID of each of the customer
- Customer Name - Name of the Customer
- Segment - Category of each of the Customer - Consumer, Home Office, Corporate Customer
- City - Name of the city where the product was delivered.
- Country - Name of the Country

3rd Process: After Sales Review
- ### Product Review

Invoice No	Order ID	Customer ID	Customer Name	Segment	Product Category	Product	City	Rating
7179591838	FA-2015-81	ON-0010287	Hendricks Wilson	Consumer	Fashion	Suits	Ros Comain	2
1546870770	FA-2015-103	LD-0010309	Bryant Brumfield	Consumer	Fashion	Suits	Tralee	2
9612782579	FA-2015-180	TT-0010386	Clark Arnett	Consumer	Fashion	Suits	Dunleary	2
823631765	FA-2015-268	RD-0010474	Griffith Hazard	Consumer	Fashion	Suits	Trim	2
8590535751	FA-2015-312	OW-0010518	Price Brandow	Consumer	Fashion	Suits	Ennis	2
7852459687	FA-2015-356	LY-0010562	Phillips Beeghly	Consumer	Fashion	Suits	Port Laoise	2
2043579904	FA-2015-367	AU-0010573	Jimenez Gastineau	Consumer	Fashion	Suits	An Cabhan	2
103307928	FA-2015-466	LL-0010672	Marshall Carroll	Consumer	Fashion	Suits	Dublin	2
1674268022	FA-2015-587	TE-0010793	Powers Gute	Consumer	Fashion	Suits	Limerick	2
2001507491	FA-2015-609	LT-0010815	Dyer Overfelt	Consumer	Fashion	Suits	An Cabhan	2
4200629864	FA-2015-752	EN-0010958	Snyder Dahlen	Consumer	Fashion	Suits	Waterford	2
4120343345	FA-2015-763	LE-0010969	Jacobs Engle	Consumer	Fashion	Suits	Tallaght	2

This particular table contains the Customer's Satisfaction rating for a particular product.
- Invoice No - Unique Invoice Number
- Order ID - Unique ID for each of the order
- Customer ID - Unique ID of each of the customer
- Customer Name - Name of the Customer
- Segment - Category of each of the Customer - Consumer, Home Office, Corporate Customer
- Product Category - Category of the product
- Product - Name of the Product
- City - Name of the city where the product was delivered.
- Rating - Rating Score given by the customer as per the Satisfaction (1-5); 1-Very Unhappy, 2-Unhappy,3-Can Improve,4-Happy,5-Very Happy

4th Process Flow: Service Ratings

Customer ID	Customer Name	Segment	City	Delivery	Payment	Application Experience	Website Experience	Customer_Care Service	Return/Exchange
EY-0015	Greene Decherney	Consumer	Waterford	1	3	3	3	3	2
LS-00418	Burnett Mills	Consumer	Cork	1	3	3	3	3	2
LL-00478	Oneal Norvell	Consumer	WexfordLongford	1	3	3	3	3	2
RA-00665	Harrison Carreira	Consumer	Ennis	1	3	3	3	3	2
RI-00674	Nixon Shariari	Consumer	WexfordLongford	1	3	3	3	3	2
LY-001126	Floyd Kelly	Consumer	Ros Comain	1	3	3	2	3	2
OK-001667	Walker Ashbrook	Consumer	Trim	1	3	3	3	3	2
ND-002240	Dawson Granlund	Consumer	Ennis	1	3	3	2	3	2
AN-002332	Chapman Donovan	Consumer	Clonmel	1	3	3	1	3	2
NO-002488	West Cano	Consumer	An Cabhan	1	3	3	2	3	2
NG-002636	Garcia Armstrong	Consumer	Galway	1	3	3	2	3	2
LE-002832	Tucker Caudle	Consumer	Swords	1	3	3	1	3	2
EZ-003306	Schmidt Dominguez	Consumer	Ennis	1	3	3	1	3	2
OW-003568	Price Brandow	Consumer	Tullamore	1	3	3	1	3	2
NN-003848	Hoffman Flathmann	Consumer	Dublin	1	3	3	2	3	2
NG-004724	English Schnelling	Consumer	Mullingar	1	3	3	2	3	2

- Order ID - Unique ID for each of the order
- Customer ID - Unique ID of each of the customer
- Customer Name - Name of the Customer
- Segment - Category of each of the Customer - Consumer, Home Office, Corporate Customer

- City - Name of the city where the product was delivered.
- Delivery - Rating Score given by the customer as per the Satisfaction (1-5); 1-Very Unhappy, 2-Unhappy,3-Can Improve,4-Happy,5-Very Happy
- Payment - Rating Score given by the customer as per the Satisfaction (1-5); 1-Very Unhappy, 2-Unhappy,3-Can Improve,4-Happy,5-Very Happy
- Application Experience - Rating Score given by the customer as per the Satisfaction (1-5); 1-Very Unhappy, 2-Unhappy,3-Can Improve,4-Happy,5-Very Happy
- Website Experience - Rating Score given by the customer as per the Satisfaction (1-5); 1-Very Unhappy, 2-Unhappy,3-Can Improve,4-Happy,5-Very Happy
- Customer_Care Service - Rating Score given by the customer as per the Satisfaction (1-5); 1-Very Unhappy, 2-Unhappy,3-Can Improve,4-Happy,5-Very Happy
- Return/Exchange - Rating Score given by the customer as per the Satisfaction (1-5); 1-Very Unhappy, 2-Unhappy,3-Can Improve,4-Happy,5-Very Happy

5th Process Flow: Complaints and Returns

Order ID	Order Date	Product Category	Product	Sales	Shipping Cost	Order Priority	Customer ID	Customer Name	Segment	City	Country	Complaint Reason	Status
FA-2015-693	12/9/2019 4:38:36 PM	Fashion	Fossil Watch	$159	$7.1	Medium	LL-0010899	Cruz Carroll	Consumer	Swords	Ireland	Wrong Product	Not Resolved
FA-2015-715	8/28/2019 4:47:05 PM	Fashion	Fossil Watch	$159	$6.3	Medium	TE-0010921	Powers Gute	Consumer	Tralee	Ireland	Wrong Product	Not Resolved
FA-2015-1430	5/11/2020 2:41:33 AM	Fashion	Fossil Watch	$159	$5.5	Medium	ND-0011636	Dawson Granlund	Consumer	Dublin	Ireland	Wrong Product	Not Resolved
FA-2015-1925	1/4/2020 5:40:52 PM	Fashion	Fossil Watch	$159	$6.3	Medium	ON-0012131	Frazier Ferguson	Consumer	Castlebar	Ireland	Wrong Product	Not Resolved
FA-2015-2145	9/8/2019 4:19:10 PM	Fashion	Fossil Watch	$159	$6.9	Medium	TE-0012351	Roth Selte	Consumer	Tralee	Ireland	Wrong Product	Not Resolved
FA-2015-2178	7/27/2019 2:26:52 PM	Fashion	Fossil Watch	$159	$6.3	Medium	ES-0012384	Gonzalez Barnes	Consumer	Clonmel	Ireland	Wrong Product	Not Resolved
FA-2015-2519	8/6/2020 8:32:43 AM	Fashion	Fossil Watch	$159	$7.3	Medium	AM-0012725	Jacobson Willingham	Consumer	Galway	Ireland	Wrong Product	Not Resolved
FA-2015-3366	3/9/2020 10:28:40 PM	Fashion	Fossil Watch	$159	$6.3	Medium	ER-0013572	Curtis Fuller	Consumer	Drogheda	Ireland	Wrong Product	Not Resolved
FA-2015-3443	2/21/2019 11:24:26 AM	Fashion	Fossil Watch	$159	$6	Medium	NS-0013649	Black Collins	Consumer	Naas	Ireland	Wrong Product	Not Resolved
FA-2015-3707	12/18/2019 4:35:42 AM	Fashion	Fossil Watch	$159	$6.5	Medium	NT-0013913	Blair Hunt	Consumer	Tallaght	Ireland	Wrong Product	Not Resolved
FA-2015-3718	6/27/2020 4:52:23 PM	Fashion	Fossil Watch	$159	$6.3	Medium	IS-0013924	Barton Mathis	Consumer	Blackrock	Ireland	Wrong Product	Not Resolved
FA-2015-4411	8/9/2019 9:50:06 AM	Fashion	Fossil Watch	$159	$6.6	Medium	OW-0014617	Price Brandow	Consumer	Drogheda	Ireland	Wrong Product	Not Resolved
FA-2015-4609	1/16/2019 4:12:41 AM	Fashion	Fossil Watch	$159	$4.7	Medium	EN-0014815	Hale Goldenen	Consumer	Mullingar	Ireland	Wrong Product	Not Resolved
FA-2015-4873	3/6/2019 10:14:22 PM	Fashion	Fossil Watch	$159	$7.3	Medium	CH-0015079	Bates Gockenbach	Consumer	Sligo	Ireland	Wrong Product	Not Resolved
FA-2015-5005	5/15/2020 11:55:42 AM	Fashion	Fossil Watch	$159	$6.3	Medium	EN-0015211	Gardner Craven	Consumer	Nenagh	Ireland	Wrong Product	Not Resolved
FA-2015-5445	4/16/2019 4:22:56 PM	Fashion	Fossil Watch	$159	$6	Medium	TE-0015651	Powers Gute	Consumer	Castlebar	Ireland	Wrong Product	Not Resolved
FA-2015-5489	2/19/2019 2:17:11 AM	Fashion	Fossil Watch	$159	$7.4	Medium	ER-0015695	Pruitt Reiter	Consumer	Carlow	Ireland	Wrong Product	Not Resolved
FA-2015-5819	4/8/2019 7:48:54 AM	Fashion	Fossil Watch	$159	$5.4	Medium	YD-0016025	Moran Lloyd	Consumer	Nenagh	Ireland	Wrong Product	Not Resolved
FA-2015-6017	9/28/2020 11:13:37 PM	Fashion	Fossil Watch	$159	$6	Medium	EN-0016223	Hodge Moren	Consumer	Port Laoise	Ireland	Wrong Product	Not Resolved

