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**“Management Information System for Jewellery Markets in Rawalpindi & Islamabad  
by Actiftech”**



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# FINAL PROJECT APPROVAL SHEET

## Viva-Voice Examination

Date \_\_/\_\_/\_\_\_\_

**Topic of Research:** Management Information System for Jewellery Markets in Rawalpindi & Islamabad by Actiftech

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## **EXECUTIVE SUMMARY**

The idea of opening up an IT solution company was initiated by Mr. Ahmed Ali Awan who has friends in the jewelry market of Islamabad and Rawalpindi Mr. Ahmed once visited in his friend's business place in Chaklala Scheme-III named SAJ. They had informal talks in which the problems associated with sales and inventory management were discussed, an opportunity presented itself which was instantly identified. He soon realized to convert the opportunity into lucrative business. For this purpose a partnership between three class fellows Amna, Mohsin, and Ahmad was formed and they came up with the name Actif Tech for their new venture. All the three partners have equal shares in the venture and will share expenses equally including the capital cost. This company aimed to provide top notch point of sale and inventory management system initially to the jewelry market and the vision is to expand the provision of customized solution to the businesses of the market. Domain under the name Actiftech.com has already been purchased and soon the firm will be registered.

An overwhelming edge for the partners is that Mr. Ahmed's uncle happens to be a visionary person with required knowledge and ample experience in the field. He has shown his willingness to guide and oversee the project. Ahmad's Brother Mr. Umar Khurshid Awan is a Software Quality Assurance Engineer and has a vast experience of more than 10years as SQA Engineer. He agreed to take the charge of testing the product.

The formal work was started in October 2016 and, final product is almost ready with only minor touches to work on. There are few module wise enhancements going on in the project. Once the system is fully ready, we will officially launch our software house in a proper facility with fully operational systems and teams.

## **ACKNOWLEDGEMENT**

In the first and obvious place, we would like to thank ALLAH almighty who helped us complete our project on time and blessed us with understanding to work in synergy. Secondly, we would like to express our cardinal appreciation to all those who helped us to complete this project report. Mr. Adil, our supervisor, has been exceptional in leading us throughout the tenure of project completion; we specially thank him for his profound support and motivation. Furthermore, we would like to express our gratitude and thanks to Mr. Bilal Awan and Mr. Umer Awan (Software Quality Assurance Engineer at Seven Technologies) and Mr. Hafiz Bilal (Software developer) for giving us much attention, information and time. Our special thanks to Mr. Sajawal, who have helped us with his abilities, skills and experience. We would be remiss if we did not acknowledge our parent's contribution in this, may Allah bless them with health and wellness.

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## **PART 1**

### **Background Of Business**

The jewelry business has been ongoing for a very long time, but it has labeled to be as simple as other ordinary businesses, whereby record keeping of financial matters, inventory, credit history and other functions of business are being done on handwritten ledgers. However, as it turns out, there are many implications to this nonprofessional system and a careful overview of this complicated business confirms a huge gap, which has not been sufficed as yet. Fact of the matter is that, jewelry business poses serious threats for numerous reasons, for one it requires huge investment, which demands a fine tuned accountability otherwise would lead to losses. Secondly, jewelry is sold in parts, and missing one part can lead to incomplete sets, making the whole set unsaleable. Some other major contributing factors are explained below:

#### **Profit Margin**

Profit is simply the difference between cost price and the price on which the product is sold to the customer. However to follow this formula in the jewelry market is very hectic and time consuming. At first, you are required to manually, label the cost of the product by assigning some codes. At the time of selling those products to the customer, you usually don't write that price code and simply sell the product by only mentioning the price on which customer has bought it. On the other hand, if they do write the cost code on bills, it takes a lot of time to go through all the bills and calculate the profit. As a result, most of the jewelers are not aware of their pure profits earned.

#### **Trend Sorting**

Another drawback in traditional system is that there are many suppliers in market, each with district set of designs. Sometimes trend shifts and demand for a certain design gets more in business. In such scenarios, shopkeepers find it difficult to figure out the current trend and which design to promote more. Jewelry market is all about being contemporary.

## **Successful Supplier**

Without supplier, profiling, successful suppliers are not recognized. There are few suppliers whose products are not successful when compare to other suppliers. Still you keep on buying from those suppliers because you are not aware of the fact that they are selling you flop items. This part is further explained in the later part of the report. Still it is safe to say that a self-educated system could serve the purpose by simple trend and supplier analysis capabilities.

## **Inventory System**

Inventory system keeps the record of the products purchased from suppliers. There are different ways/formulas to enter the products in inventory. The formula depends upon the nature of the product. Entering them manually is a time consuming task and maintaining their record is near to impossible.

## **Online Business:**

It is very important to adopt the contemporary means of businesses so you can make your business grow more rapidly. Traditionally in order to expand business a lot of time, energy, effort and finances are consumed and that too with unpredictable future. Moreover, a limited target audience is reached through the newly expanded business.

## **Online Store and Android Application:**

Whereas when it comes to inline businesses, there are no geographical limitations. Anybody from any part of the world at any time can see, evaluate and order jewelry from the website/online store in particular.

This MIS system is integrated with a dedicated online store of SAJ. On the online store, pictures of the products will be displayed under their related category. This will allow SAJ to expand its boundaries not only just from the shop, but it will help them to reach customers from any part of the world.

In addition keeping up with the pace, we are also offering an android application for the end users. All they have to do will be to install the application in their mobile phones and they can start shopping via using that application simply from their mobile phones.

## **About Company**

Name of company is “Actif Technology” and shortly will be known as Actiftech. Actif is French word for Active. It means, to engage in action or ability to take prompt actions. This name truly and literally depicts our vision and mission. Currently we are not having any office facility. We have bought the domain [www.actiftech.com](http://www.actiftech.com) and our website is currently in process of development. We are three equal partners. We will share profit, losses and expenses equally. At present, we have outsourced two programmers for building this MIS. These programmers are hired on commission bases. They will take 40 percent of the project; remaining 60 percent will be distributed among partners and the company. Mr. Bilal Ashraf Awan is overseeing the project on weekly basis, Mr. Umer is overseeing the activities related to Q/A.

For future, we have decided to have an office facility, along with proper teams. We are planning to hire at least two programmers for the development purpose. Mr. Ahmad will look after business requirements analyst, accounts and finance. Mr. Moshin will look after the Marketing Department and will also play the role Business Development Officer. Ms. Amna will look the documentation department, HR and Administration & Procurement. We have decided to have a democratic culture and decisions will be made through voting. Mr. Bilal and Mr. Umer will continue to offer their services on weekly basis as a token of appreciation for us and will also overlook the work of developers.

## **Mission**

*To be at the top of customized IT Solution provider in jewelry market (Islamabad and Rawalpindi). To capture the highest market share and to provide an outstanding quality and customized IT solutions to jewelers. We believe sky is the limit and to reach that high altitude of success we are that rocket engine which will take you there.*

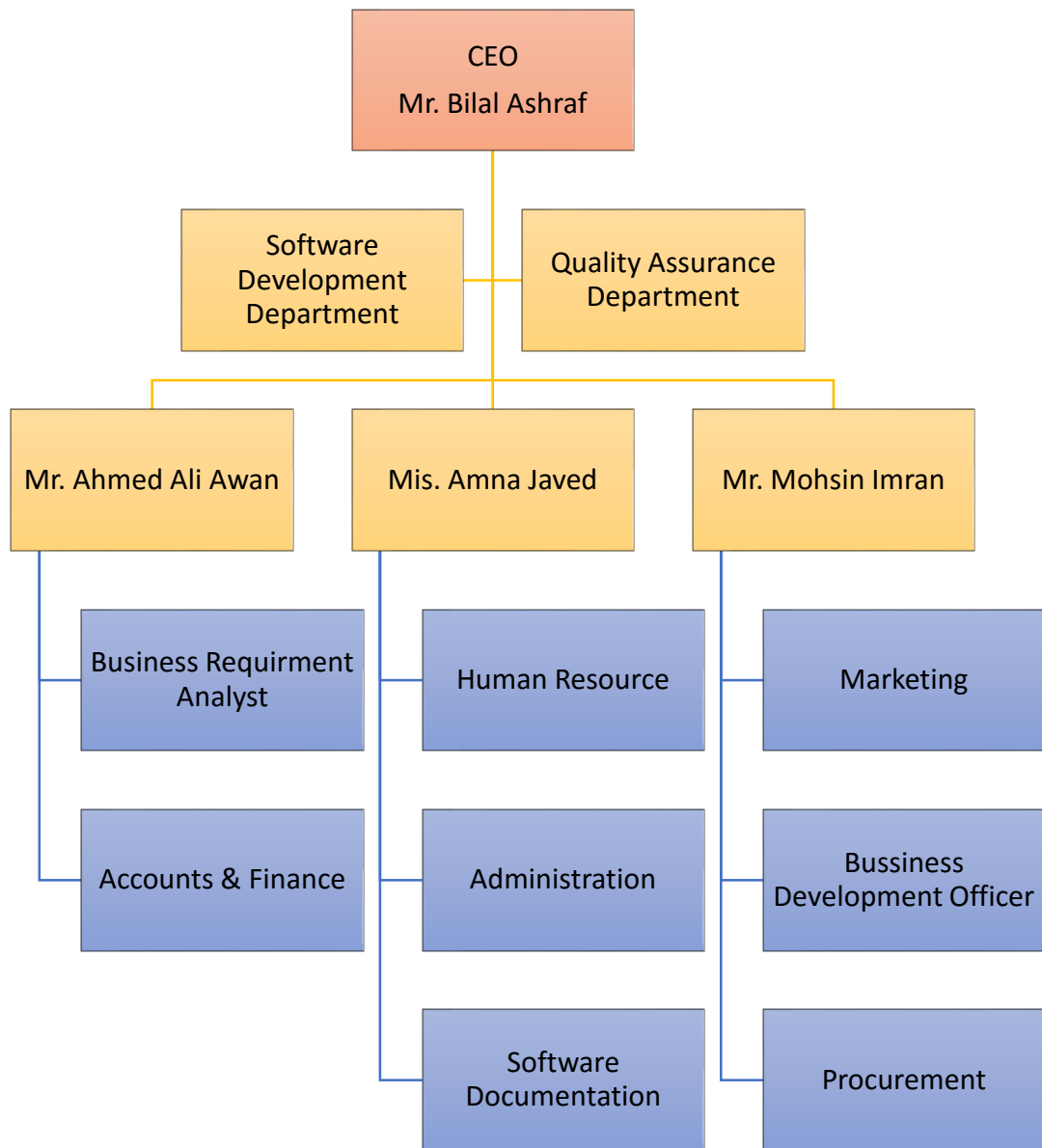
## **Vision**

*To be on the top of software solution industry in Pakistan and worldwide with distinction to provide bespoke solutions to our customer in every field. To us, we see software as a solution in everyday life business; whether it be small scale one or something substantial. This is our utmost priority to be identified as trustworthy brand with promise not to compromise on trinity factors i.e. quality, cost and time.*

## **Location of Operations**

Although we are not having any facility yet but we are looking for a place in Chaklala Scheme-III, Commercial Market, and I-9 Software technology park. We look into our budget and then will move to any one of the mentioned place. Reason for shortlisting these areas are already hosting many businesses and also if we look into our first project, all of the three places are in proximity of jewelry market.

## Hierarchy



The idea of opening up an IT solution company was initiated by Mr. Ahmed Ali Awan who has friends in the jewelry market of Islamabad and Rawalpindi Mr. Ahmed once visited in his friend's business place in Chaklala Scheme-III named SAJ. They had informal talks in which the problems associated with sales and inventory management were discussed, an opportunity presented itself, which was instantly identified. He soon realized to convert the opportunity into lucrative business. For this purpose a partnership between three class fellows Amna, Mohsin, and Ahmad was formed and they came up with the name Actif Tech for their new venture. All the three partners have equal shares in the venture and will share expenses equally including the capital cost. This company aimed to provide top-notch point of sale and inventory management system initially to the jewelry market and the vision is to expand the provision of customized solution to the businesses of the market. Domain under the name Actiftech.com has already been purchased and soon the firm will be registered.

An overwhelming edge for the partners is that Mr. Ahmed's uncle happens to be a visionary person with required knowledge and ample experience in the field. He has shown his willingness to guide and oversee the company operation voluntarily; hence, for now he is performing duties of CEO on honorary basis. Ahmad's Brother Mr. Umar Khurshid Awan is a Software Quality Assurance Engineer and has a vast experience of more than 10 years as SQA Engineer. He agreed to voluntarily participate and test products quality wise. Moreover, he will head this department informally until company operations are sustainable.

Mr. Ahmed is performing as Business requirement Analyst and for now additional responsibility of Accounts and Finance are vested in him. Ms Amna is the in charge of Administration, HR and Software Documentation. Mr. Mohsin is taking charge of Marketing and procurement, and by virtue of his PR building capabilities, he is also taking charge of Business Development Officer.

The formal work was started in October 2016 and, final product is almost ready with only minor touches to work on. There are few module wise enhancements going on in the project. Once

the system is fully ready, we will officially launch our software house in a proper facility with fully operational systems and teams.

