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Research for surviving in the Competitive market for Pakiza Dying &Printing

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CHAPTER – 1

PAKIZA DYING & IT'S STRATEGIC ANALYSIS

1.1 EXECUTIVE SUMMERY

1.1.1 The Project-Matter:

The report analyzes the strategic situation and the market demands of Pakiza Dying and Printing Industry.

1.1.2 Competitive Market:

In this situation survival is becoming more difficult for large factories like Pakiza dying and printing industry. Because of its size the overhead cost is much higher then other factories.

This project is all about understanding the market very well and designs its product and strategy accordingly.

1.1.3 Research Method:

Our research method is quite different that ensure our research result's accuracy. We work in the company for long time that is why we use all the original data from the sales report and talk with all the executives of the company to know the real situation and use their comments and views in the research work.

1.2 Company Introduction:

Name of the company: Pakiza dying and printing industries ltd.

Company type: it's a private Ltd company.

Share holders:

According to the company act 1994 the share of this company is not transactable in the stock exchange. So the shares are mainly own by the directors and owner of the company.

It has three directors:

Name	Designation	Number of share
Mr. Rafiqul Islam Khan	Chairman & Managing Director	50,000
Mss Momtaj Begum	Director	25,000
Mr. Reajul Islam khan	Director	25,000

Company background:

Pakiza group has started its journey from 1976 with this concern named Pakiza fabrics. First, it was retail store for different kind of fabrics. But later on, in 1984, when the Pakiza dying and printing industry establish and start production, Pakiza Fabrics started to wholesale the sharees manufactured by the Pakiza dying.

Target market:

Semi urban and rural women age between 20 to 50.
Ratio: Semi urban: Rural = 35: 65.

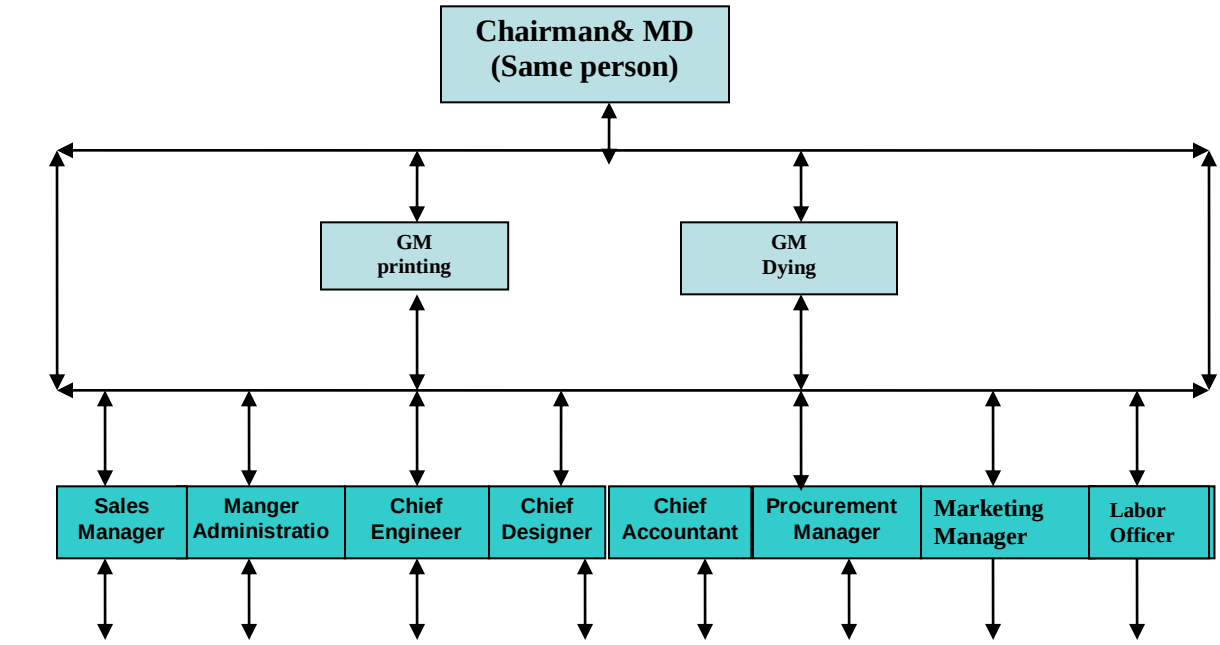
Positioning:

(i) Long lasting
(ii) New design
(iii) Long color fastness
(iv) Goodwill
(v) Azo free

Products:

Brand Name	Name of the product	Nature of fabrics	Price	Amount produce (daily)	Process
1. Pakiza Garden print share.	Super cotton printed shares.	80,80 count cotton in both warp and wave	300 TK per unit	2000 unit (per unit 4 yard) total 8000 yard	Printing and finishing
2.Pakiza Allo chia Print share	Thin cotton printed shares	60,60 count cotton in both warp and wave	190 TK per unit	6000 unit (per unit 4 yard) total 24,000 yard	Printing and finishing
3. Pakiza Rupmela Print share	Mix cotton printed shares	60 cotton in warp and 80 in the wave	230 TK per unit	4000 unit (per unit 4 yard) total 16000 yard	Printing and finishing
4.Pakiza Punam jorjet	Synthetic one color shares	40 count synthetic in both warp and wave	200 TK per unit	2000 unit (per unit 4 yard) total 8000 yard	Dying and finishing
5. Pakiza poplin.	One color dyed cotton cloths	50 count cotton in both warp and wave	50TK per yard.	15,000 yard	Dying and finishing
6. Pakiza voyal.	One color dyed mix cotton cloths	40 count cotton in warp and 50 in the wave	45 TK per yard.	20,000 yard	Dying and finishing
				Total =91,000 yard daily	

Organizational structure:



Sales officer	Security Transportation Maintenance Supervisor Foreman operator	Mechanical engineer Electrical engineer Helper	Sketcher Computer operator Painter	Billing officer Cashier Book keeper	Store officer Store keeper	Marketing officer	Assistant Labor Officer Record keeper

1.3 Strategic Analysis of Pakiza:

[1]Vision:

The organization has a vision to satisfy its customers along with its employees as it want to be the number 1 textile company in Bangladesh.
On the speech towards the staff the chairman said this line. He also said that to achieve this goal each and every people of the company should work together with each other and company will make sure that each and every one will be rewarded for their best effort to satisfy the customers.

Mission statement:

Currently Pakiza doesn't have any formal mission statement. But from my point of view the mission statement of Pakiza should be

"We are the first choice of women and we will remain that by using our experience, technology and support of Pakiza group"

As the market leader of fabrics use by female population of Bangladesh Pakiza all ways want to be the market leader. But currently it is facing lot of competition. So this statement will motivate the employees of Pakiza to use there experience and technology to get ahead of the other players and it also remained about the market leader.

[2]Values

- It wants to keep its market leadership.
- To do so it wants to satisfy its staff to achieve satisfaction of the customers.

[1] An integrated approach to business studies/Bruce R Jewell/ third edition -1997/ Page-32
[2] Management A Global perspective/Heinz Weihrich &Harold Koontz/ Tenth Edition-1995/ page-335

- Its priority is to invest in new technologies as it wants leadership in technical aspect as well.
- It wants to be ISO Certified Company by maintaining its quality.

Market:

The market of whole selling shree is Monopolistic market, Where Design, quality and price play an import roll for buying decision making of buyers. This is the primary market of Pakiza and the buyers are the retailers of sharees. Advertising is very effective according to the theory. But the current top leader (shahi print) does not have any promotional activities. There is doubt about this behavior or the condition of the monopolistic market in this case.
The supply is enough due to textile boom in the mid nineties. Lots of factories establish to provide support to this market.

Market size:

Total population of Bangladesh is 140 million. The target market is the female population age between 15 and above, which is 80% of the total female population. So the market size is almost 56 million people.