- Ticket No - Unique Ticket Number for each of the grievance
- Invoice No - Unique Invoice Number
- Order ID - Unique ID for each of the order
- Order Date - Date on which the order was placed.
- Product Category - Category of the product
- Product - Product name
- Sales - Sale generated by selling the product
- Shipping Cost - Shipping involved in delivering the product
- Order Priority - Priority of the order - high, medium, low.
- Customer ID - Unique ID of each of the customer
- Customer Name - Name of the Customer
- Segment - Category of each of the Customer - Consumer, Office, Corporate Customer
- City - Name of the city where the product was delivered.
- Country - Name of the Country
- Complaint Reason - Reason of the grievance
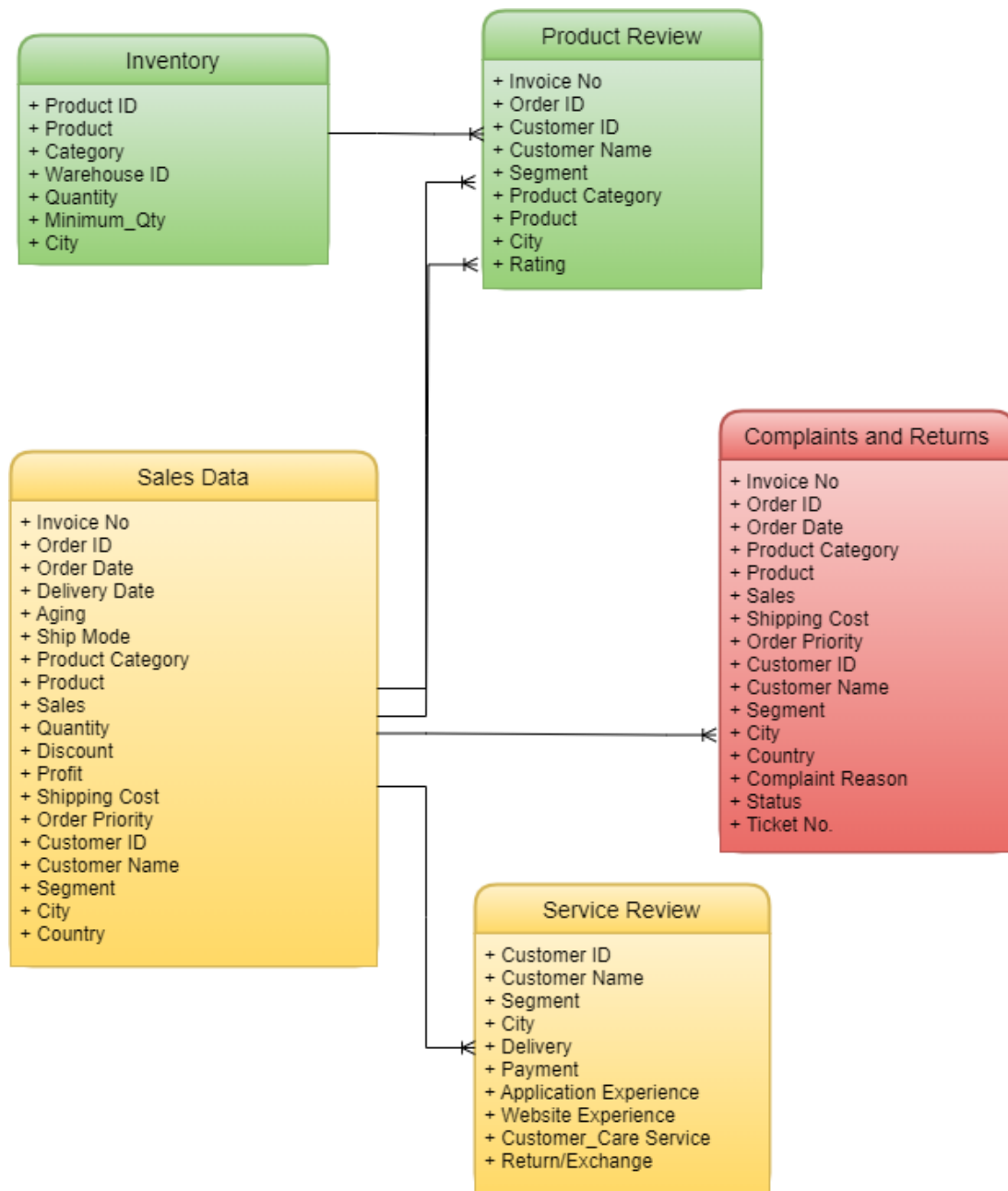- Status - Status of the grievance (Resolved or Not Resolved)

1.4.2. ER Diagram

Inventory
+ Product ID
+ Product
+ Category
+ Warehouse ID
+ Quantity
+ Minimum_Qty
+ City

Product Review
+ Invoice No
+ Order ID
+ Customer ID
+ Customer Name
+ Segment
+ Product Category
+ Product
+ City
+ Rating

Sales Data
+ Invoice No
+ Order ID
+ Order Date
+ Delivery Date
+ Aging
+ Ship Mode
+ Product Category
+ Product
+ Sales
+ Quantity
+ Discount
+ Profit
+ Shipping Cost
+ Order Priority
+ Customer ID
+ Customer Name
+ Segment
+ City
+ Country

Complaints and Returns
+ Invoice No
+ Order ID
+ Order Date
+ Product Category
+ Product
+ Sales
+ Shipping Cost
+ Order Priority
+ Customer ID
+ Customer Name
+ Segment
+ City
+ Country
+ Complaint Reason
+ Status
+ Ticket No.

Service Review
+ Customer ID
+ Customer Name
+ Segment
+ City
+ Delivery
+ Payment
+ Application Experience
+ Website Experience
+ Customer_Care Service
+ Return/Exchange

Fig 7: Entity Relationship Diagram for the E-commerce company

An Entity Relationship Diagram illustrates the relationships among different entities (data objects) in an IT system that enables to identify potential avenues for process improvements and streamlining. It benefits the organization by transparently presenting the internal processes and working model of the critical data flow and its dependencies which can be leveraged for achieving Organizational goals efficiently and effectively.