## **Our Product/ Solution (Ongoing Project)**

In view of all the above drawbacks of traditional (manual) system, a huge gap was identified, and with the intent of solving this problem, we targeted Islamabad and Rawalpindi Jewelry markets due to personal relations of Mr. Ahmad within the industry. Luckily, with all the persuasions and presenting our vision to Mr. Waqas owner of Rawalpindi based jewelry firm Sheikh Ayub Jewelers (SAJ) awarded us the project.

Basically our solution is a software, which is capable of functioning the following:

### **User Authentication**

The software starts with “User Authentication”, this is the first user interface. This allows the security of the software. Different User IDs and Passwords will be allotted to different employees according to the roles which management wants them to play. This thing works like any other software for example Facebook or any other email. Once you put your User ID and Password you will be allowed to use the software. However it is very important to note that user’s access is limited on the permissions given to that particular user. This will be explained in detail under the ‘User’ part of the software.



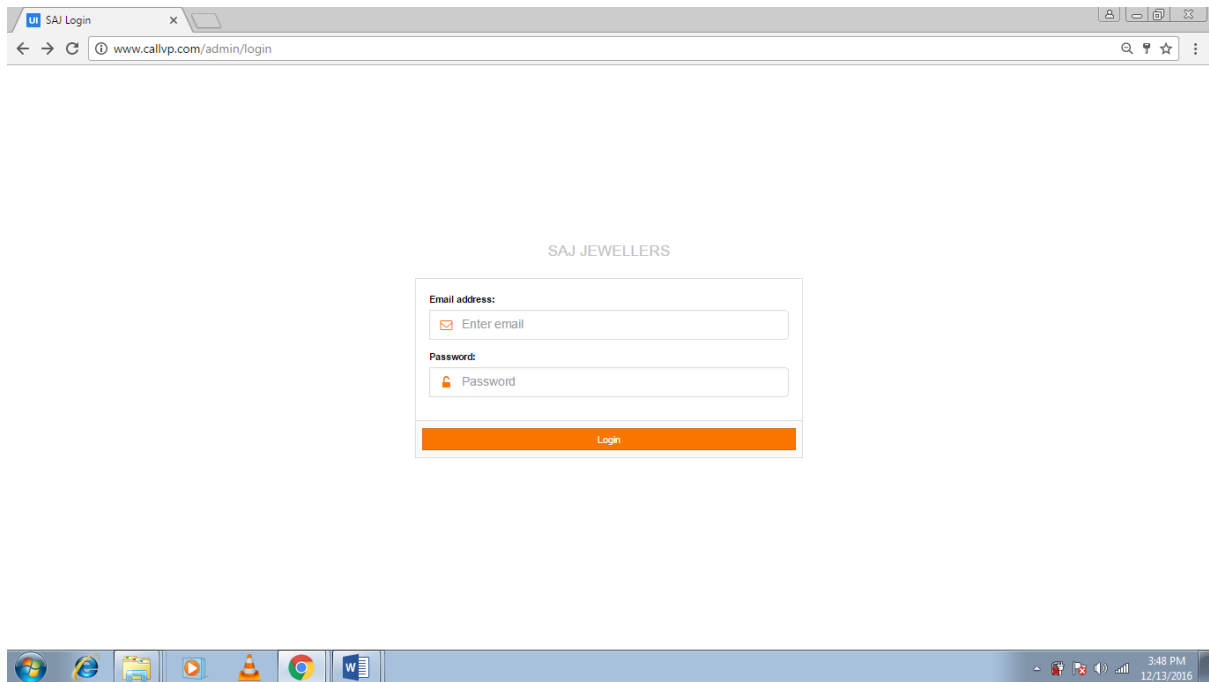


Figure 1: User Authentication

## Admin Panel

This will be the first screen shown to the user once he/she is logged in to the system. On the left side of screen, a panel is given which contains different options as:

- Home
- Franchise
- Users
- Supplier
- Customer
- Inventory
- Invoicing
- Gold
- Order and Reminders
- Reports
- Cash Flows
- Barcodes

- Settings

(All of the above bullets will be explained in detail under dedicated headings.)

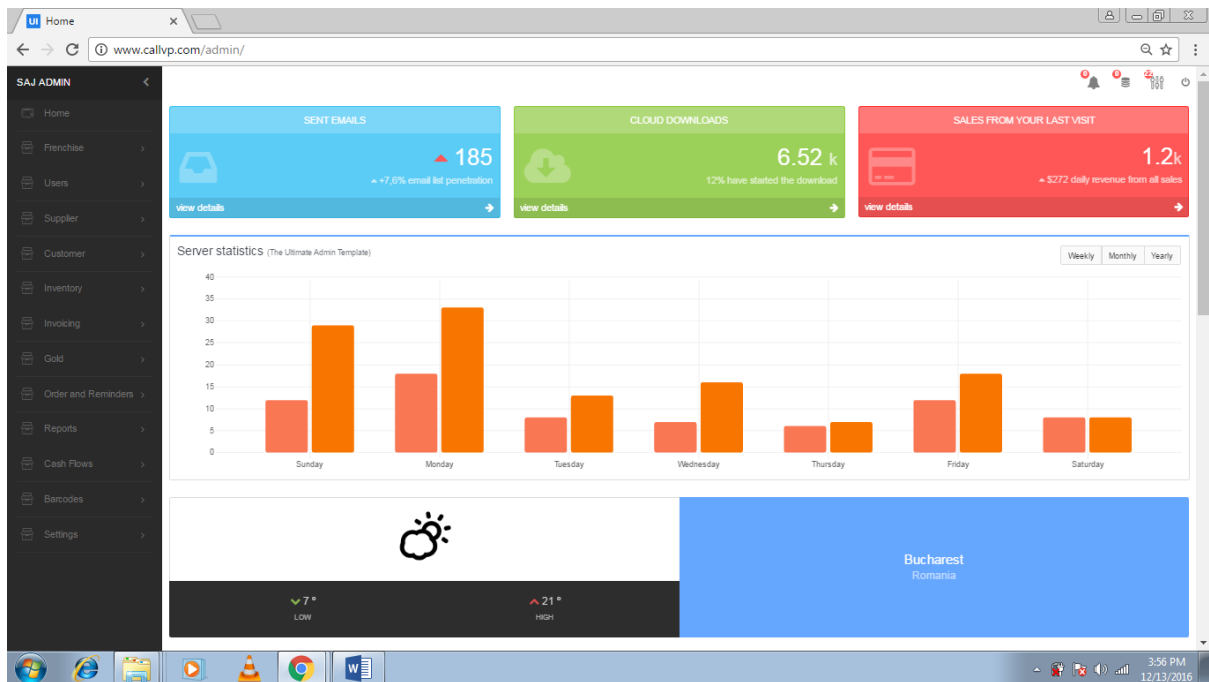


Figure 2: Home page

## Home

On the right top of the ribbon, there are few icons given which are representing different functions. These functions are order reminders, gold order reminders, online store activities and logout option. Different stats of server, emails and sales are also shown in this interface.

## Franchise

In this module, the franchise part is covered. Like any other business, SAJ's management also wants to grow their business by opening other branches in different areas of the city. For this purpose they needed a proper system through which they can have a proper check and balance on the items provided, sales, expenses, employees and other different aspects of the business.

Franchise module of the system allows the shop to allocate a user ID to the franchisee. All the data of the franchise will be integrated with the head office as a result, they will be able to check each and every activity of the franchise.

The system allows you to enter as much number of franchises as you want. Moreover, you can also edit or delete the franchise information.

### **User:**

This is one of the most flexible part of the software. This allows the management of SAJ to create multiple users with their permissions. In order to create user you need to click the user on the left panel, it will drop down and give you three options:

1. Add User
2. View User
3. User Permission

All of the above three options have dedicated roles to play. When you click any of the option, it will take you to the new windows. Each window will show you its different functions and roles. Now we will describe each interface under its heading:

#### Add User:

Once you click ‘Add User’, a new window will open. You will see a table in front of you. Table will give you different options. First, it will ask you to select the head office/franchise for which you want to create the user. Once you select the head office/franchise, you will go to the next option. Next option is to select the role of the user. There are eight pre-identified roles of the users, which are already installed in the system. It is very vital to note that all of these eight roles are identified and named as per the requirement of SAJ. These eight roles are:

- i. CEO
- ii. Manager
- iii. Floor Manager
- iv. Franchisee
- v. Accountant
- vi. Sales man
- vii. Suppliers
- viii. Inventory Manager

Once you select the user's role the system takes you to the next step. Next step involves entering the personal data of the user. It will ask you to enter the first and last name of the user. After entering the information the next step in the field will ask you to create the password for the user. This will allow only that particular user to enter the system with the restrictions and permissions management has given to the user. Once you create the password the next step is to enter the personal contact number, email id (optional), home's address, shop's address and most important of all the defined salary of the user. Once all the information is entered you will press the 'create' button and the user will be created. This user with the entered information will be saved in the system.

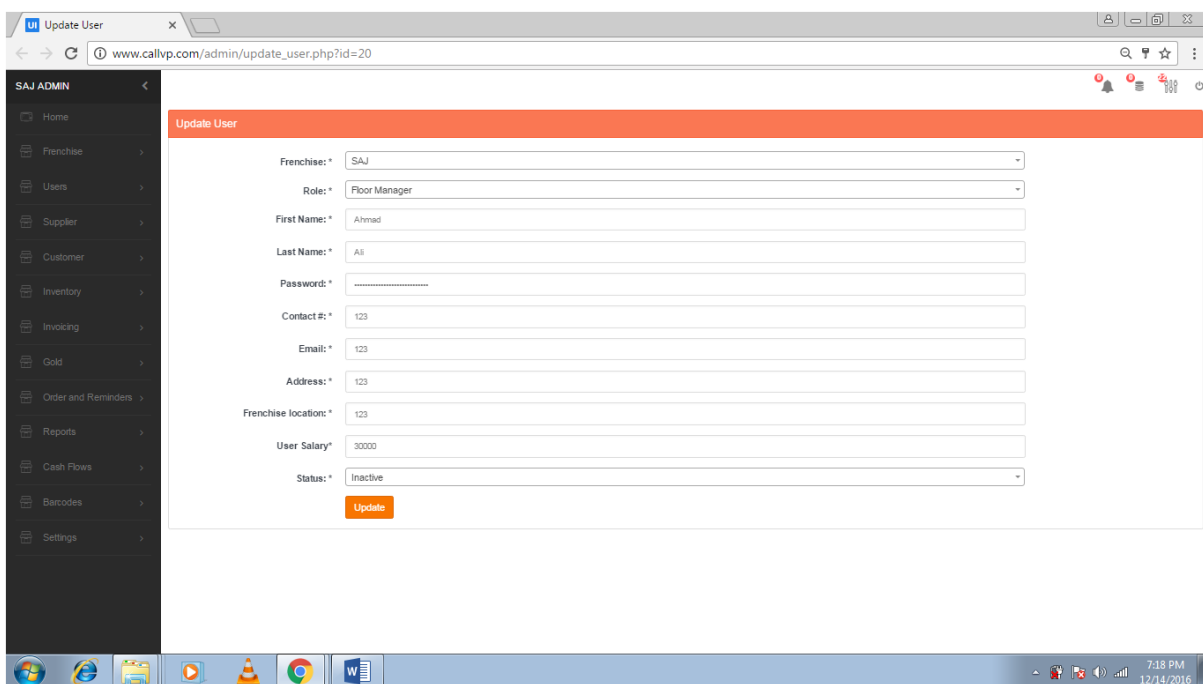


Figure 3: User Panel

### View User:

The next option in the user dropdown is of 'View user'. This will show the table with different information regarding to the users. Serial number, User Role, First Name, Last Name, Contact Number, Location, Salary, Remaining Salary, Status, Franchise, and Action. All of them are self-explanatory other than *Remaining Salary*, *Status* and *Action*. In View Users, manager will be able to issue the per month salary under the column of Action.

*Remaining Salary* is the column of the table which is related to the cash outflow part of the software (Cash out flow part will be explained in detail under its heading). Remaining Salary means the remaining amount of salary of the particular employee to be paid for the current month. Employees often borrow money from some part of their next month salary in the present month (Advance Salary). This feature will help managers to keep a record and check on the remaining amounts which are to be paid as salary. In order to understand it we will explain it with an example, if you see the above figure, Serial Number 15 shows a 'Floor Manager' named 'Ahmad'. His monthly salary is PRs. 30,000/- at the same time manager is also able to see that how much of the advance salary the Mr. Ahmad has taken from the next month's salary. In the figure, it can be seen that out of his PRs. 30,000/- Mr. Ahmad has taken PRs. 10,000/- in advance from his next month's salary. As a result, the due able or remaining salary for the next month is PRs. 20,000/-. To keep such record in traditional way was very complicated and time consuming. A manger had to go through all of the previous record and then to calculate the remaining salary which often turns out to be doubtful. Having this feature integrated in the software, the chances of calculating errors are reduced to zero.

*Status* is the part of the table which shows two conditions. First condition is shown in green color as 'Active' and the other is shown in red as 'Delete'. Active status means that the particular employee is still working in the organization. Whereas Delete status means that the employee is no more working with the organization. Now the question raises that if the employee has a Delete status why he/she is still could be seen in the view part of the software. The answer is that it is in order to keep the proper record of the employee. This will help managers to avoid any false claim from the employee.

*Action* is the column where there are three different links for the user.