2. Implementation Report

2.1. Balanced Score Card
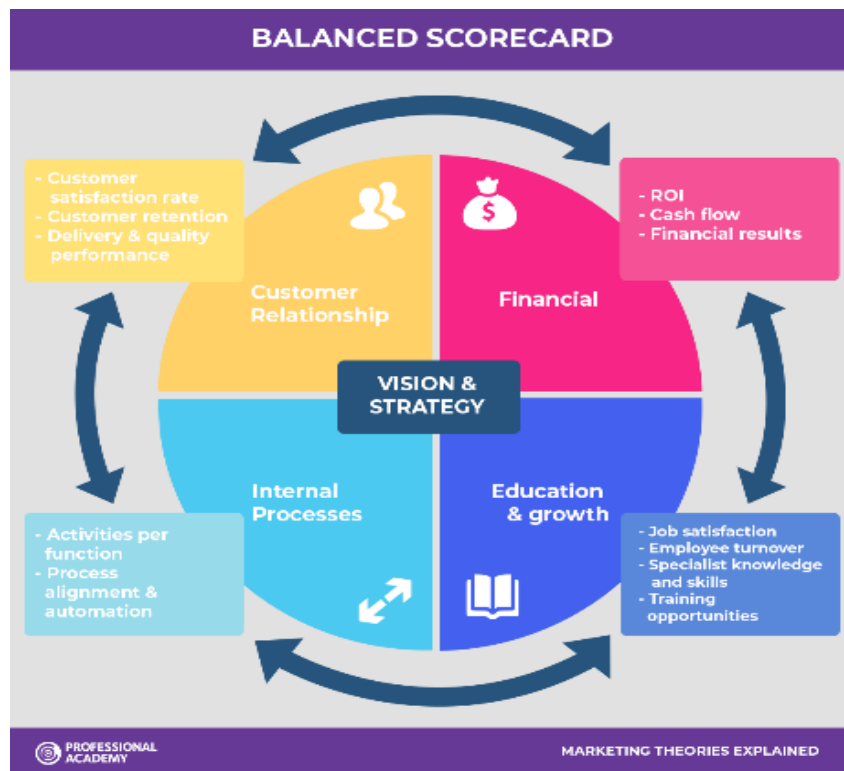
Fig 8: Balanced Score Card Tasks

A Balanced Score Card (BSC) is one of the most useful holistic tools for effectively monitoring company vision and strategy for aligning its business activities in order to achieve the carefully selected goals of the organization. It negates the demerits of the traditional approach of strategy which is mostly based on accounting external data. It provides 'balance' to the set targets and aligns the approaches accordingly and assists in building a metric-based Strategy Map that directly contributes to organizational success. BSC typically overviews following perspectives:

1. Financial Perspective
2. Customer Perspective
3. Internal Processes Perspective
4. Learning and Growth Perspective

For ZenKart.com, these perspectives will be used to set the desired goals and develop a suitable **Strategy Map** with clearly defined **Objectives, Measures, Initiatives and Action items**, for the establishment of the company in Ireland and also succeed in its unique capital venture in Indian Spices products.

Each of the below tasks will be conducted for each of the perspectives by **Biz-Artists Consulting** and provide an in-depth analysis of **ZenKart.com**'s processes and provide substantial changes or upgrades to prepare them for achieving their organizational targets both shot-term and long-term.

2.2. Strategy Map

ZenKart.com
we deliver certainty…

Financial Perspecticve (Revenue & brand value)

Organisation goals

Profitability	Low-cost operations	Global Market Leader & Unique brand value
Increase gross sales	Increase process efficiency	Build trust
Increase net profit	Reduce waste in operations	Increase brand value

Customer Perspective (User expectations)

Customer value Proposition

Products
- Best quality
- Wide Product Range
- Authentic imported prodcuts
- Cost effective

Service
- on-time delivery
- Discounts and offers
- Low turn-around time

Relationship
- Loyalty benefits
- Referral bonus
- Privilege member perks
- Cashback points

Internal Process Perspective (Operational excellence)

Operations Management
- Build strong supplier partnerships
- Efficient distribution
- Effective Risk Management
- Reliable inventory - stock availability

Customer Management
- Demography selection
- Acquistion
- Retention
- Growth & promotion

Innovation
- Customer behaviour models for avenues
- R & D Competition
- Advanced IoT tracking
- Design - Product & process
- Innovative marketing strategies

Regulatory & Social
- Environment friendly packaging
- Health & Safety
- Community

Learning & Growth Perspective (Future orientation)

Human Capital
- Talent acquistion & skills training
- Retention
- Career growth oppotunities

Information Captial
- Develop Knowledge base
- Top IT resource - software & support

Organisational Capital
- Systems tranparency
- Effective communication channels
- Regular employee feedback

Fig 9: Strategy Map

2.2.1. Financial Perspective

Success for any business is predicated by its sales targets and the brand market value. This perspective explores the financial objectives for the company and lays them down clearly in order to build initiatives and corresponding action items to deliver its targets down the line as mentioned in the Strategy Map (Fig 9). For ZenKart.com, following goals were selected:

1. Increased Profitability
2. Efficient Operations
3. Increased Brand Value

Although it's obvious for any company to use the above big-picture objectives in order to strive for success, laying them out clearly and following them up with aligned initiatives and action items while monitoring the Key Performance Indicators (KPI) to gauge their effectiveness in real-time helps to achieve the goals faster and with less waste. Also, in the Strategy Map as we increase the granularity in each step, we can also arrive at the necessary transparency for understanding the vision and strategy of the higher management. Following metrics were chosen to measure this aspect of the strategy for success:

Financial perspective	
Goals	Key Performance Indicators
Increase Profits	Net profit
	Total Expenses
	Revenue per segment
Efficient Operations	Waste reduction in Capital
	Waste reduction in process speed (Time)
	Speed of Meeting financial targets (Speed)
Increase Brand Value	Customer Preference with respect to other brands
	Customer experience rating

Improving KPI's such as **Net Profit, Revenue and Customer Rating** by Innovative Marketing strategies post comprehensive Irish market research will help gauge the current overall Profitability and Brand value of the company and show whether the company is headed in the right direction with the implemented steps.

Efficiency in operations measured by KPI's such as **Capital wastes and Processing time waste** will help ZenKart.com to identify, analyze and resolve the bottlenecks in the operations that prevent the organization to remove the obstacles. In fact, employing advanced Project management methodologies such as **Agile, Kanban, Waterfall, Lean and Six Sigma** could deliver the results quickly.

Following action items were suggested for ZenKart.com:

1. Implement **LEAN SIX SIGMA** approach as it will not only help in achieving quality but also focus on efficiency.
2. Conduct thorough e-commerce market research in each domain of products category and identify **competitors** and their unique selling points (USPs).
3. Customer sentiment analysis to arrive at a coherent **customer behavior model** to predict customer buying behavior throughout the year.

4. Evaluate the actual **demand for Indian Spices Market** in order to gauge the initial investment and infrastructure setup.

Fig 10: Lean Six Sigma approach

2.2.2. Customer Perspective

In this aspect of BSC, the focus is on improving the customer experience with the company by improving customer satisfaction and engagement. Since, ZenKart.com is relatively new in the market, it will not only have to strive to satisfy the customers but also compete with the existing leaders in order to gain a better market-share.

Customer Perspective	
Goals	**Key Performance Indicators**
Quality product and service	Customer feedback forms (Survey)
	Customer participation in schemes and offers
Customer Relationship	Service experience feedback (Survey)
	Feedback via staff (Survey)
	Customer lifetime Value (CLV)
	Customer acquisition cost (CAC)
Customer Profile	Customer Satisfaction index (%)
	Customer retention rate (CRR)

Measuring **CLV, CAC, CRR** - KPIs regularly will help ZenKart.com to gauge their presence in the market and continuously push innovative marketing strategies to win customers. Offering suitable marketing schemes can help to spread Brand awareness and gain customer sentiment.

Following actions were suggested by **Biz-Artists Consulting**:

1. Invest on Marketing Campaigns promoting **authenticity of Indian Spices Brands** and **spreading awareness** of the **counterfeit products** and their harmful effects.

Fig 11: Popular Indian Food Brands

2. **Debunking myths** about the similarity in quality of products from India and other neighboring countries (Bangladesh and Pakistan).
3. **Introducing Indian Street food at affordable prices** in Dublin and bringing in the Street food culture.

Fig. 11: Indian Street Food

4. **Investing on dedicated product delivery network** to achieve fastest turnaround time.
5. **Customized demographic-based offers** for each region.
6. Promote **Loyalty** programs.
7. **Hire experienced staff** in order to provide best customer support.
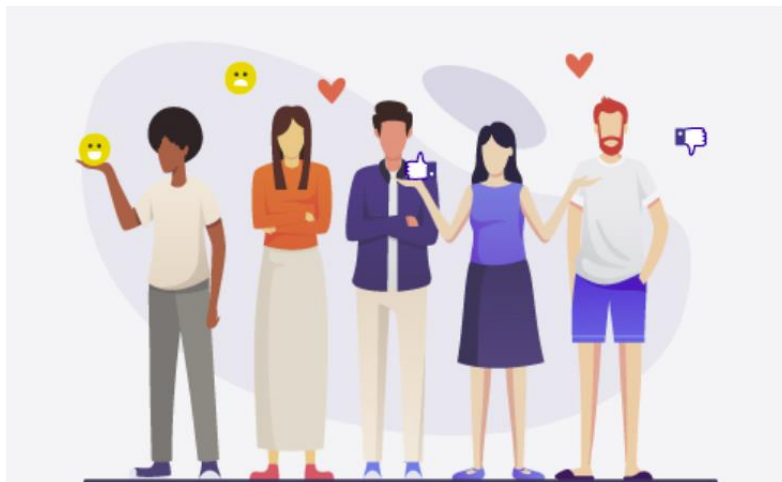
Fig. 12: Customer Sentiment

2.2.3. Internal Processes Perspective

With this perspective, the Biz-Artists Team focused on the organizational internal processes that could be supplemented and corrected for achieving the desired goals. Here the company can use its **knowledge base** and experience of being a leader back home in the E-commerce business and make adjustments so as to make the operations and management of the company in Ireland feasible and profitable. It was pointed that even though the competition while entering a new market is fierce, setting up **even basic infrastructure aimed at high-quality service and delivery** backed with thorough research and development on the customer mindset and preference could be a game-changer.

Internal Process Perspective	
Goals	Key Performance Indicators
Lean Operations Management	Time to Market (TTM)
	Process performance Metrics
	Perfect Order Rate (POR)
	Inventory Days of Supply (in Days)
Efficient Customer Management	Net Promoter Score (NPS)
	Support staff audits
	Customer Order Cycle rate (COC)
	On-Time Delivery
Innovation – Market Research and Analysis	Input metrics vs. Output metrics
	Disruptive Innovation vs. Sustaining Innovation
Regulatory & socially compliant	General Compliance
	Operational and Systems Compliance
	Procurement Compliance

Controlling for important KPIs such as **TTM, NPS, COC and On-Time Delivery** will launch the initiative of Indian Food Market investment in equal standing and beyond the existing competition as the **market is latent to be leveraged** in this sector in Ireland.

Following ideas were suggested and implemented in the company processes:

1. Implementing **Continuous improvement Programs** such as Kaizen and PDCA (Plan, Do, Check, Act) on supply chain and logistics will improve reliability on On-Time delivery KPI.
2. Control costs on logistics and distribution by building **strong relationships with suppliers**.
3. **Regular auditing and risk assessments** will eliminate unnecessary bottlenecks for process improvements.
4. Introducing staff and promoter (Customer) benefits schemes to boost **customer engagement**.
5. Adjusting Business Continuity Planning in case of emergency situations like natural disasters in the region.

Fig13: Inventory Management

2.2.4. Learning & Growth Perspective

This aspect of the Balanced Score Card considers the importance of employing the right talent and the effects of nurturing them at each stage of their careers. Having a team of like-minded, diverse, goal- oriented, motivated individuals boosts company's chances of success by many folds. Investing on acquiring sharp employees and managers definitely helps the organization to achieve its goals.

Innovation and Learning	
Goals	Key Performance Indicators
Training and upskill	Process Improvement initiatives
	Compensation for upskilling
	Participant Satisfaction Score (PSC)
	Employee Engagement
	Stakeholder Satisfaction
Control Attrition	Provide nurturing work culture
	Define pathways for individual success
Teamwork and transparency	Development courses for staff
	Recreational activities to build team chemistry

Achieving above goals and contributing to KPIs – **PSC, Engagement and Stakeholder Satisfaction** - will ensure to keep the morale of the workers and managers high and consequently the rate of delivery of goals too.

Following suggestions were made by team of Biz-Artists Consultants in order to reduce attrition and boost company morale:

1. **Careful Talent acquisition** and **retention** using expert HR consultants.
2. **Regular Skills training and opportunities** for professional growth.
3. Implement **policy for performance perks.**
4. System **transparency** and active **communication channels**.
5. Regular **employee feedback** for Continuous improvements opportunities.

Fig 14: Sample Training Metrics

2.3 Implementation of CRM Systems -Salesforce
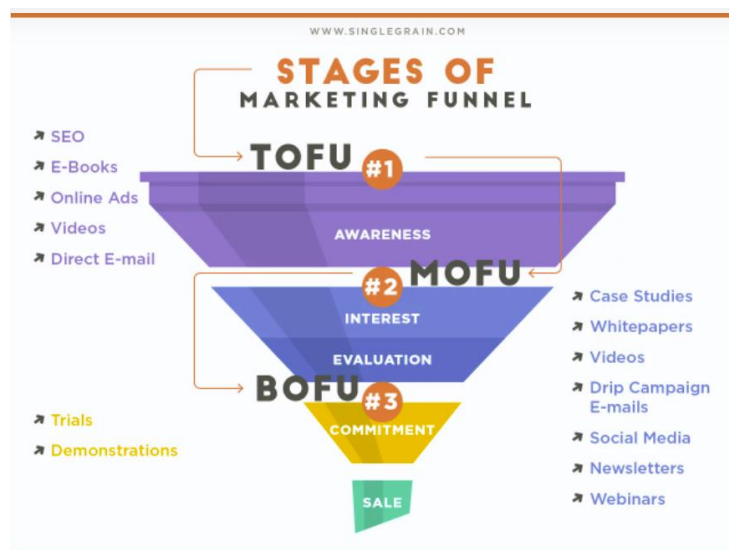
Fig 15: Typical Marketing Funnel and related tools and activities

Customer Relationship Management (CRM) Tools are a crucial part of achieving the previously set organizational goals that is focused on customer acquisition, retention and relationship as mentioned in the Balanced Score Card (Section 2.1). **Biz-Artists** recommended implementation of a popular **CRM tool Salesforce** for generating and monitoring marketing campaigns, customer service life cycle and customer acquisition and retention for **ZenKart.com**.

2.3.1. Lead generation

- When a person/ individual is interested in ZenKart.com, they will search for the product and the company's social media platforms and follow them for updates. Using this data, leads will be generated and added to the CRM for future use.
- The company website will have a "newsletters" column for followers and enthusiasts to sign up for regular updates related to the company, offers & discounts, trends, hot deals in the market, etc.

Fig 16: New Lead generation dialog

Fig 17: Leads generated using social media data and newsletter subscription

- The people in the above figure either followed ZenKart.com on any of the social media platforms or signed up for the newsletters from the company on the company's website. Initially, all the leads will have the lead status as "New".
- The stages in the lead lifecycle are unqualified, new, working, nurturing, and converted.
- All these leads will be contacted individually by using call/ email based on the use case and will be converted to contacts in the later stages.

Fig 18: Leads lifecycle

Figure 18: Lead details and description

Fig 19: Activity log for lead conversion

Fig 20: Converting a lead to contact

Fig 21: All contacts

2.3.2. Campaigns

- With all the existing leads and contacts, and their preference for mode of communication, various campaigns will be organized to convert most of the leads to customers and already existing contacts/ customers to loyal customers.
- Campaigns will help us understand to what extent the campaigns are performing, what is the turnout rate and conversion rate of the customers.