- a) Delete: By clicking this button, the user will be deleted which means that he/she will be no longer able to log into the system.
- b) Edit: By clicking this button, a user will be able to edit the Working place, Role, Name, Password, and Contact's Information, email ID, Address, Franchise address, Salary and the Status of the user. This is one of the example which shows the level of flexibility the system is providing to the user.

c) Add Salary: This part of the table is related to the salary portion of the employee. A user once click the Add Salary link, he/she will be able to enter the salary for the month. Add Salary windows will show the decided salary, remaining salary, add salary and Salary Month. Add Salary field is the field where the actual amount to be paid is write. The system has also restriction that it will not allow the user to enter more amount in Add Salary than the decided salary.

Sr#	User Role	First Name	Last Name	Contact #	Location	Salary	Remaining Salary	Status	Franchise	Action
1	CEO	Malik	Bilal	326542365	Pindi	30000	20000	Active	SAJ	Delete   Edit   Add Salary

Figure 4: View Users

User Permission:

This part of the software is the bases of the flexibility the software is offering to its user. On clicking to the ‘User Permission’ a new windows is opened which user to select. There will be a table which will ask the user to select the employee he/she

wanted. However the dropdown list will only show the employees which are entered earlier into the system through ‘Add User’.

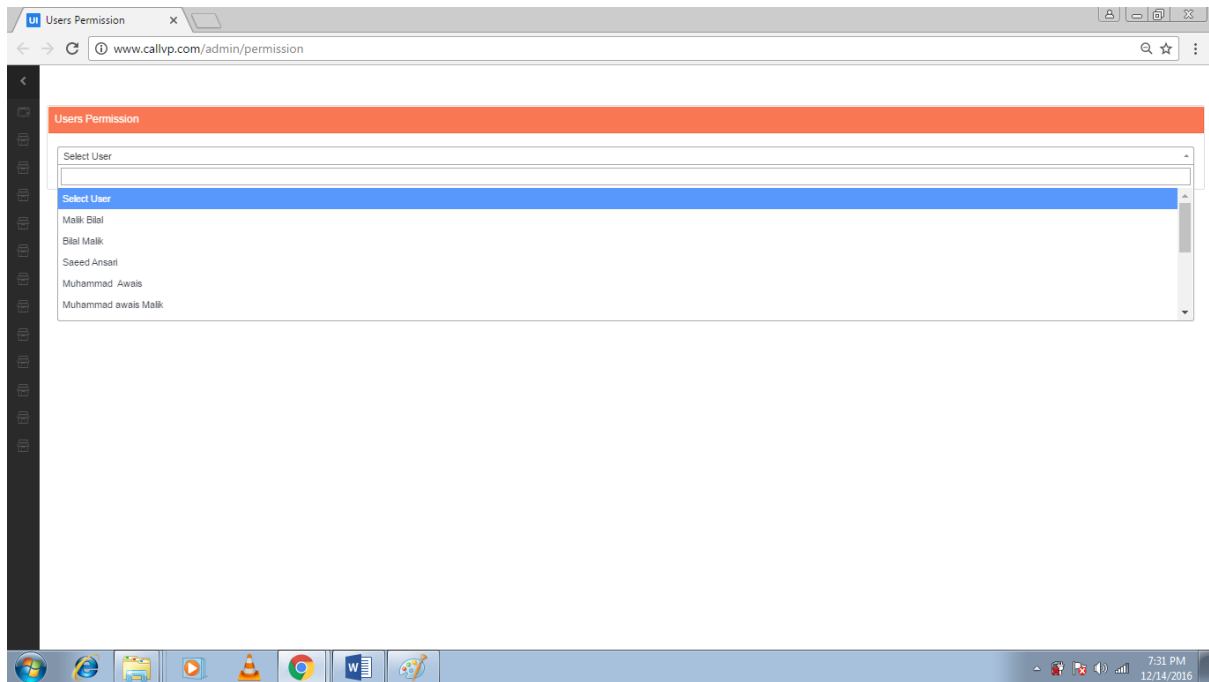


Figure 5: Add user

Once you select the person, you will be given different options in detail. The options are in so much detail that they even give you choice to add or edit or delete or do any of the things you want your employees to do. It give SAJ a complete privacy of the important data which they do not want to share with anyone. For example in the figure given below, Mr. Mohsin is an accountant is given very restricted access to the system. This means that when he login the system, he will be able to access only the orange marks shown in the picture. Whereas the system will not allow Mr. Mohsin to go to any other area which is not highlighted with the orange color.

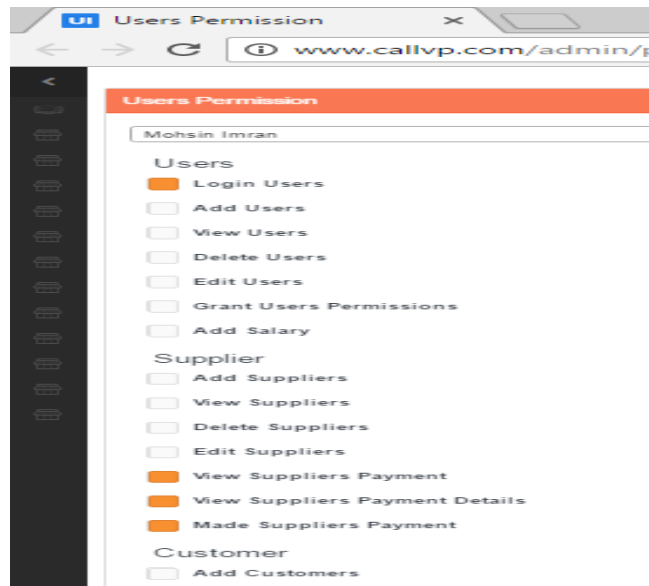


Figure 6: User Restrictions

## Supplier:

This part of the system is covering the Supplier portion. Traditionally it was very difficult to maintain that record due to the number of suppliers involved and also due to the nature of the products which are very complicated and difficult to maintain record wise. By clicking on the 'Supplier' on the panel the drop down list will show you three different options:

1. Add Supplier
2. View Supplier
3. Supplier Payment



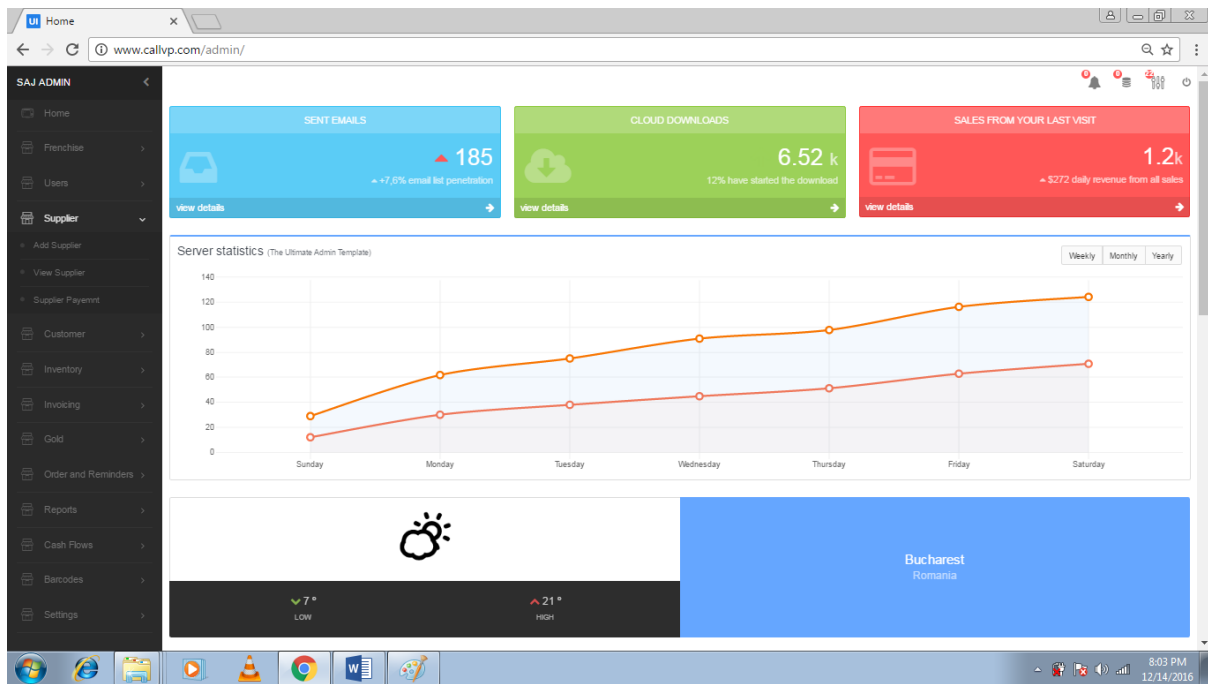


Figure 7: Supplier Panel

### Add Supplier:

Creating supplier is the windows which will be opened after clicking on the 'Add Supplier' function. A form will be opened which will ask to enter different information. Table will ask to fill Name (Brand name, shop name of the supplier), Contact (Focal person from supplier), Land Line number of supplier, Mobile number of the focal person, address of the supplier, bank details like account number, branch name, and branch code. For example in the figure given below the suppliers brand name is Mian Jee Jeweler, the focal person from supplier is Mr. Hammad, and his shop's address is written in the field.

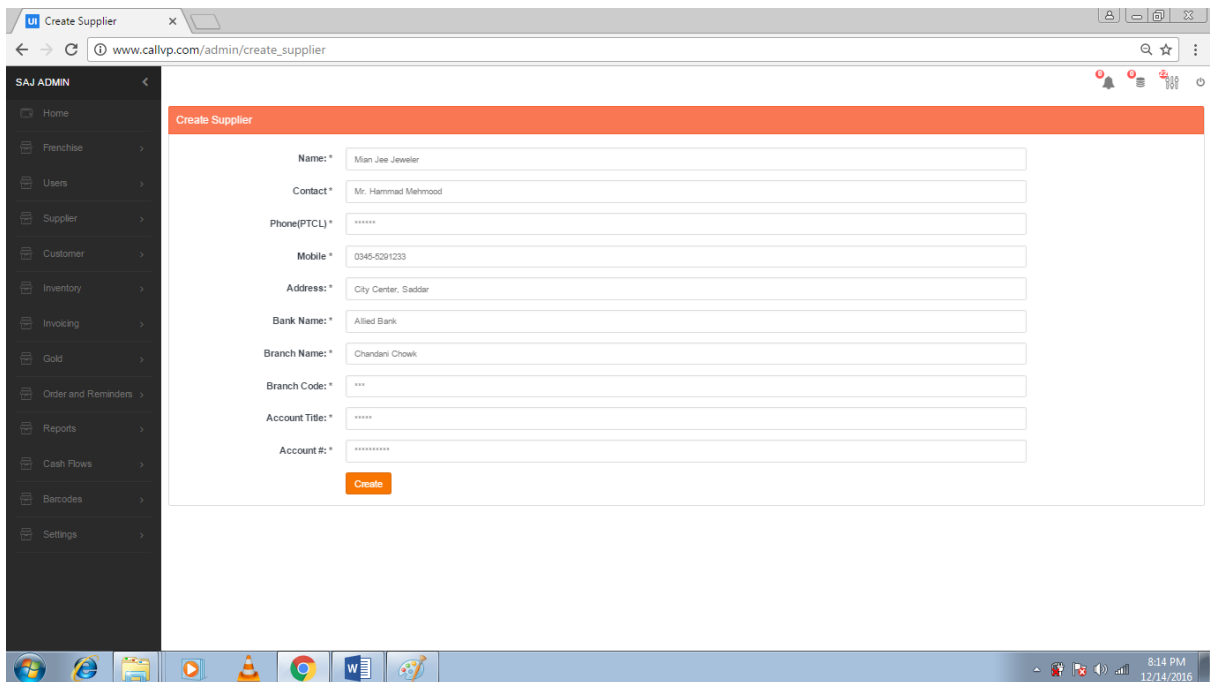


Figure 8: Add Supplier

After you enter all the details the system will create the supplier, and if any of the important information is missing system will highlight it too.

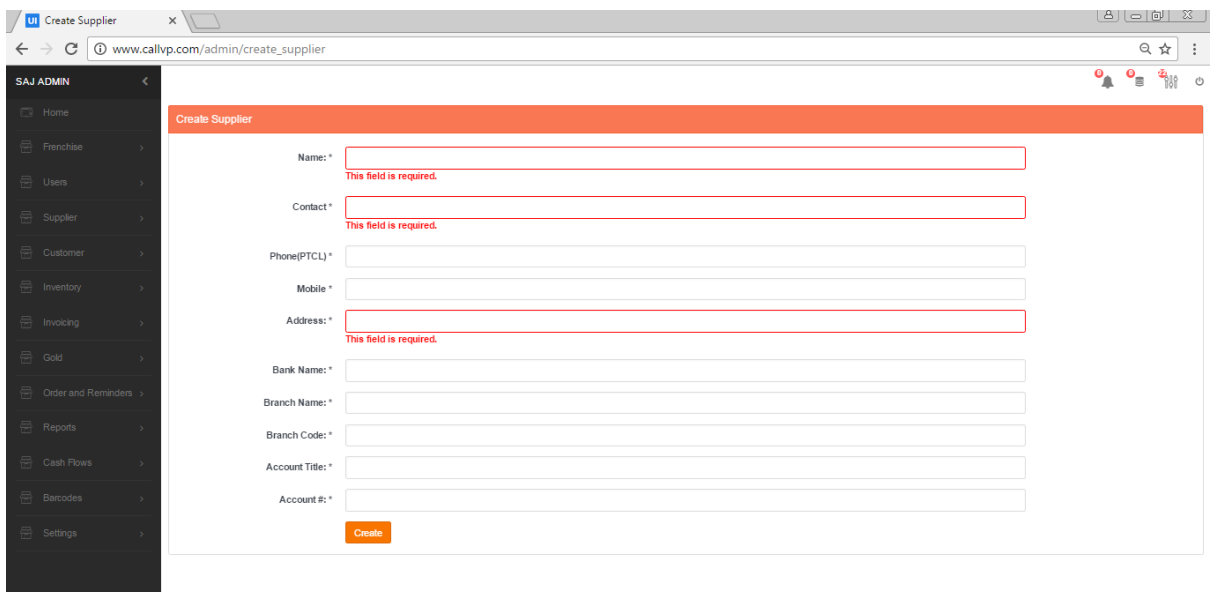


Figure 9: System Intelligence

### View Supplier:

This is the second option in supplier's drop down in the menu panel of the software. This option allows the user to view all of the suppliers SAJ is taking its products from. View Supplier has its own windows containing the table having Serial Number, Name, Contact, Mobile Number, Landline Number, Address, Status, and, Action. All of the details are already explained other than Status and Action. Role of Status and Action are same as they are described of the 'User' earlier. Status has two types 'Active' and 'Delete'. Active status means that company is still working with the supplier and is purchasing items from them. Delete status means that company has no longer working relation with the supplier and is not purchasing goods from them. However the record of the Deleted Supplier is not removed from the table in order to have a proper working history with the supplier. Last column of the table named as Action allows the user to edit or delete the supplier. Edit gives you the relaxation to edit every information you earlier put against that supplier. Delete means that by clicking it, the status of the supplier will be changed into deleted one and the implications of the Deleted Supplier are already explained in above lines.

### Supplier Payment:

As the name suggests, this portion of the software is responsible for keeping the record of the payments made to the supplier. A supplier will also be given a user id and password to cross check on the record. In this way the ambiguity between the management and supplier is reduced. Supplier Invoice will be explained in the later part of the report under the heading of the Supplier Invoice.

### **Customer:**

On the left menu bar, customer comes at number five. Here by customer we mean the end users who will buy products from SAJ outlet. 'Customer' contains two drop down options:

1. Add Customer
2. View Customer

## Add Customer:

Clicking this link will open a new screen, where you can enter the name, mobile number, landline number, email address, and house address of the customer. This part of the software is related to the customer profiling where SAJ is allowed to keep the detailed record of their customer. Moreover it covers the customers profiling from every aspect. It will help you to identify your most frequent buyers, it will help you to take discount decisions, and it will help you to reach out your customers via email and messaging. All of the aspects are integrated with the software.

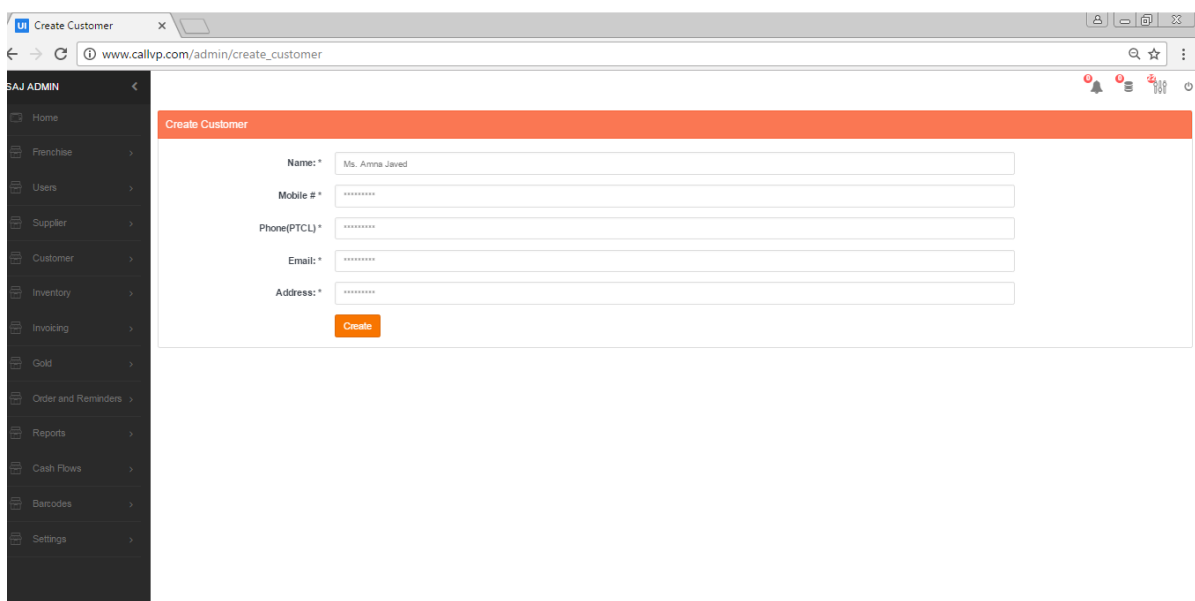
The image shows a web browser window with the URL 'www.callvp.com/admin/create\_customer'. The page title is 'Create Customer'. On the left, there is a dark sidebar menu with 'SAJ ADMIN' at the top and various navigation options: Home, Franchise, Users, Supplier, Customer, Inventory, Invoicing, Gold, Order and Reminders, Reports, Cash Flows, Barcodes, and Settings. The main content area has an orange header bar with the text 'Create Customer'. Below this, there is a form with five input fields: 'Name:\*' (containing 'Ms. Amna Javed'), 'Mobile #:\*' (with asterisks), 'Phone(PTCL)\*' (with asterisks), 'Email:\*' (with asterisks), and 'Address:\*' (with asterisks). An orange 'Create' button is positioned below the 'Address' field.

Figure 10:Add Customer:

## View Customer:

Viewing the details of your customer is much facilitated in the software. For instance when you click on the View Customer, the system takes you to the new tab where you can see the details of the customers who bought jewelry from you. In this window, you can view also edit or delete your customers. Editing customer gives you the freedom to fill any missing information or to delete any information.

## **Inventory:**

This part of the software is most complex, technical and took the most time to build. In order to understand this part of the software we will have to first understand the types/categories of the products into which SAJ has divided its products.

There are basically four main categories of the products they sell to their customers. First is Gold, second is Silver, third is Rolled Gold Metal Jewelry, and the fourth one is 1 KRT jewelry which is first copy of Indian Diamond jewelry. The most difficult part in creating Inventory module was that all of these four categories are purchased, recorded and sold in different ways. Furthermore, these categories are divided into sub categories. Each sub category have different products which are to be recorded in their own specialized way. As a result such solution was required on a single platform which can cater this variety. We came up with a solution.

At start, we separated Gold jewelry (Gold jewelry has its own inventory, Gold invoice and Inventory view) from the rest of the section and decided to focus the remaining three types to enter under the heading of Jewelry.

Inventory procedure starts with the clicking on Inventory drop down button. It will show following options:

1. Add category
2. Add sub-categories
3. Add product
4. View category
5. View sub-category
6. View inventory

Now we will explain each of the dropped down item under its particular heading:

### Add Category:

By clicking on it, the system will open its windows. At this interface, the user is required to enter the name of the category he/she wanted to create. The system also gives you the opportunity to upload a picture of the category. Once you enter the required information and the image, you can press the create button to create the category.

### Add Sub-Category:

This part is related to Add Category. Once you create the category the next step is to create the sub category of the product. For example a category can have many sub categories like bangles, bridal sets, chokhar sets, locket sets, earrings, anklets, rings, watches, bracelets and strings etc. Once you enter the sub category you can click on the 'create' button to create the sub category. You can enter as many sub categories under 'Category' as you want.

### Add Product:

The most complex part of the system is the interface of 'Add Product'. As mentioned earlier it is said that there are different types of products which come under the heading of category and sub category. Each product will be entered in a separate way which is dependent upon the nature of the Category.

For products coming under the category of '1-KRT Jewelry', all the products must be sold in complete sets. For example you cannot sell the earrings of any bridal set. If someone likes 1-KRT bridal set's earrings or tikka, he/she has to purchase the complete set. On the basis of this principle, we were required to develop such formulas which can support it.

When it comes to Silver jewelry, the formula for entering them is dependent on the weight of the products rather than selling a set completely.

On contrary, Rolled Gold jewelry could be sold in parts. For example if some customer likes only earring or tikka of the set, he she can buy it and does not require to buy the complete set.

All of these three different procedures of entering the products are available in the software. At first you have to enter the franchise/shop/head office for which you are entering the product. After it you need to enter the supplier from which you are buying the jewelry (a supplier must be added before otherwise it would not be shown in the dropdown of the supplier). Once the supplier is selected, you need to select the pre entered category and pre entered sub category from their respective drop down lists.

After filling the above mentioned information, system will ask you to select the sale type on which you want to sell the product. 'Complete' is to be selected to enter the 1-KRT jewelry products, 'Sell in Parts' to be selected for rolled gold jewelry, and 'sell by weight' for the products which are made by silver. All three have different functions and thus the way of entering the product is also different. (Demo can be given)

The software also allows you to write the description of the product which will be shown on online store. It also allows you to set the cost price, retail price and whole sale price along with some other details.

At the left end of the page, there are three options given as 'Order', 'On Order' and 'On Demand'. These terms are defined by SAJ's management and all three have different meanings. These will be printed on the tag of the product which will help the sales men to give information to the customer without asking the management of SAJ. Products having the print of 'No Order' on their tags mean that there is only one type of this product manufactured/purchased and it cannot be repeated. Products having printed 'Order' on their tags mean that these are the products which are manufactured by SAJ itself and can be prepared with alteration if the customer gives the order. 'On Demand' means that the products are bought from the supplier and SAJ will ask the supplier if they could re provide the same product or the product with few alteration. All of these directions are basically for salesmen to understand in order to make the sales process quick.

Then there is a field named as 'Order Level'. This field represents the minimum order level of the product which shopkeeper wants. For example if a shopkeeper is entering a certain product of which he wants to have at least 10 items all the time, he will write

10 in this field. While making a consumer invoice, when the invoice number of that particular item is entered, the system will intimate the user about the remaining amount of that product. Also this feature will be integrated with the message module and email module. If we compare it with the traditional system, it is practically impossible to keep this type of check on the products especially when you are dealing with small and numerous products.

The later part of the form ask user to fill the field named as 'Total Pieces in Given Item'. This means that how many number of pieces are combining to make one product. For example two pieces of earing combine to make one earrings. Similarly four piece set combines to make one complete set which could have further variations.

Stone description is available to write the types of the stones which are used in the product. There are different types of stones which are used to make the product and keep the record of those stones in traditional way of doing business is not possible.

Quantity means that the number of variety available for the one product. For example you could have a same design of a bangle in different colors and different sizes having the same cost price, supplier and other common attributes. In such situation the system permits you enter this variety of the product under the same barcode. This helps to keep the check on the inventory and sale of the products.

Total weight is there for the products which are to be sold by the weight. For example the total weight of the complete set of four piece bangle set was 10 gram. The customer comes and buy only two pieces weighting 5 gram. The system will tell the user that the remaining weight of the product is now 5 gram, and similarly in the sales report it will tell user that under the same barcode you have sold 5 grams. This is the type of check which only this system is capable of doing.

In the end part there is a comment section given for the users to enter random comments about the product. On the same time, it provide facility to the user to add the picture of the product. Once the user add the picture, the next option is to select whether to share the picture on the online store or not. The image user enter here is integrated with SAJ's



online store and will automatically be shared on the store if user agrees to share. User has the flexibility to enter more than one image of the product.

Once the user press the 'Create' button system will generate a barcode to that particular product.

#### View Category:

This is the search option which allows the user to view, edit and delete the category.

#### View Sub Category:

In this part of the software, user can view, edit and delete the sub categories which are created before.

#### View Inventory:

This form of the software allows you to search products entered in the system. Once desired product is found, user can view, edit and delete the product depend upon the user permissions allotted to the particular user. User can search the product by typing the product name, code, category, and sub category etc.

#### **Invoicing:**

The system allows you to make customer invoices, supplier invoices and franchise invoices. The details of the invoice structure is not shared in the written form however a demo can be given to the instructors in order to show them how it will work.

#### **Gold:**

One of the most important module of the system is having inventory record, reports and sales record of the products made out of gold. Gold work is done in such a way that it can keep the record of different types of gold and diamonds etc. The system can tell the profit/loss of the gold in both monetary terms and also in unit terms.

Information related to this module is subject to sensitivity henceforth we are not disclosing it in the report. However a demo can be given to instructors to show them how it is working.

## **Reports:**

There are six types of reports including inventory reports, gold inventory reports, sales reports, gold sales reports, expenses reports, and salary reports.

Information related to this module is subject to sensitivity henceforth we are not disclosing it in the report. However a demo can be given to instructors to show them how it is working.

## **Cash Flow:**

This part of the software keeps the record of daily cash inflows and outflows. This will help the management to close their daily accounts with more ease and promptness.

Information related to this module is subject to sensitivity henceforth we are not disclosing it in the report. However a demo can be given to instructors to show them how it is working.