Fig 22: New Campaign dialog

Fig 23: Campaign Report

2.3.3. Opportunity

- Opportunities are potential deals that are in progress and once closed will have a major impact on sales.
- Using opportunities, ZenKart.com can majorly concentrate on boosting sales by closing the potential deals.
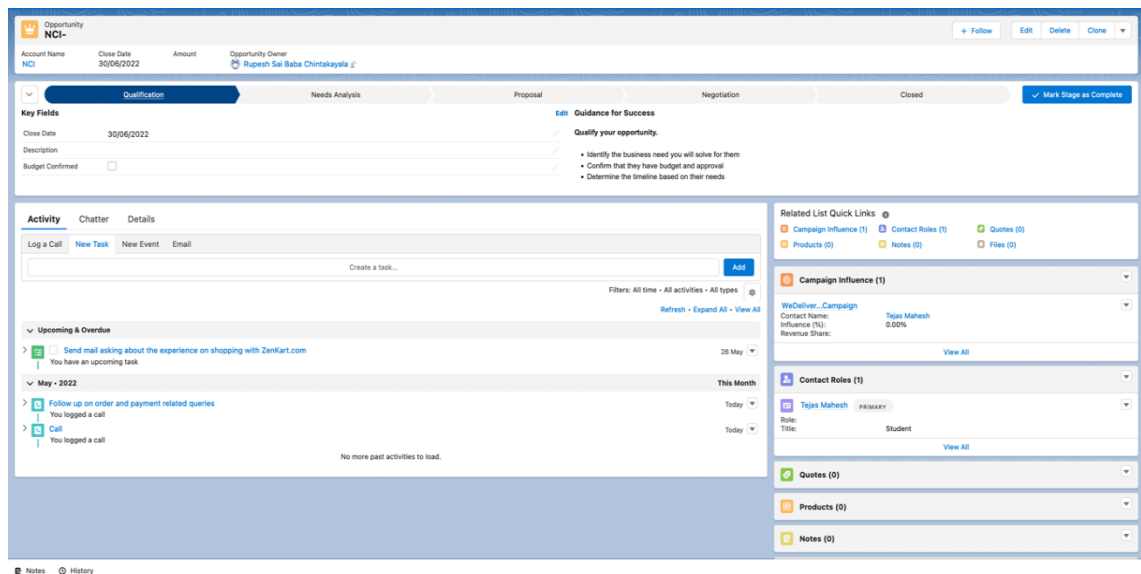
Fig 24: Opportunity in Salesforce

2.3.4. Accounts

- Accounts are used to store information related to customers/ consumers or third-party vendors or people who are interested in doing business with the company.
- Building good relationships with the customers and gaining their trust takes time and this relationship is very essential for a business to become the market leader. Using accounts, you can store the details related to customers which provide insights about who your customers are, where to find them, how to contact them, and how you can make them happy.

Fig 25: Accounts in Salesforce

Fig 26: Overview of accounts

2.3.5. Contracts

- The contract is the agreement between the company and the third-party company/ vendor the company is doing business with and it defines the terms and conditions, start & end date, and the duration of the contract (how long the contract is valid). Once the contract expires, either. it can be renewed or ended.

Fig 27: Sample Contracts dialog

2.3.6. Reports

- Reports give insights into the data and help us understand the patterns in the data. These insights can be used to plan the campaigns, understand the potential deals to decide on priority deals w.r.t. sales, contracts renewals, etc.
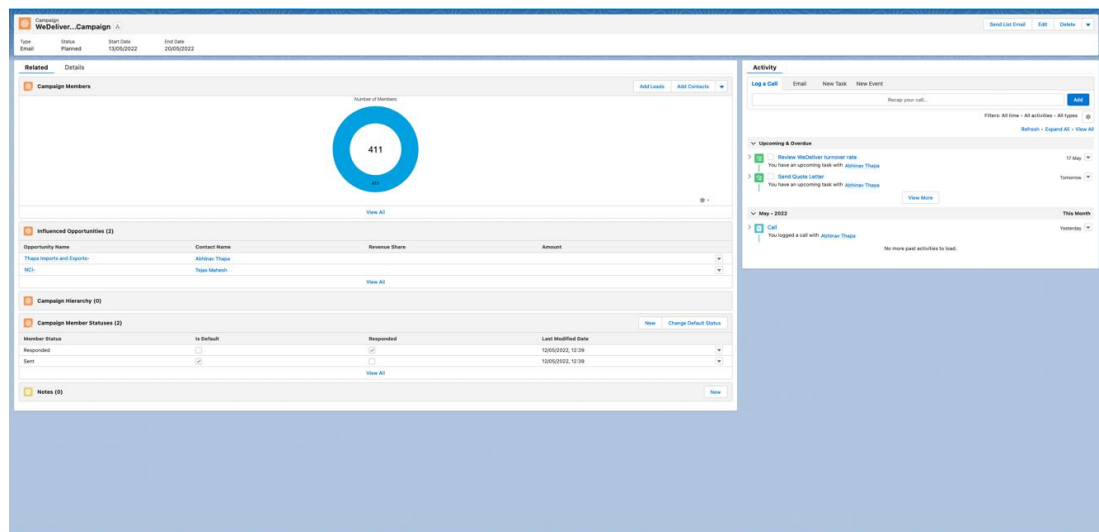
Fig 28: Sample Report for 'We deliver..' campaign
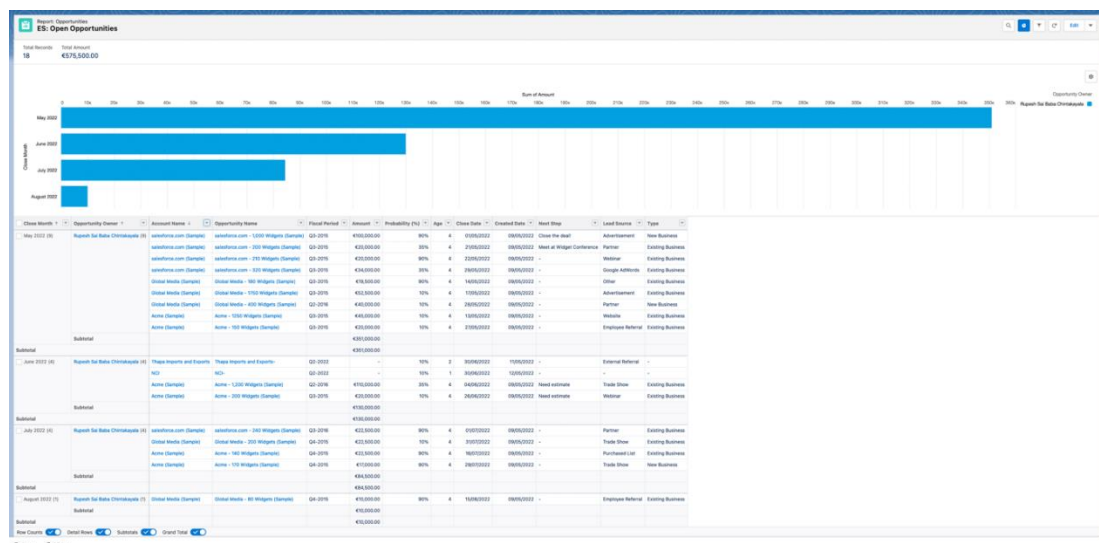
Fig 29: Open Opportunities Report

2.4 Dashboards - Power BI

Visual Dashboards have the immense capacity to convey the right information to the right audience effectively and quickly which promotes stakeholder's trust on the Analyst team. It not only helps to gain critical insights from the company Key Performance Indicators effectively and devise growth strategies and process improvements as it is a more effective means of communicating data in visual form, but also presents the capacity and competency of hired team of analysts for the prospective clients.

Biz-Analysts Team analyst the existing KPIs from diverse samples of data provided in order to identify and analyze the areas of improvement, and come up with proper strategies for change.