## **Barcodes**

This is the interface which is related to the barcode generation and printing of the barcodes. Barcodes are generated on the algorithms set in the system. Gold Item barcodes and other items barcodes are generated separately.

## **Settings**

This is the area in which different information related to the social platform is entered. A screenshot of the 'settings' is shared to show how it works.

## **Online Store and Android Application**

Online store is the way to ensure success of business according to contemporary corporate environment, with the onset of internet facility in most areas, including backward and rural ones, moreover availability of mobile and tablet devices on cheap rates has made the internet even more accessible. Keeping in mind the current online trends Actiftech has integrated a top notch online store capable of taking orders with ease and credibility. However Actiftech refused to include payment methods through any digital means reason being the cyber security

issue. We suggested SAJ not to include this method amid online theft concerns, however as soon as secure transaction of payment is ensured, the module will be included without further delays.

## **Project Rationale**

The basic reason behind making this kind of software for this industry is that there is no management and inventory tool to serve the purpose. Although such product is available in the market but those software are general in nature. Our purpose is to launch the product on customization basis. Solution that we aim to present can ensure effectivity and efficiency in jewelry business as everything that is sold, purchased

## **Project Purpose**

- Creating solution for customers
- Earning financial profits
- Providing employment opportunities
- To obtain first mover advantage

## **Product Benefits**

While explaining the product features and attributes, its benefits have been explained throughout but in summary following are the most prominent benefits, this product offers:

- It has made the operations of business dealt with ease, as accountability and functionality are converted from traditional to digital form, our customers can enjoy proper control over function and ultimately efficiency is achieved.
- Proper MIS offering, with all components included, as compared to competitors who offer limited modules.
- Software include room for alteration, which could be handled by customers themselves.
- High level of customizability, which will suit different business structures
- Strong and fast after sales services
- Cost effective structure of company

- Targeting untapped niche market with a lot of potential(Jewelry market) to attain maximum profit margins

Software highly compatible with different devices like Pcs, Laptops, Tablets and smartphones

## **PART 2**

### **Literature Review**

(Zong & , 1999) Before knowing MIS in detail, it is imperative to know about Information System, which is major category, within which MIS falls. Information System can be clearly understood by conceptualizing three types of systems i.e. Transactional Process System (TPS), Management Information System (MIS), and Expert Systems. Decision Support System (DSS) which is further category to MIS serves the best in explaining its role. MIS has several subcategories such as Decision Support Systems and Executive Information Systems. A DSS is a computer based system (an application program) capable of analyzing an organizational (or business) data and then presents it in a way that helps the user to make business decisions more efficiently and effectively. It is basically an informational application which depends on the information already existing, while answering to a given query. For example, a decision support system could provide:

- Comparative sales figures for one week/month
- Expected revenue figures based on new product sales expectations
- Effects of different decision alternatives, given past experience

In business, terms there are many types of Information Systems, which are as follows:

1. Process Control Systems
2. Transaction Processing Systems
3. Management Information Systems
4. Decision Support Systems
5. Executive Information Systems
6. Expert Systems
7. Knowledge Management Systems
8. Strategic Information Systems
9. Functional Business Systems ( Information Systems From Functional Perspective)
  - a. Sales and Marketing Information Systems
  - b. Manufacturing and Production Information Systems
  - c. Finance and Accounting Information Systems

#### d. Human Resource Information Systems

MIS is usually used as an important tool in organizations, but its use is on the basis of position in company, top level management uses it for strategic decisions, middle level management for tactical decisions and day to day operations are being monitored by first line managers. Decision making being a very important and integral part for organizations and its individuals, which is complemented and aided by the use of this tool. MIS being the major category and DSS being the subset of it are highly effective for organization's performance yet poses some serious threats according to many people.

An organization is composed of subsystems, which are interrelated, and success of whole system depends upon efficiency in every single one, a good management of information systems leads to good decision making in business, in the same way poor management leads to poor decision making.

The role of MIS in an organization is very essential, it is even analogized as role of heart in body, where information is blood and MIS is the heart. Information circulated by MIS should be accurate and pertinent so that whichever department gets it can put it to use and ultimately get great results. An organization becomes the same as human body when heart pumps ineffectively or infected blood.

Function of MIS is to ensure that appropriate data is collected from different sources and after processing it gets to right destinations. MIS incorporates all the needs, from individual to groups and from lower level of management to higher officials.

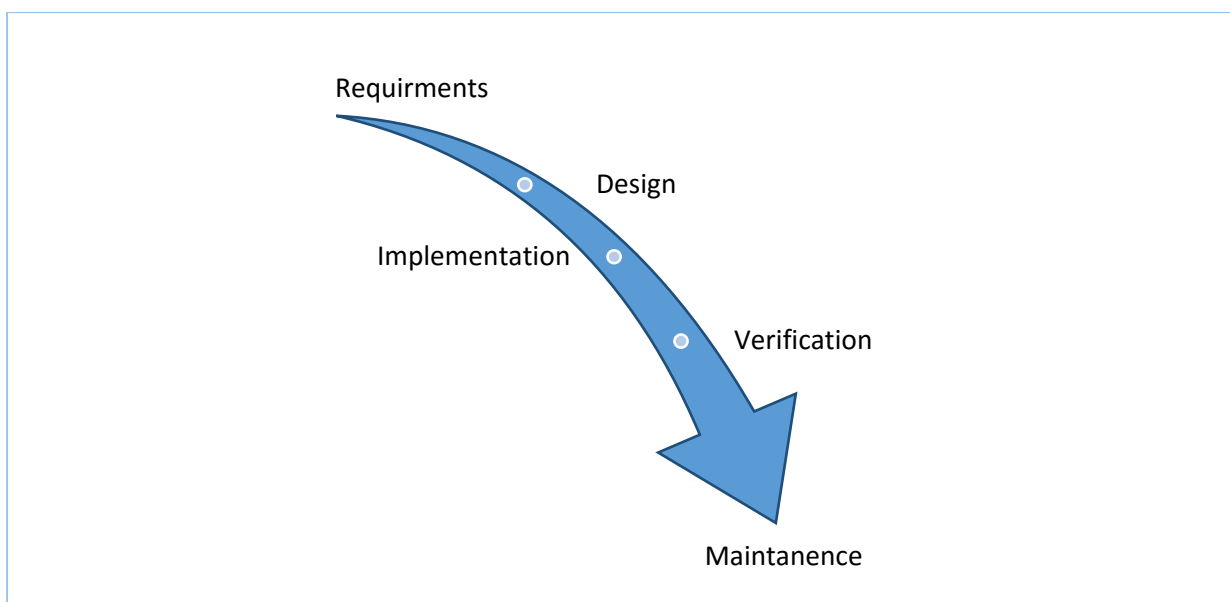
The MIS fulfills the diverse needs through a range of systems such as Query Systems, Analysis Systems, Modeling Systems and Decision Support Systems the MIS helps in Strategic Planning, Management Control, Operational Control and Transaction Processing. The MIS helps the clerical personnel in the transaction processing and answers their queries on the data related to the transaction, the status of a specific record and references on a variety of documents. The MIS helps the junior management personnel by providing the operational data for planning, scheduling and control, and helps them further in decision making at the operations level to correct an out of control situation. The MIS assists the middle management in short term planning, target setting and controlling the business functions. Supported by the

use of the management tools of planning and control, the MIS helps the top management in goal setting, strategic planning and evolving the business plans and their implementation. (Conboy, 2009)

In organizational perspective, there are methodologies used to understand and implement the process of software making and deploying better, these methodologies have evolved and improved with time, and now the most effectively used is agile methodology. There are loads and loads of work available for the managers now a days and to meet every end meet, seems difficult unless, there is a proper technique available, to which managers are acquainted.

Agile software development is not some kind of tool or set of exact procedures to make up a single methodology to obtain similar results, rather it gives the organization a liftoff from too many paper work and weak implementation, like in the case of waterfall methodology, which is currently being used in many organizations. But, times have changed and more and more organizations are using agile now, as the dawn of concept of networked organization proliferated the entire world. (Unknown, 2017)

Waterfall technology was being used before Agile, which although dominated the software development industry for quite a long time but success rate was not good, 70% of the projects fall behind on objectives. Following is the Process flow of Waterfall methodology.



*Figure 11: Process flow of Waterfall methodology*

One of the most important differences between the agile and waterfall approaches is that waterfall features distinct phases with checkpoints and deliverables at each phase, while agile methods have iterations rather than phases. The output of each iteration is working code that can be used to evaluate and respond to changing and evolving user requirements. Waterfall assumes that it is possible to have perfect understanding of the requirements from the start. But in software development, stakeholders often don't know what they want and can't articulate their requirements. With waterfall, development rarely delivers what the customer wants even if it is what the customer asked for.

Agile methodologies embrace iterations. Small teams work together with stakeholders to define quick prototypes, proof of concepts, or other visual means to describe the problem to be solved. The team defines the requirements for the iteration, develops the code, and defines and runs integrated test scripts, and the users verify the results.

Waterfall differs from agile essentially in terms of phases with checkpoints and deliverables at each phase, on contrary agile has iterations rather than phases. Users have different and changing requirements to which output of each iteration present working code. In Waterfall, the assumption is to have perfect understanding of user requirements from the beginning, which is not possible because stakeholders cannot articulate their proper requirements from such an early phase. Waterfall hence seizes to offer exact working i.e. demanded by customer. Agile on the other hand offers small teamwork with customers to define prototypes, concepts, visual copies in order to provide solution. Proper working of this method is as follows:

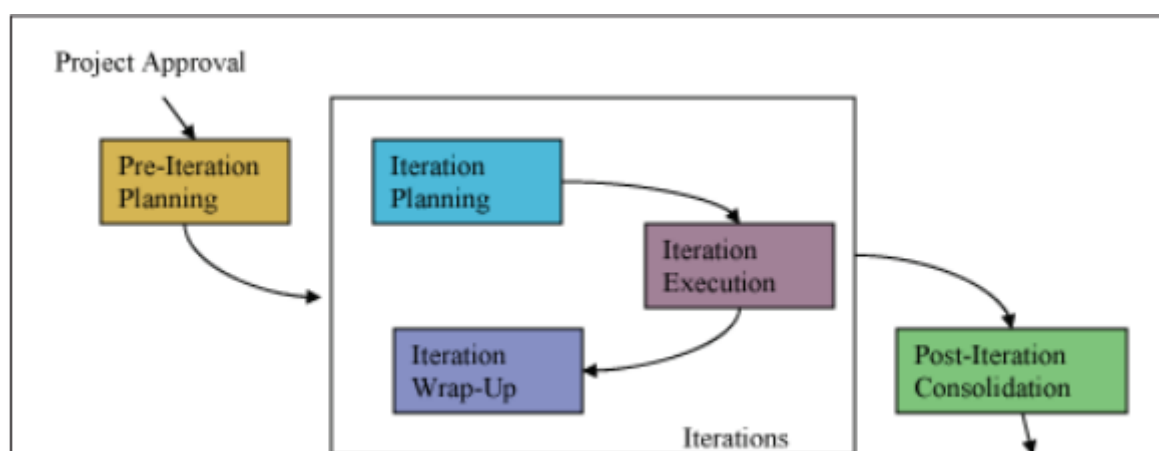


Figure 12: A generic agile development process features an initial planning stage, rapid repeats of the iteration stage, and some



There are 2 philosophies used in Agile software development which are XP (extreme programming) and Scrum. XP starts with planning phase, which is followed by different rehearsals of prototype made. Features are agreed upon through inclusion of user in the XP team, this creates user satisfaction and accuracy in work. Users write “user stories” which defines the features product should have. Release plan is another phase where by iterations are made and step by step release of development task takes place. At the end user performs acceptance testing for bugs and other issues, which are if found rectified. When all the deliverables are delivered, the team can terminate the project. Detailed system is elaborated through figure below:

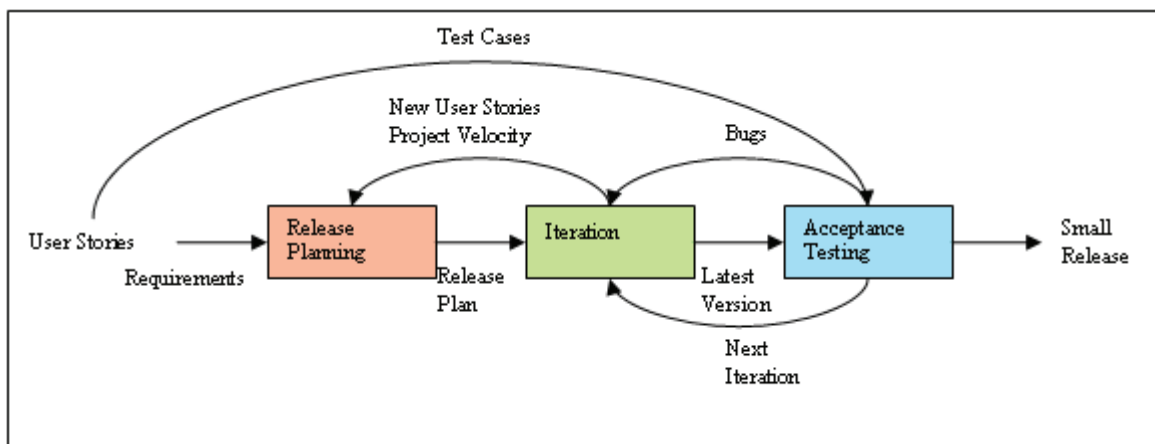


Figure 13: A simplified XP process

Scrum philosophy starts with backlog of work to be done, which emerges during the planning phase and defines the scope of work. Work is defined in small processes and tasks in planning phase, these tasks are divided into small iterations, which in this case is called Sprints. Team starts with backlog items for sprint and sought out lessons learned and also check progress. During a sprint, team does a meeting on daily basis for the work to be done for that day, progress of the day and any hurdles or bugs that needs to be clear, this meeting is known as scrum. Scrum is like a casual meeting done in the same room, standing up. When all the information for backlog has been gathered and implemented and end user’s willing to put the process in action reaches, development phase is closed and production starts.