2.4.1. Sales Dashboard
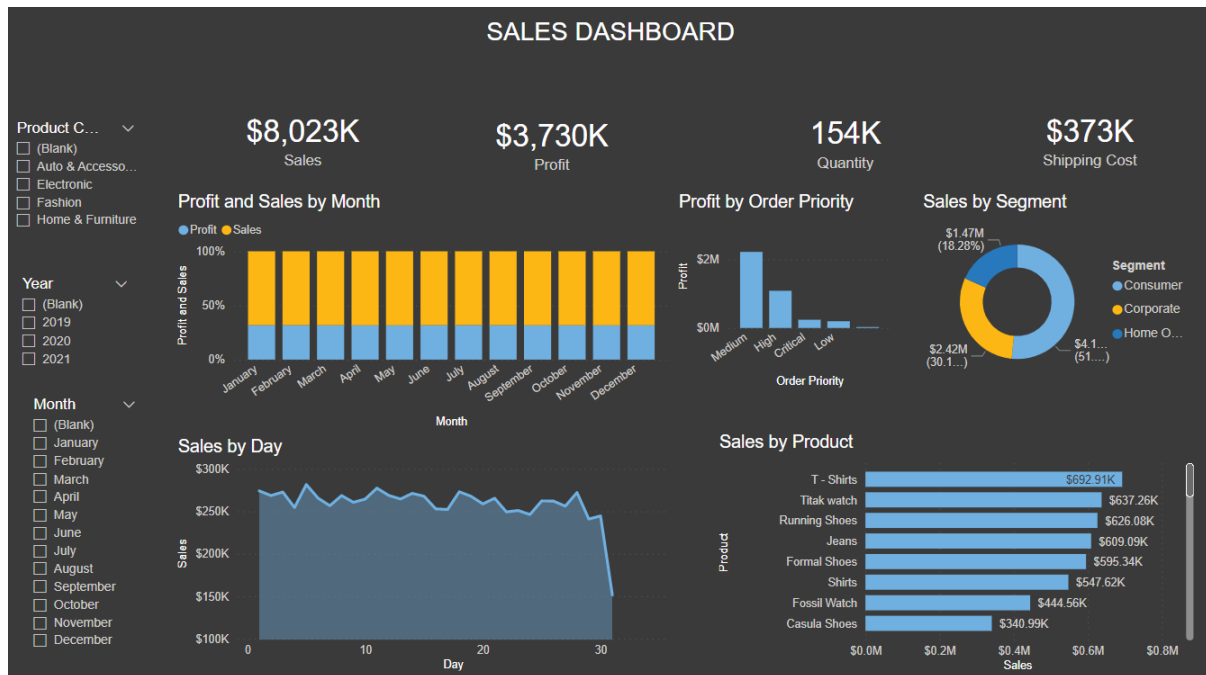
The dashboard as shown in the fig. displays the Sales Performance of the company- ZenKart.com over a period of three years from 2019 to 2021.

- The **Stacked Bar Chart** as shown in the dashboards displays the amount of sales and profit generated by the company during the course of a particular year. From the graph, it can be inferred that for a year, the company has experienced a very saturated sales performance. Overall, the company observes a profit of 30% from their sales.

- The **Bar Graph**, next to the Stacked Bar Chart displays the number of sales generated by different weighted customers. From the chart, it can be concluded that most of the sales are generated by the Medium Priority Customer then followed by the High Priority customers. Significantly smaller number of sales is generated by the Low and Critical Priority customers.

- The **Doughnut Chart** on the left side of the dashboard displays the sales contribution by each of the customer segments. A fair contribution can be observed from each of the segments; however, the 'Consumer' segment provides more weight to the Sales Revenue compared to 'Home Office' and 'Corporate' customers.

- The **Stacked Area Chart** at the bottom exhibits the Sales performance during the course of 28-31 days of the respective months. A constant trend can be observed for most of the days. However, the sales number starts to follow a downward trend during the days of month end.

- The **Clustered Bar Chart** at the bottom right tells the amount of the Sales contributed by the products from each of the Category. From the numbers, it can be inferred that products from the Fashion Category contribute to high sales. The T-Shirts alone contribute an amount of 692K dollars. A least contribution can be observed by the numbers of the Electronic Products.

- The **KPIs of the dashboard** gives the figures for the total amount of sales generated from 2019 to 2021, the total profit earned, number of products sold and the shipping cost of the goods.

In general, from the given dashboard, it can be said that the company has observed a saturated sale since 2019. In the course of 2019 to 2021, the company has earned a profit around 30-40%. Most of the sales for the company are generated by the medium priority customers and customers from the 'Consumer' Segment. Out of all the different categories of products, fashion products have a higher contribution in the revenue, while least contribution has been observed from the Electronics segment.

2.4.2. Inventory Dashboard
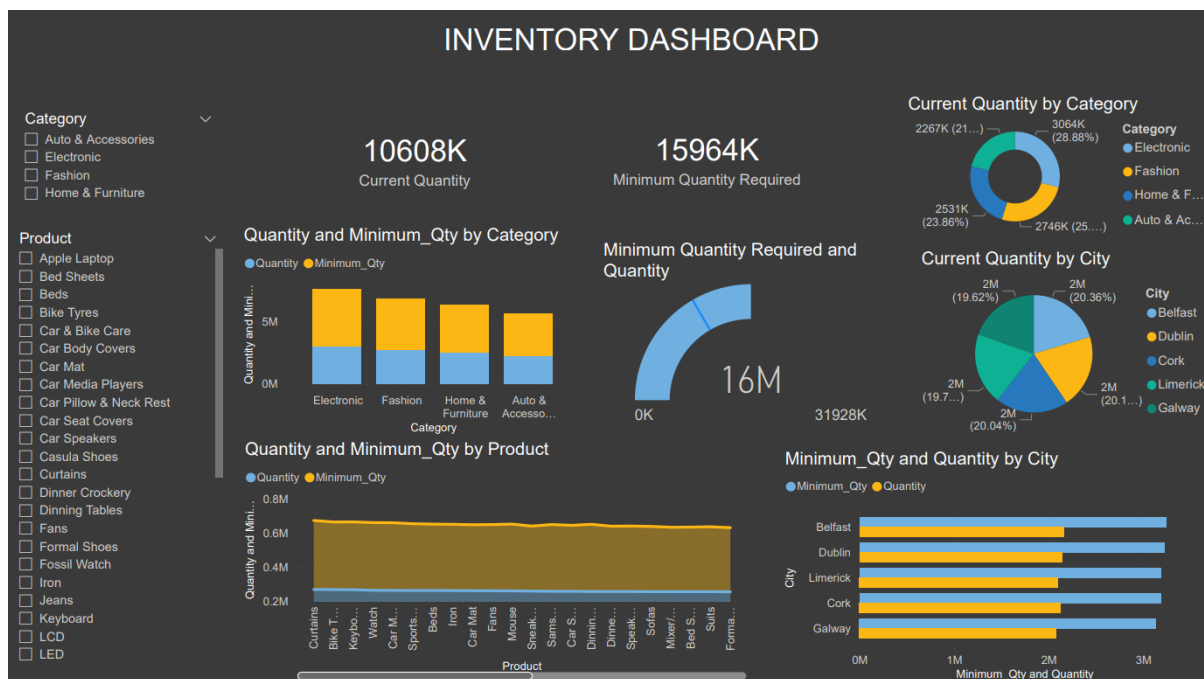
The dashboard as shown in the fig. displays the Status Quo of the Company Warehouses.

- The first Stacked Bar Chart in the middle left of this dashboard displays the current and the required quantity of the products maintained by the company for each of the product categories. From this plot, it can be seen that almost all categories of the products are one-fourth short from the required minimum quantity.

- The Gauge Plot in the middle displays the current and the required quantity of the products at disposal.

- The Pie Chart on the right-most side of the dashboard displays the current quantity of the products at different Warehouses.

- The Stacked Area Chart at bottom visualizes the current quantity of each of the products with the company and the minimum required quantity.

- The Stacked Bar Chart at the bottom right represents the current and the required quantity of products at different Warehouse locations.

From this dashboard it can be said that the company is around one-fourth to half way shorter from maintaining the minimum required quantities of the products. Lesser products at disposal can create a complication of late deliveries and thereby also impact the sales and service ratings of the company.

2.4.3. Product Reviews
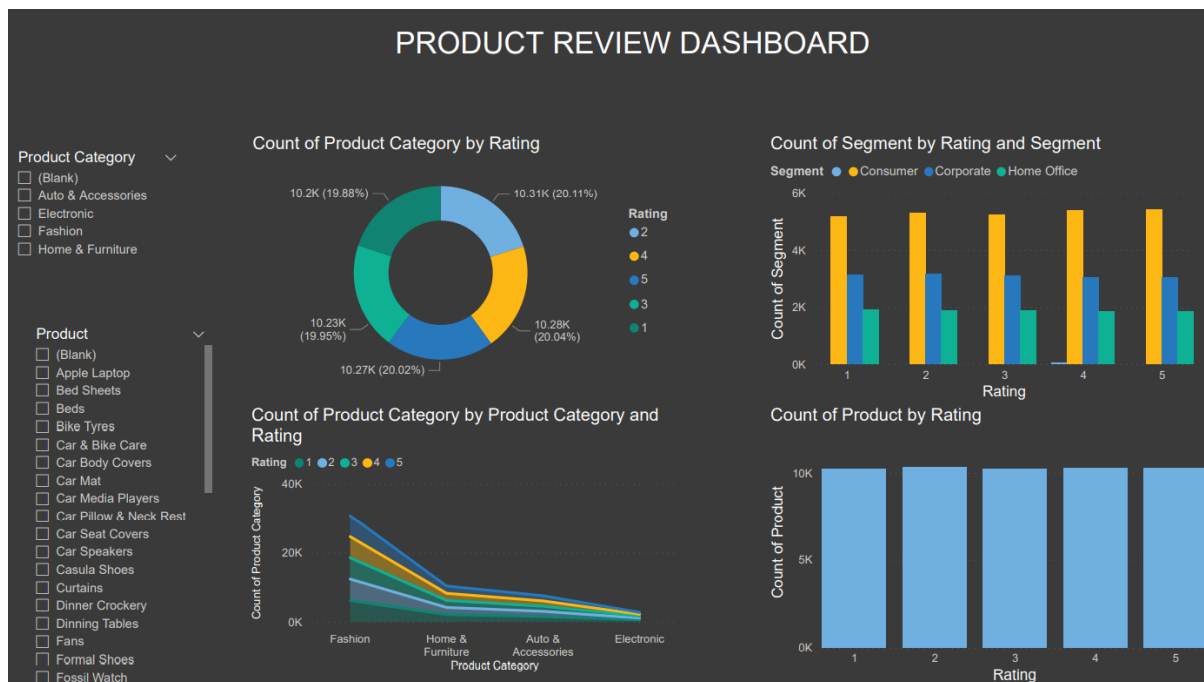
The dashboard as shown in the fig. displays Customer Satisfaction ratings for the products delivered by the company.