Development process is all about managing the sprints, before each sprint, team plans it, identify the backlog items and assign them to teams. Team then arrange, develop, review or adjust each backlog items. The team develops the codes, runs tests and document the necessary changes. During wrap phase team develops something substantial enough to demonstrate the changes. In review phase team demonstrates new features, new backloging items are added and risk is accessed. Finally, team consolidates data and does the addition or subtraction in it, review the updates and deploy. Processes are progressed as follows.

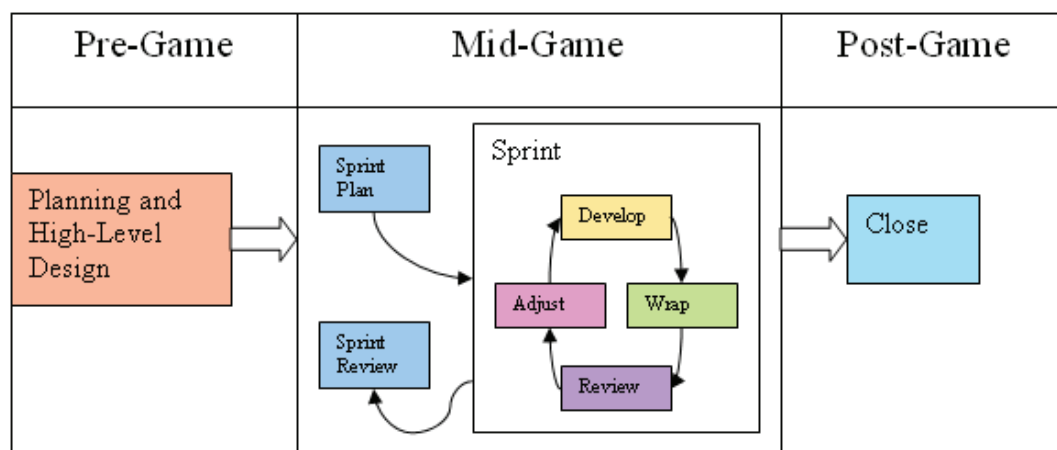


Figure 14: The Scrum process

Much has been said about the software development but what backs it, is a strong strategy, which take out the maximum performance from the efficient software which ultimately is backed by management team and set of regulations, procedures and rules. Ofcourse the important element in strategy scenario is the execution part which often makes or breaks the company profit margines.

Over the last decade scholars of strategy management have focused their attention into importance of strategy execution as much as its formulation. (Srivastava & , 2015) Strategy drives the long-term direction of an organization, and the strategy execution process converts strategic objectives into profits.

Strategy execution has been broadly defined in three standpoints i.e. process (carefully crafted set of actions), action (set of more or less determined actions), examining of these actions from a behavioral school of thought, this could also be hybrid i.e. combination of any two. There is also another gap which was identified called Gap Variables, it explains the discrepancy between strategy and execution. Kaplan and Norton (1996) proposed a system perspective, where ineffective strategy execution is more often caused by a poor management system than lack of managerial competence or efforts. Noble (1999) suggested a structural perspective, looking at the effects of structural mechanisms on strategy execution processes and outcomes. (Sushil & , 2015)

As our main focus has been towards the jewelry market software solution development, so it is imperative to understand the latest trends and features incorporated by jewelers in terms of not marketing which is external side of sales involving customers, but, record keeping, analysis of profits, trends, supplier's records, order, finances, system deployment, inventory management and much more. (Anon., 2016)

There has been small targeted systems in Jewelry market which only aimed to specific portion of MIS system but not more components in one program, for example electronic article surveillance EAS detect the presence of small electronic devices attached to an article or person of interest, EAS is often used for antitheft purpose, these are known as tags. Tags are often seen on small jewelry items, they carry useful information, which could be accessed electronically. Some of the information tags carry are date of manufacture, inventory status etc.

In more advance form RFID technology has been employed, RFID is short form of radio frequency identification; RFID system successfully does product identification and tracking. But there has been certain problems associated with this technology, as covering RFID tag by simple hand or aluminum foil makes it undetectable. More over the shape of RFID distorts on presence of different materials, these factors subsequently makes RFID technology somehow ineffective.

We have talked about use of technology only in terms of security purposes, MIS has also been incorporated in many places but only component wise, like most commonly used part has been Point of sale system. POS just records sales and customers are handed over a receipt

of sales, in the background operations, it records the sale and if inventory Management system is also linked then, product sold is subtracted from inventory. In most common jewelry setting, POS and inventory systems comes in package. (Black & , Jun. 10, 2004)

## **PART 3**

### **Market Analysis**

Market that we are aiming to penetrate into is not very simple, it is saturated and composed of many big players as well, but it also poses numerous opportunities, as in, software industry is very vast and innovation is never ending, therefore any new player with creative approach can achieve pinnacle of success.

#### **Types Of Market**

A holistic view of IT industry in Pakistan shows that it is an emerging market and with the onset of China Pakistan Economic Corridor (CPEC) and Foreign Direct Investment (FDI) gates open in our country, need for software has increased by leaps and pounds. The market we are entering is IT market of Rawalpindi, Islamabad, which itself is very big, and many players are currently enjoying big profit margins. We are first entering the niche market, which is small, medium and large jewelry setups. Scope will not stay limited to jewelry segment but as soon as the opportunity is fully capitalized, other segments of market will also be approached.

#### **Target Clients**

The reasons for targeting this market first, are simple:

- It was untapped market in terms of MIS deployment
- Our prior personal liaisons and links with jewelry owners
- Complexity of operations only we understand, as a virtue of being innovative
- Strong market potential
- It was need of time for jewelry market to adopt new and contemporary means of management support
- Our system provides anti-theft capabilities, which was also quite an enormous issue

## **Advantages Of The Services Offered By The New Business**

Traditional system of accounting, inventory management and finance in Jewelry market has been manual and sluggish plus it poses challenges concerning with time management, availability of product, trends in market etc. In view of all the drawbacks of traditional (manual) system, a huge gap was revealed, and with the intent of solving this problem, we targeted Islamabad and Rawalpindi Jewelry. Following are the advantages Actif tech aims to bring out through its bespoke MIS system:

- This MIS will smooth the daily operations regarding cash inflow and outflow
- Through employees profiling, integrated into software, theft is controlled and accountability is maintained
- MIS system we deliver is highly customizable, as per the innate requirements of specific business. Its different modules could be linked to make a specific product, with pinpoint accuracy and efficiency
- Customizability is offer in view of changing trends of business, and room is offered in slightest of components such as User interface, which can be altered to one's taste
- Software Documentation is something which instill firmness to project and makes it tangible. Documentation helps us in reviewing customer needs, and if at some point in time changes are needed, a quick review gives accurate analysis of what needs to be done, ultimately provides lifetime support for our customers.
- Inventory Management component of MIS system not only show simple inventory details but also provide sleekest of details like, how much inventory is left of a certain supplier, or who is the most successful of the suppliers.
- Details of when and what was sold with all the pertinent essentials, like dates, day, time, bill no, receipt no. etc
- Smart analyst software which analyze and finds out trends on the basis of what and how many products are being sold of what supplier, what design, of which craftsman etc.
- We offer customer profiling integrated into this software, through which customer preferences, and other details are saved. So next time same customer comes to shop, shopkeepers will know their preferences

- Software comes with full maintenance services, a defined time for updates and maintenance is set prior with shop owners.
- Payment schedules are allowed by this software, which let owners to pay credits to suppliers with ease and proper transparency

### **Market Consumption Pattern**

We have noticed lately that people are reluctant to use MIS software they prefer to use the old style traditional record keeping ways for managing the inventory. Another problem is that each jewelry shopkeeper dealing with more than one suppliers and vendors so it is difficult for shopkeepers to stay in contact with all workers and suppliers. It arise communication gap between them due to poor inventory management they usually lost count of all the jewelry designs they have and they find out difficult to predict the latest jewelry trends thus they have to sell out fashioned jewelry in less price shopkeepers and employees are aware of all these issues but it seems that they have specific mindset. Old is gold, it is more reliable they prefer to manage all paper work themselves. One reason which we have figured out is lack of awareness. People most of workers are uneducated or merely less educated; they don't understand the importance of MIS software in their business. They have misconception that the software is difficult in use. It is complex; their data is vulnerable buying the software would be a huge mistake of time and money (Canal, et al., 2006)

There is another category of people who are using some basic type of software in their shops but they are reluctant to use upgrade and customized software. Even though, they have opportunity their software's but they rely on their old software version. The challenge we are facing here is to convince them to switch on latest version of software which we are offering. Shopkeeper and their workers usually faced different fears which hinder the growth of the business. Their employee spend a lot of time in data entering or on correcting invoicing system so they left with less time to perform their core activities. Old software system is slow and due lack of advance features they have to reconcile data which is hectic and time consuming task. Another misconception among shopkeepers are if they upgrade the software it will disturb the existing things which are running ,new software may have bugs overall upgrading is a risky process.

If they go for up gradation they have to provide training sessions to their employees which are

an additional cost for them. Employee's shows hesitance in learning new software for them it is an additional task, taking out time for learning from their busy schedule is difficult for them they prefer to use old traditional ways of working.

Our job is to make shopkeeper realize the importance of MIS software in their business with the help of little training workers can learn the usage of software which ensure the increase in productivity. Our main purpose of developing the customized software is to provide right information to the right people at right time. It will save the time of the worker, reduce errors and process data efficiently.

On bright side trend is shifting more people are showing interest to bring technology and innovation in their business which will open doors of opportunity for our company.

### **Production Prospects**

We are running business initially in jewelry markets of Rawalpindi/Islamabad .In the light of the intense research we have conducted we come to know that most of the jewelry shopkeepers are unaware of the MIS software and the remaining one are using the old version of the software or using Point of sale both are outdated. We have identified the gap in the market and up with the solution to bridge the gap. We made a strategy to tap the jewelry shops of the twin cities. The segment we are trying to reach, shopkeepers who are not using MIS software convince them to take services which we are offering. We will get first mover advantage by promoting our self in a way to get attention span of shopkeepers and to convince them that Actif tech are offering better customized solutions as compared to the competitors.

### **Limitation**

One of the major limitations is to change the mindset of the people. As we are new in the market experience matters a lot people prefer to purchase services from the company who have good experience in IT field and know the nitty gritty of the jewelry market.

In jewelry Market Company, get contracts on the basis of the reference and links which we are working on it.



For very small business owner MIS software is bit costly as our company is new we are offering them customized solution on less price as compared to our competitors. For accurate and efficient performance of MIS software up gradation requires, shopkeeper hesitate to spend extra amount of money on up gradation.

## **SWOT Analysis**

### **Strengths**

- Proper MIS offering, with all components included, as compared to competitors who offer limited modules.
- Software include room for alteration, which could be handled by customer themselves.
- High level of customizability, which will suit different business structures
- Strong and fast after sales services
- Cost effective structure of company
- Targeting untapped niche market with a lot of potential(Jewelry market) to attain maximum profit margins
- Software highly compatible with different devices like Pcs, Laptops, Tablets and smartphones
- No compromise on quality
- Product deployment on time
- First mover advantage in terms of tapping into jewelry market
- Customer learning and awareness team

### **Weakness**

- All the owners are not related with software field
- Company is only relying on one project i.e. MIS system for SAJ, it needs more and more projects for its survival
- Lack of knowledge to local entrepreneurs, about software application hence difficulty in pursuing
- Lack of vision in market, although potential is vast if software is implemented in local business, like the rest of the world, which is operating digitally.

- The biggest weakness of the business is that it requires a technical person employed full time to operate and understand the functionality of the software completely.
- Seeking reliability and credibility from the customers would be a difficult task, proper attention to users at all times is a must but difficult to manage.
- Lack of resources mostly financial

### **Opportunity**

- Since, Actiftech targets Jewelry market for now, and by looking at the size of this market in Islamabad/Rawalpindi, expansion opportunities are evenly posed for any new entrant, which we have capitalized as first mover
- We have opportunities to grow in other avenues like confectionary and cloth market
- Project from abroad by establishing direct liaisons.
- Providing human resource to our customer on commission basis

### **Threats**

- Like every other business, which face threat from competition, other Software houses are threat for us
- Most pertinent threat is threat of imitation
- Cyber security is also an eminent issue, as all the data is kept online
- Human errors can prove to be threatening, although software provides a lot restrictions options.
- Uncertainty in terms of government policies, and business regulations.

## **PART 4**

### **Marketing Assessment**

#### **Product**

We are offering reliable customized software solution. Our first client is SAJ jewelers, our software will help in managing inventory and it will also help them in record keeping of SAJ .Our MIS software is easy to use it will help management to organize data efficiently and by record keeping they can predict the latest jewelry trends and keep track of articles which are selling best. We are offering customized software according to the need and demand of the client it will help in bridging the communication gap between the jewelry make and supplier furthermore it will reduce the chances of mistake and speedup the production. MIS system helps in managing time and resources efficiently provides advanced and robust solutions.

We can upgrade the software easily. We will introduce more value added, advanced and efficient features .It will fix the problems like crashing of tabs, and fixation of the bugs. It would also ensure the faster performance of the software.

#### **Place**

Our first priority to open the software house will be in Chaklala Scheme-III, Rawalpindi. It is a commercial place where many businesses are already in good running position. Also there are many upscale jewelry and boutiques outlets in Scheme-III which gives us opportunity to make more clients. Our first client SAJ will be footstep away from Actif Tech which will give us the opportunity to keep a close look on the actual place where the software is installed. This can help us in many ways for example any real time change which we have missed in our planning could easily be monitored, analyzed and corrected.

It gives us close proximity to our potential customers in Rawalpindi and Islamabad. The access to the clients is something which can help us in attaining the sustainable competitive advantage.

Moreover, Scheme-III is considered a well maintained area with proper civic facilities. The

working environment are friendly and do help the business to grow and expand. Furthermore, the location will be easily accessible and customers will have the ease to find the office.

As our contingency plan, we will also look and for the places which will resemble the benefits of having office in Scheme-III.

## **Promotion**

### **Website**

We have bought the domain for website. Currently our website is under construction and soon we will launch our website. The web address of our official website is:

[www.actiftech.com](http://www.actiftech.com)

A website is virtual office address. These days, having a website is a necessity for any business if it wanted to reach out to its customer more promptly. In our case, building a dynamic, informative, creative, appealing, technically sound, efficient, fast, proactive and such content which shows professionalism but at the same time is simple for the layman reader. All these features will allow our viewers to review information related to our services.

We will strongly focus on the feedback section in our website because we believe that feedback from the end users are the most effective way of making your product more versatile and up to date. This feature will not only enhance the customer experience but will also make them more loyal once we take their suggestions seriously.

### **Facebook Page**

We can say that Face Book (FB) is one of the most followed and influenced social platform. It is a very useful platform to spread positive word of mouth. It is great forum company can interact with clients overall creating customer experience. Our IT experts will answer the question and handle queries. Informative post on Facebook and engaging content will help in staying top of the mind of customers by the help of interaction company can understand trends and demands of the customers.

## **Sms Marketing**

In order to reach out maximum people in lesser time, we will use bulk SMS for marketing of our product. Currently we will only send SMS to jewelry shops because our first project is related to jewelry field. Later on, when we will expand the scope of the business. We would send SMS to brands like J. Saloons like roylee, Jugnoo etc. If they are already using MIS, we can offer them upgrade services to make their software more efficient, accurate and fast. MS marketing is cost efficient easy way to reach out maximum customers in real time.

## **Direct Marketing**

We are working on to improve customer touch points. It will improve the reputation of the company. Our experts can directly address customers through different channels like e-mail, phone call etc. We can exchange information answer queries related to our products and services. Moreover we also plan to hold meetings with our customers where necessary.

## **Sales Team**

Sales team can play vital role in marketing of the company. We will make sale team trained by IT experts with best communication skills. Because when customers are unable to solve the problem, they look at your company. We are offering them customized solution for their problems. Sales teamwork is to provide accurate and update in-depth knowledgeable answer to the clients it will give them good impression that our company is reliable and provide best services than competitors. Our sales men will be on monthly pay and a commission of 15%/sale.

## **Other Promotions**

We are planning to advertisement in magazines on social media especially on Facebook, Twitter, Instagram, and Linkdin which are considered as biggest players of digital advertising. Nowadays people spend a lot time on social media so we can target our relevant audience by using these platform.

We will make informative video/documentary how we provide customized solution to the customers. Visual demo of the products will help in understanding the nature of our business

it will also provide comprehensive answers of the common questions asked by the customer. It will help them to make buying decision by using our product and services; they can easily get their desired outcome.

## **Strategy and Plan**

Strategies are made in order to achieve the desired objectives usually for the next 5 to 6 years. Business strategies are an integral part of planning for future. At Actiftech we make strategies as a part of future goal and find means to fulfill them on decided timelines. A very important part in deciding strategies is to prioritize what needs to be immediately done and what has to be later. For example, we decided to operate from home initially as to efficiently use up our resources, but in order to appraise every person, a meeting takes place every 3 days and maximum a week.

We have identified two types of strategies for our business to choose from:

- A. Generic Strategies
- B. Competitive strategies

## **Generic Strategy**

In generic strategy, we again have different options, but we believe in practicality and so SMART objectives are implemented while devising strategy, following generic strategies are implemented step by step:

1. Growth i.e. the expansion of the company to purchase new assets, including new businesses, and to develop new products. What we will do first is to rent out on office facility and with passage of time and as per the requirements, office equipment will be purchased.
2. Expansion will be the next phase, where we are planning on to expand operation to other cities as short-term goals, further as a part of long term planning, we aim to expand globally, by entering into niche market hence capitalizing on to gaps in market there and then penetrate with full force.

3. Retrenchment involves cutting back to focus on your best lines. Only applicable if we divert from our original scope i.e IT.

## **Competitive Strategies**

As the name suggest, competitive strategies concerns with competing with rivals in better way. Sometimes rivals do better and offer something that has greater value, so in order to align our value proposition as good as the competitors' you adopt copying them even unwillingly. But Actiftech realize, how important this is to be unique and position oneself in appealing manner. The competitive strategies we aim to implement are based on our core competencies, nature of business, product and market priorities, scope of product and services. In terms of strategies regarding competition in view of above factors we can consider following as part of our long-term strategy making.

### Differentiation

Differentiation helps developing and maintaining a SCA, by introducing a unique product or service, Actiftech believe in differentiation as, we are presenting a known product to a different market and that too in a very innovative way. A lot of time resource has been spent on the way our product can maintain a differentiation, which was aimed to increase Brand loyalty but low price sensitivity.

### Focus

This strategy very effectively relates to our business in a short time strategy planning, it maintains that company should focus on a niche rather that whole market i.e. segment. From the two variants i.e cost and differentiation of focus strategy, Actiftech more prominently relates with differentiation focus as software (MIS) is targeted towards jewelry market.

### Operational Excellence

Operational excellence ultimately results in low cost leadership, but as our offering is more towards customizability hence Economies of scale are difficult or near to impossible to achieve in this case.

## Porter Five Forces

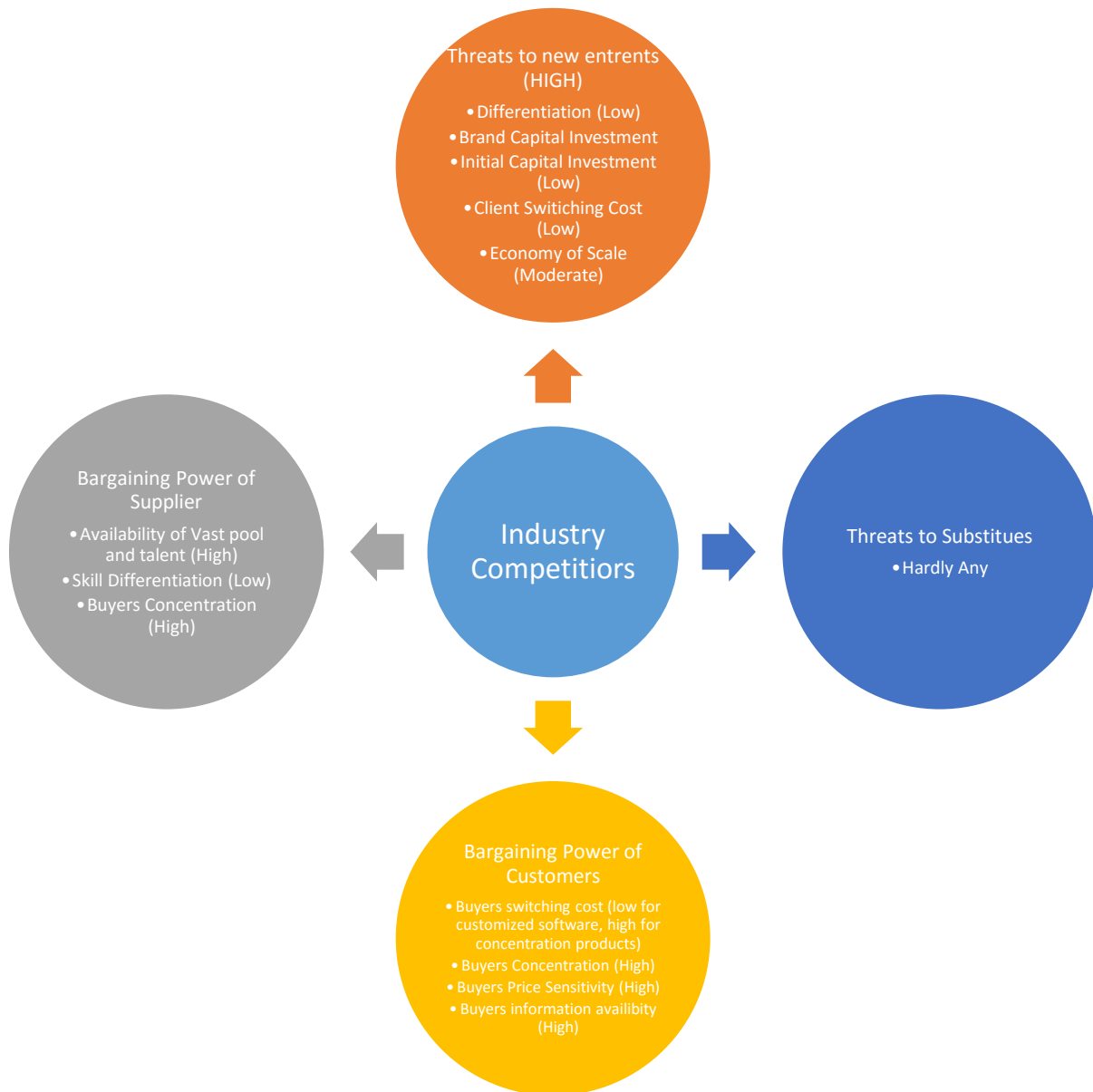


Figure 15 Summary of Porter Five Forces



### Intensity Of Rivalry (High)

For Actiftech Revelry is high, reason being there are too many software Houses and somehow their scope also matches with ours, but one competitive advantage we have is, that we have targeted a niche market i.e. Jewelry for initial gap identification. In the long run we have to compete with the usual course of competition. Below are the factors involved in the revelry of firms

FACTORS	COMPETITORS RIVALRY			ALTERNATIVES
	High	Medium	Low	
Number of competitors			✓	High
Industry growth			✓	High
Degree of differentiation	✓			Low
Exit barrier			✓	Low
Client switching cost	✓			Low

### No Of Competitors

There are numerous players in Software industry, due to this reason competition is intense. . Threat from rivalry and competition poses a intimidation to domestic companies.

### Industry Growth

Pakistani Software industry has shown a positive trend for the past decade, the growth has been incremental, this has mainly because of the reason that, we offer lower cost than software market abroad, so firms abroad, largely in USA prefer outsourcing their project from Pakistan,

India Market. And now with the onset of CPEC, numerous opportunities are opened hence contributing to growth in the industry.

Degree Of Differentiation

Mostly the software industry provide undifferentiated product i.e software, web designing, android or iOS apps, which leads to high rivalry. Industry players are providing equivalent after sales services, which includes installation, training etc. in case of Actiftech although product is same but, its application is a bit different for now.

Exit Barriers

Exit barrier for existing software companies is low as the initial capital requirement is low in software industry

Client’s Switching Cost

In software industry Switching cost is low therefore rivalry is more. Generally client desire bespoke product, which fit to their structure of business. As there are numerous developers available in market offering the similar product, or tailored products, switching cost is low.

**Bargaining Power Of Suppliers (Low)**

Factors	Supplier Power			Alternatives
	High	Medium	Low	
<b>Availability of Vast-Talent pool fresher and experience</b>			✓	High
<b>Skill differentiation</b>			✓	Low
<b>Buyer Configuration</b>			✓	High

### Availability Of Vast Talent Pool

Software professional are widely present in Pakistan and Asia, the talent pool which we aim to hire right now are university graduates, who are either fresh or completing their studies besides work

### Skill Differentiation

Although there is much HR available in market and of course with less differentiation in terms talent and skill but it is always problematic to change people and train them repeatedly. Skill differentiation is low anyhow.

### Buyer Concentration

At the point when purchaser's concentration is high, bargaining power of suppliers is low, business are more thought and centered for their required human resource aptitude. Different variables, which make the suppliers' control low, are because of slowdown, job cuts and layoffs.

### **Bargaining Power Of Customers (High)**

FACTORS	BUYERS POWER			ALTERNATIVES
	High	Medium	Low	
Buyers switching cost	✓			Low
Buyers Concentration	✓			High
Buyers Price sensitivity	✓			High
Buyers Information Availability	✓			High

### Buyers Switching Cost

In software industry Switching cost is low therefore rivalry is more. Generally client desire bespoke product, which fit to their structure of business. As there are numerous developers available in market offering the similar product, or tailored products, switching cost is low.