- The Doughnut Chart in the dashboard represents the total share of each of the ratings. A fairly equal percentage of the share can be observed for all the ratings.

- The Clustered Column Chart on the left-hand side of the dashboard displays the ratings from the different segments of the customer. Again, a fair equal distribution for each rating can be observed from every segment.

- The Stacked Area Chart at the bottom displays the different ratings for each of the products as per their category.

- The Bar Chart at the bottom right shows the count of ratings for each of the individual products.

In this dashboard, an equal distribution of ratings can be observed for the product. However, the company should strive to raise the counts of the rating 4 and 5 so as to increase customer's satisfaction and sales.
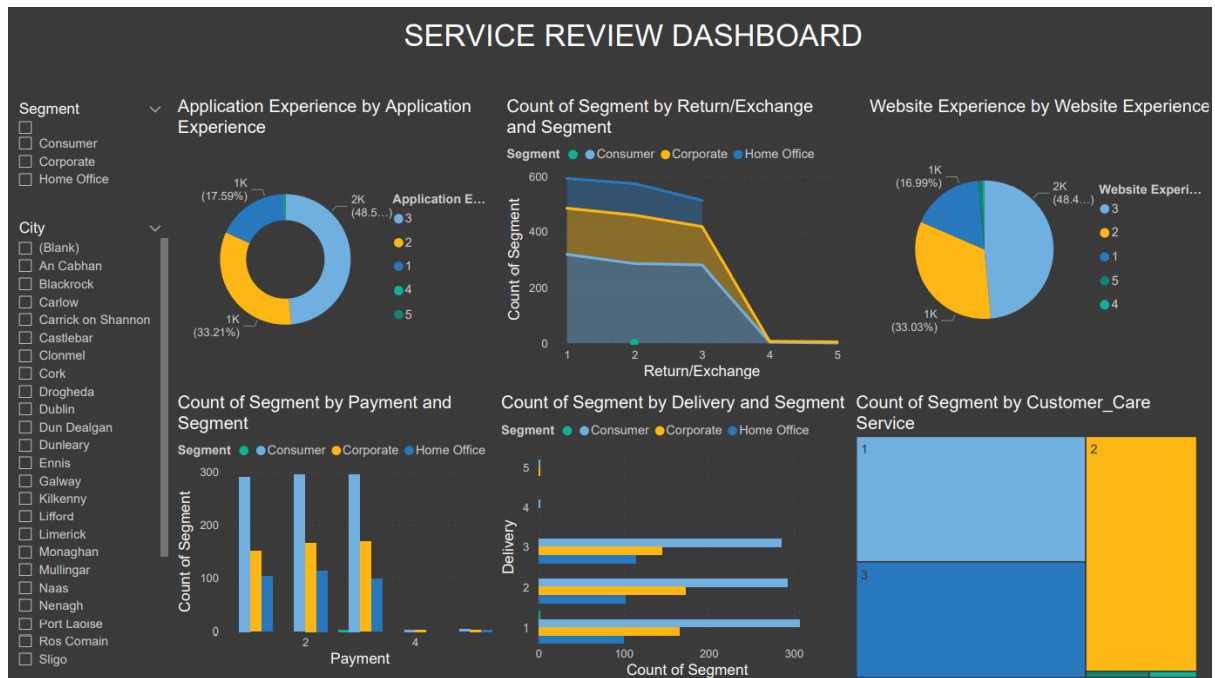
2.4.4. Service Ratings

The dashboard as shown in the fig. displays Customer Satisfaction ratings for different services segments of the company.
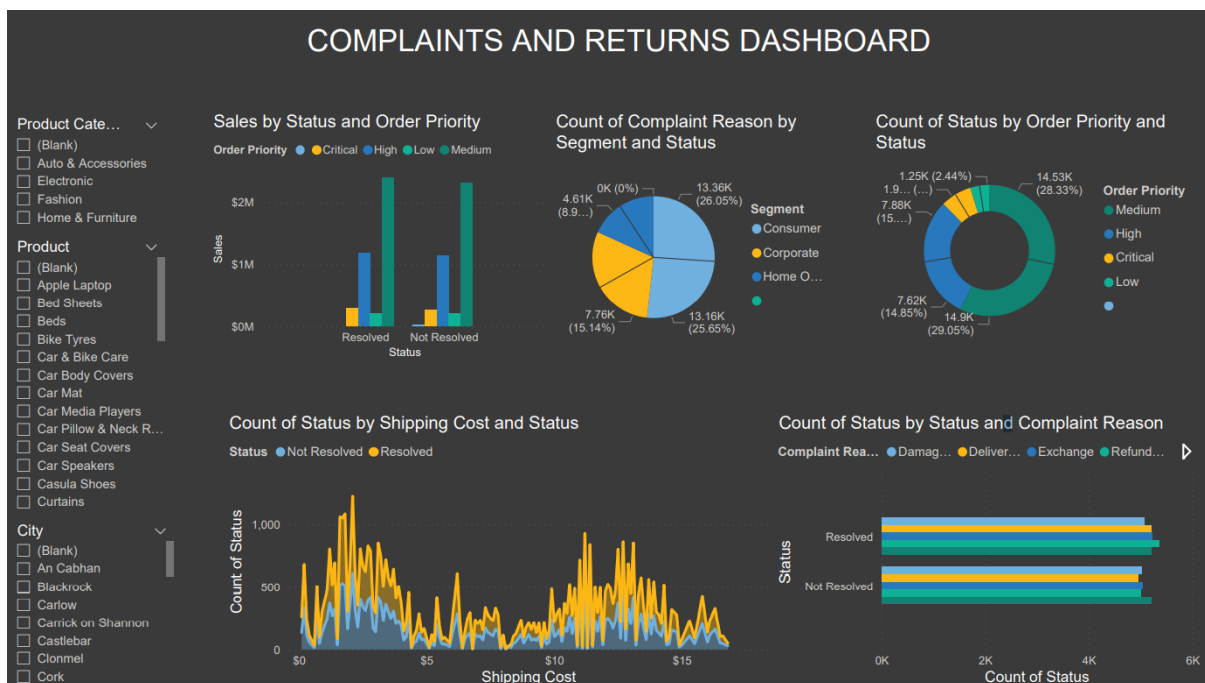
- The Doughnut Chart on the left side of the dashboard represents the share of customer satisfaction ratings for the Mobile Application of the company. From the visuals of this chart, it can be seen that the majority of the customers feel okay about the company's mobile application shopping. However, a considerable proportion of the customers are unhappy with the company's mobile application.

- The Stacked Area Chart to the left of the doughnut chart visualizes the count of ratings for the Return and Exchange Service of the company from different customer segments. From this chart, it is observed that almost every segment of the customer shares high numbers for the ratings 1,2 and 3, meaning that the customers are not happy with the company's return and exchange service. A very less proportion of the customers gave ratings of 4 and 5.

- The Pie Chart on the right side of the dashboard convey that most of the customers feel okay regarding the usage of the company's website for shopping. A very small number of customers feel good while shopping via the website.