### Buyers Concentration

If there are few buyers and many sellers, the power of buyers is high. Every buyer has different business structure and requirements hence customized software is demanded. Moreover this is one time investment, which makes Buyers more concentrated.

### Buyers Price Sensitivity

Much has been said about price sensitivity of buyers, in conclusion people have less knowledge than money, business today needs to be contemporary in terms of technology standards with world, Pakistani business poses huge gap technology wise. We have to agree with more sensitivity as buyers/customers local or international, does care about lower cost.

### Buyers Information Availability

As the software products are developed based on clients requirements, buyers are well informed about the software products. Other factors affecting

## Threats Of New Entrants (High)

FACTORS	THREATS OF NEW ENTRANTS			ALTERNATIVES
	High	Medium	Low	
<b>Differentiation</b>	✓			Low
<b>Brand Establishment</b>	✓			Low
<b>Initial Capital Investment</b>	✓			Low
<b>Client Switching Cost</b>	✓			Low
<b>Economies of Scale</b>	✓	✓		High

### Differentiation

Industry players are providing equivalent after sales services, which includes installation, training etc. In case of Actiftech although product is same but, its application is a bit different hence innovative.

### Initial Capital Investment

Initial capital investment is low in establishing new company in software industry. Software industry is based on intellectual property & thus it does not require higher capital investment.

### Economies Of Scale

Whenever the product is customized, economies of scale are not possible to achieve, however there might be certain products which are similar and could be fit in more than one business.

## Threat Of Substitutes

There is no close substitute of software. But there is threat of switching.

## Summary of Porter Five Forces

PORTERS FIVE FORCES	HIGH	MODERATE	LOW
Bargaining of Supplier	✓		
Bargaining power of buyers			✓
Threats to new entrants	✓		
Threats of substitutes	✓		

## Pest Analysis

### Political

The following political external factors are important in the development of the e-commerce industry:

1. Political stability of developed countries (opportunity)
2. Governmental support for e-commerce (opportunity & threat)
3. Increasing governmental efforts on cyber-security (opportunity)

Political stability creates an opportunity for the company to expand or diversify its business in developed countries.

### Economic

The following economic external factors are significant:

1. Economic stability of most developed markets (opportunity)

2. Increasing disposable income in developing countries (opportunity)
3. Potential economic recession (threat)

The economic stability of most developed countries increases the likelihood of success of business in these markets. Such conditions minimize economic issues in the remote or macro-environment, thereby minimizing risks to the company's online retail business expansion.

## **Social**

The following sociocultural external factors:

1. Increasing wealth disparity (threat)
2. Increasing consumerism in developing countries (opportunity)
3. Increasing online buying habits (opportunity)

The increasing wealth disparity refers to the increasing gap between the rich and the poor in many countries. A higher disposal income level is more favorable in increasing potential revenues of the e-commerce company. In relation, the company stands to benefit from increasing online buying habits, as more people around the world gain access to the Internet.

## **Technological**

The technological external factors important in business are as follows:

1. Rapid technological obsolescence (threat & opportunity)
2. Increasing IT efficiency (opportunity)
3. Increasing cybercrime (threat)

The business faces the threat of rapid technological obsolescence, which imposes pressure on the company to continuously develop its technological assets. However, this condition is also an opportunity in optimizing the business. New technologies can maximize online retail productivity and minimize operational costs. However, the company also faces the constant threat of cybercrime.

1. By differentiating your product from those of rivals, it enables you to charge a higher price if desired but in the beginning we are not going to charge premium rather price charged are quality and time related.
2. Economies of scale can also be achieved but that has to be somewhere later in the future, about when Actiftech reached its later growth stage

## **CBBE Pyramid Analysis**

### **Brand Salience**

The software Actiftech offered to SAJ Jewelers caters the two dimensions of the jewelry business. The physical store and the virtual store, i.e. the brick and mortar store and online jewelry shop. The physical store app will have inventory management system, employee records, customers' feedback, order track records and sales details. Whereas the online store will be integrated with the inventory stored to keep the online shoppers updated about the availability of the specific products. The entire software is an integration of the online and physical store.

### **Brand Performance**

Actiftech is the name we want people to trust, when it comes to developing software for their businesses, trinity factors will be the major source of conveying our message for building credibility, which will be a driving force for us to achieve excellence and hence satisfying our customers.

### **Brand Imagery**

We want our clients to think of Actiftech as reliable brand, not only from service wise but also on the basis of delivering the deliverables on time. Actiftech must inculcate a message of sustainable solution provider.

### **Brand Judgement**

The software deployed at SAJ will be able to provide good value for the money spent. Since the software will be integrated with the webstore, this will provide an excitement feeling for



its users and they will be positive regarding our company to other potential customers. Actiftech will be judged as reliable brand.

### **Brand Feeling**

It will make customers more smart since they will always be updated and just a click away from getting latest information. It will also let the customer know what items are available and which ones are out of stock. When users experience the working of our quality software, it will cause them to feel powerful because of high efficiency achieved.

### **Brand Resonance**

It will enhance and creates loyalty among the users and customers. It also will cater the customers to provide suggestions and opinion that will help make the services better and more convenient. Moreover our satisfied customers will eventually become advocates and promote Actiftech as brand which makes their life easy. (Keller, 2001)

## **PART 5**

### **Forecasted Financial Assessment**

#### **Inflation and Rate:**

Inflation is add by keeping in mind the inflation rate of Pakistan. These are hypothetical figures and could fluctuate.

#### **Units:**

Units are the number of projects we plan to sell in each quarter. Number of units are gradually increased after the second quarter. The increase in selling units from first quarter of second year is due to the salesmen we plan to hire.

#### **Rate:**

Rate is the selling price of each unit. Due to the continuous changes in the requirements, complexity, and time consumption and free support charges the selling and installation cost of the first software is PRs. 500,000. Payment will be received in two half (250,000/quarter). Later on for future projects, we decided to sell the system for PRs. 300,000 in third quarter. From fourth quarter of first year to fourth quarter of second year, our plan is to sell the system for PRs. 250,000. In the last two quarter of second year, we plan to reduce per unit pricy up to PRs. 200,000.

#### **Per month charges:**

We have decided to take PRs. 1000/month in terms of support charges from our customers. These charges will charged after the system is completely installed.

#### **Revenue:**

Revenues are calculated by multiplying the number of projects with the cost of the project. Later on the inflation cost is also added.

## **Cost of Goods Sold:**

COGS only includes the 15% commission we are offering to our salesmen. We have decided that whoever brings the project will be awarded commission of 15%. This is why we have given commission on each sale.

## **Gross Profit:**

This is calculated by using formula Revenues-COGS.

## **Developer Salaries:**

Initially our contract with the developer was to give him PRs. 200,000/-. We planned to clear the payment in the first and second quarter. In our third quarter, we will hire two developers with the basic salary of PRs. 20,000/month and one internee for QA who will be paid PRs. 10,000/month (150,000/quarter). Internee salary will be increased by PRs. 5000/month in fourth quarter. In the first quarter of second year, we plan to hire another internee for PRs. 10,000/month. This will increase our quarterly expense to PRs. 195,000. The second quarter of second year's total is PRs. 210,000 because of PRs. 5000/month increase in his salary in which we will make him a permanent employee. An increase of PRs. 27,000 is seen in Quarter 3 of second year because of 15000/quarter increase in first internee's salary and 27000/quarter increase in developer's salaries for their completion of one year work. An increase of 15000 can be seen in remaining quarters because the second internee will be made permanent as a result there will be an increase of 5000/month.

## **Petrol and Mobile Allowance:**

No petrol and mobile allowance will be given to the first developer. PRs. 5000/month will be given to the two developers hired. Therefore in quarter 3 and 4b of first year, this expense will be PRs. 30,000. The expense is increased to PRs. 60,000 due to the hiring of two new salesmen who will also be provided PRs. 5000/month in terms of mobile and petrol allowance. However these are just assumed value and we do have the flexibility to increase the mobile and petrol allowances if required.

### **Furniture Expense:**

We are planning to buy the office furniture in third quarter of first year. The budgeted amount decided for furniture is PRs. 41000.

### **Laptops:**

We are planning to buy 4 HP Probooks core-i5 for our office. Two will be bought in third quarter and other two will be bought in fourth quarter. We have allotted PRs. 30,000 for each laptop.

### **Printer:**

We have decided to purchase HP OfficeJet Pro 8100 for PRs. 17000 in the third quarter of the first year.

### **Salesmen Salaries:**

In the first quarter of second year we will hire two salesmen for the promotion and bringing more projects to the company. Their monthly salary will be PRs. 15000/month (other than this they will be awarded 15% commission on each project they bring).

### **Rent Expense:**

Our budget to rent out the office is PRs. 25000/month. Therefore, this expense is expected to be PRs. 75000/quarter. After a year, ten percent increase is expected and as a result, the expense touch PRs. 82,500 for the remaining quarters.

### **Rent Expense:**

Our rented office will be of 20x20 so that it can fall in our range of PRs. 25000/month. After a year 10%, increase in the rent is increased; summing up the quarterly amount to PRs. 82500/quarter.

### **Telephone and Internet:**

For this head, we have allocated PRs. 6000/month. In PRs. 6000/month, we can get a good package from NAYATEL.

### **Total Operating Expense:**

This is the total of all the expenses incurred from developer's salaries to telephone and internet expenses.

### **Gross Profit:**

This is calculated by formula  $\text{Gross Profit} = \text{Total Operating Expenses}$ .

### **Tax Expenses:**

We have incurred a 15% on operating income. The tax rate on service industry in Pakistan is 15%.

### **Net Profit:**

$\text{Operating expenses} - \text{Tax Expenses}$  is equals to Net Profit. Net Profit will be distributed in four equal parts. Three parts will be distributed among co-founders and reaming fourth part will be kept for the company either to invest or for future expansion of Actiftech.

## **PART 6**

### **Plans For The Future**

- Taking a holistic position, Actif Tech vision is to create jobs, and by the grace of God if Company grows with time, other avenues will be tapped, following our trinity factors we aim to lead ethical path with distinction hence causing industry to mature on moral grounds.
- We aim to build this organization a place where career advancement and character development are actualized through moral building, we envision to ensure the use of ethical practices in all departments.
- Of course Actif Tech will not be stagnant, catering to only jewelry market. We also envision entering new market segments such as bakeries, hardware store, material stores, clothing etc.
- As soon as we start to maintain a profitable financial cycle, projects from different cities will also be entertained.
- We understand planning and strategy are the integral part of success for organizations, henceforth at this point we ensure proper strategy making by conducting meetings and discussions for future prospects. Within next 5 years, we aim to be recognized as a one of the trustworthy names in software industry, to be known as “software tailors” who provide customized solutions to mainly Jewelry market and other segments as well. Next 10 years we aim to rise as one of the leading software house, a place known for its exquisite corporate culture and career advancers. In further 5 years we aim to offer IPO.
- We also aim to do the projects on the basis of joint venturing, as there is lot of opportunity in market, established organization get projects from abroad of very big scope and offer local developers to work.

## **PART 7**

### **Philanthropic Activities**

Actif tech might be small organization now but, it is in company's roots to conduct philanthropic activities, we already are involved in such activities by joining hands with Abdul Hakeem trust.

On December 18<sup>th</sup>, 2016, all three partners were among organizers on occasion of HAHT annual stipend distribution and fund raiser function held at Embassy Lodge, Islamabad. Certificates will be attached in annexure.

## **PART 8**

### **Conclusion**

Actiftech is a new venture, it will take time for it to grow and get into mainstream businesses of software industry. It is imperative at this point in time that company must understand the process of evolution and to know how much important is to change with time, to elaborate, market trends, customer needs, preferences, choices, circumstances and situations for a business does not remain constant. As the firm grows, its surroundings transforms and all you need to do is to grasp the presented opportunity. There are many examples in front of Actiftech to learn, some companies grew and others fall, but as it turns out there is a fine line of difference in former and latter's approach i.e. vision, surrounded with objectives, well defined objectives. Actiftech's trinity factors are in fact a promise to ourselves that there will not be a compromise on any of the three foundation factors i.e. time, cost, quality, and this objective will be implemented right from start, trickling down by instilling to each and every one within organization. Actiftech just not only focus on making strategies but we believe their implementation is the most critical factor, that is why planning is focused primarily.

We are very optimistic about Actiftech, as there has been a lot of experience backing our strategies, planning and structuring, we took lessons from small, medium and big businesses, about their success and debacle, and trying to be risk taking while playing it safe.

Actiftech goal is to create value to achieve value. While creating value, we believe in customer satisfaction, right now what we have done and achieved, exactly matches with the above stated ideology. SAJ jewelers as first clients are enormously satisfied with us, although the project bestowed to us was not simple, but we delivered what was committed.

As all the better companies do, they also know their weaknesses, we do not overwhelm ourselves on success and try to stay focused on further accomplishments while constantly trying to overcome our weak areas. Our vision is our strength and we stay as close to it as possible.

In the end, as a company that deals in tech, we aim to create top notch, high quality bespoke solutions for our customers but we believe, all the success is in vain when one does not spread



optimism among the society and help those who need help. We also aim to do well for the society, for that we have joined hands with a trust and will further wish to take part in and inculcate a sense of doing good to society.

## PART 9

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## Annexure