- The Clustered Column Chart at the bottom of the dashboard shows the customers satisfaction ratings for the company's transaction system. Again here, a high number of customers have an okay experience with the company's payment gateway. However, a substantial number of the customers are not happy with the company's payment gateway while shopping, suggesting problems and bugs in the payment system; like payment failures, redirects etc.

- The Clustered Bar Chart in the bottom represents the customers satisfaction ratings for the product delivery. For this service segment as well, a substantial number of customers are unhappy with the delivery service of the company. Lower ratings for the delivery service suggest two potential problems: 1. Maybe the deliveries of the products are

getting delayed from the estimated time. 2. Maybe sometimes, wrong products are being handed to the customers.

- The Heatmap on the bottom right corner of the dashboard shows the proportion of the customer ratings for the Customer Care Service of the company. For this Service segment as well, most of the customers had an unpleasant experience with the company's customer care service.

The different visuals in this dashboard suggest that a considerable number of customers have an unpleasant experience across different service segments of the company. The company should work on the digital strands like adding new features to the company's website and application so as to make it more interactive. The company should also work on the digital payment system, so as to get rid of the bad and frozen transactions. The company should also work on the product logistics, so as to deliver the right product at the right place and on given time. Lower ratings for Customer Care Service suggest the requirement for training sessions for the employees to handle customer grievances, scrutiny of the FAQ's and uncommon problems.

## 2.4.5. Complaints and Returns

The dashboard as shown in the fig. displays visuals of the Customer Grievances regarding the orders.

- The Clustered Column Chart on the left side of the dashboard visualizes the total amount of sales which observed a customer grievance. The horizontal axis of the graph marks whether the problem was resolved or not.

- The Pie Chart of this dashboard represents the share of resolved and unresolved problems for different segments of the customer. Fairly equal share can be observed for both of the complaint status.

- The Doughnut Chart on the right-hand side of the dashboard shows the proportion of the problem status for customers with different priority.

- The Stacked area chart at the bottom of the dashboard takes into consideration the amount of shipping cost involved in delivering an order which has observed a grievance.

- The Clustered Bar Chart in the bottom right corner shows the number of resolved and unresolved problems along with the reason of the grievance. From this plot, it can be inferred that the majority of the resolved problems had an issue while - Exchanging the product. Whereas in the case of unresolved problems, late refunds was the weighing issue.

From the dashboard of Customer complaints and returns, it can be concluded that the company should endeavour to solve the unresolved complaints with TAT. In addition to this, Quick refunds and careful delivery of the products can potentially reduce the grievances number to less than half in the first place. A substantial quantity of the products should be maintained at every Warehouse so as to quickly address the problem of quick exchanges.

2.4.6. Market Research
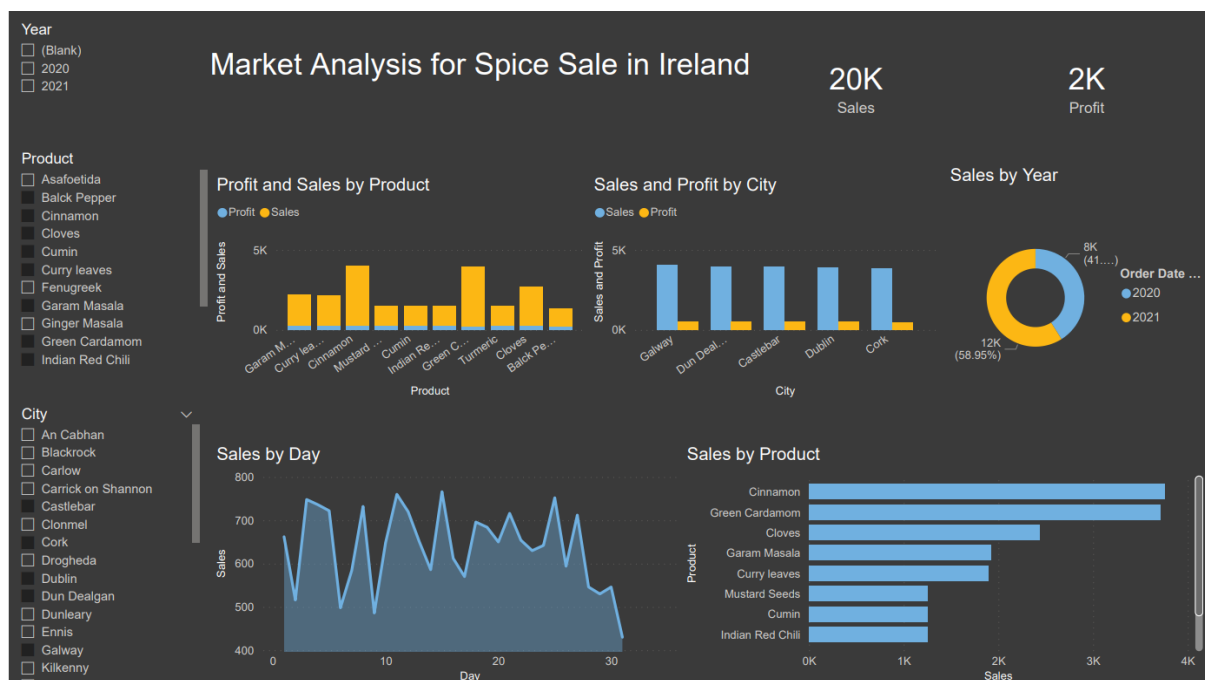
The Market Analysis Dashboard encapsulates the performance figures for the Spices Sales in Ireland from 2020 to 2021.

- The Stacked Bar Chart in the dashboard encapsulates the sales and profit figures of the top selling spices in Ireland. The figures suggest the substantial demand for the Spices in Ireland.

- The Clustered Bar Chart next to the Stacked bar chart shows the amount of sales and profit generated from different parts of Ireland. As per the chart numbers, a fairly equal number of sales can be observed for each of the cities, indicating an equal opportunity for the spice sales at different cities.

- The Doughnut Chart on the right side of the dashboard shows the sales proportion for the year - 2020 and 2021. The year 2021 observed more sales compared to 2020, indicating the increased demand for the Spices.
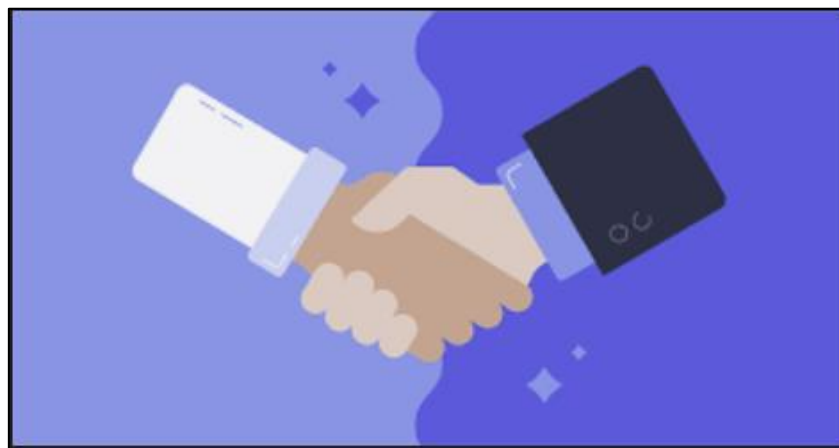
- The Stacked Area Chart in the bottom side of the dashboard shows the sales generated during the course of 28-31 days of the respective months. Everyday, an average sale of around 500 dollars is generated.

- The Bar Chart on the bottom right corner represents the sales amount generated by each of the spices. The visuals of this graph suggest that the Whole spices such - Cinnamon, Green cardamom, cloves contribute to major sales.

Overall, from this market analysis, a potential scope for Spices sales can be observed in Ireland. The demand and the sales figures kept increasing steadily since 2020. Right planning and proper resource allocation will keep this market segment evergreen with increasing sales and profit.

2.5. Conclusions

Team of **Biz-Artists Consulting** worked hard to formulate an appropriate strategy for ZenKart.com's success in Ireland and successfully implemented multiple techniques using Business Intelligence and Analytics Tools. It was evident that Biz-Artist Team's analytical competency and domain knowledge in Ireland helped **ZenKart.com** not only accomplish their goals but also deliver a customized process framework that could be used to achieve long term goals in the future as well.

Consultants' team effort, planning, solutions implementation and regular communication was appreciated by ZenKart.com's Team.

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