Industry analyses

[3] Porter's five factors

Factors	High	Medium	Low
Threat of New Entrants			**x**
Competitive Rivalry between Existing Players	**X**		
Bargaining Power of Suppliers			**x**
Bargaining Power of buyers	**X**		
Threat of Substitutes	**X**		

Threat of New Entrants:

For new companies it will be very hard to come and compete in the local fabric market. Because experience is very important in this industry. New companies need to know when the session is and what the preference of the customers is. The industry is currently in its mature stage of its life cycle, as companies are lowering their profit margin to compete and survive. So it has lost its attractiveness. Unless any company comes with unique quality and feature, it will be a very hard journey for new companies to survive. The problem with unique quality will be customers do not have the purchasing power to effort that high quality.

Threat of substitutions:

It is becoming very high day by day. As female population is getting more educated they are becoming more interested for western cloths (t-shirt, jeans, skirt). In case of

[3] Thomas L. wheelen and J. David Hunger/ Strategic management and business policy/ 6th edition / page -60

rural women, they also started to ware salware kamiz (female dress manly ware by teenagers) instate of saris because more women are now working in different factories and salware kamiz is comfortable for working then shares.

Bargaining Power of suppliers:

In 1990 the Bangladeshi textile industry was in its booming face. At that time lots of companies started to import raw materials for textile. So, currently there is also very competition among the suppliers. Textile factories are now looking for low cost to survive in the competition. And suppliers are also decreasing there profit margin to survive as well. So no single supplier is fixing the market price, it is depend on the demand by the fabric manufacturers.

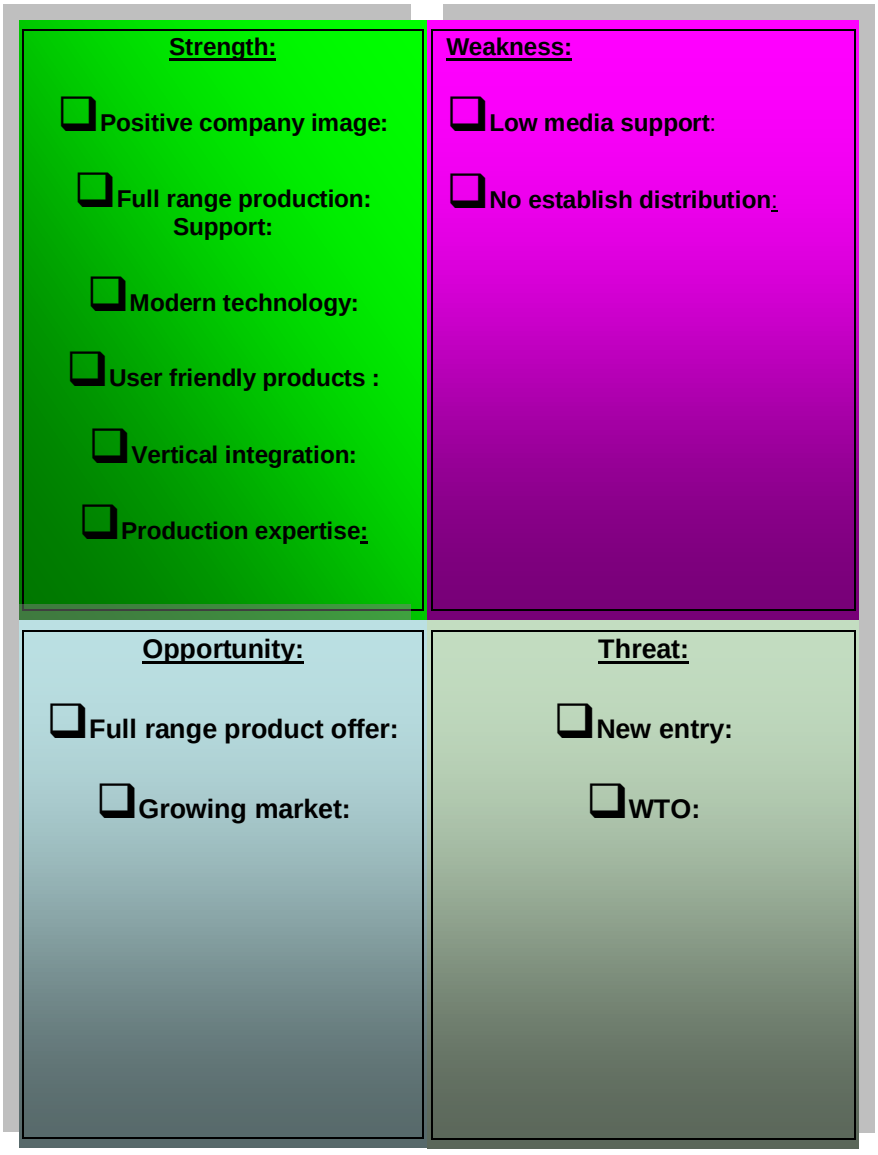
Bargaining Power of buyers:

In case people with limited income price plays important role in buying decision making. So people tend to buy the product of that company which offer low price. This behavior of the fabric consumer started a price ware among the fabric producer company. Factories which can keep the price low and maintaining a medium quality are surviving in the market. That's why customers are playing an important role in deciding the market price of the fabrics.

Competitive Rivalry between Existing Players:

Competition among the major players of this fabric market is high. If any design of any company becomes popular other companies always make similar kind of that design. If any companies lower its price other does the same though they are making losses on price cut. This kind of behavior

[4]SWOT Analyses



[4] An integrated approach to business studies/Bruce R Jewell/ third edition -1997/ Page-331

Strength:

- **Positive company image:** Pakiza had put its name in the mind of the customers by providing long lasting color (high color fastness) of its fabric's and share's.

- **Full range production:** Pakiza has all types' machineries available for processing any kind of fabrics suitable for local market.

- **Support:** it is the most technically equipped plant for producing fabrics and shares for local market and has the ability to process almost 100,000 yard of cloth daily.

- **Modern technology:** it has the most advance technology then its competitor.
- **User friendly products:** it has a policy to use high quality chemical and dies to make its product skin friendly.

- **Vertical integration:** it is a part of Pakiza group of industries which consist of spinning and weaving factories. So it can maintain the quality of the fabrics from yearn to the finished product. It is well and only vertically integrated fabrics producing company in the world.

- **Production expertise:** the both of the GM of this company are working with it from beginning so they are very experience.

Weakness:

- **Low media support**: currently it is not doing any promotional activities and advertisement, on the other hand its competitors are doing lots of activities to promote there product.

- **No establish distribution**: now it's not have any wholesale point outside Dhaka where other competitor has (Jony, Shahi) and reaching the customer (retailer) directly.

Opportunity:

- **Full range product offer:** currently it's offering and selling almost all the item it can use the same distribution channel and sales point. Most of the fabric retailer in Bangladesh sales all this product in one shop.

- **Growing market:** the population of Bangladesh is growing very fast. And half of the population is female. And 90% those this population are living in village and buy low price local fabrics. They can't afford imported products.

Threat:

- **New entry:** currently most of the fabrics factories are opening there own shops and they are passing the profit to the retailer directly. Before their products use to distribute by independent retailer

WTO:

After year 2004 their will be no WTO agreement will start in the world. At that time in textile sector china and India will be the biggest competitors of Bangladesh local textile mills. The low price, which china and India will provide to the wholesaler of Bangladesh, no other Bangladeshi factory will able to think about that price. China and India produces yarn, dyes and chemical and even machineries for printing and dying factories. The wages of the workers are very low. On the other hand Bangladesh only produce yearn but dyes, chemical and machineries are imported from India china or Germany. In future it will very hard for local fabric manufacturing factories to provide significant amount of dividend in future.

[5]Twos matrix

S-O strategies

The market of fabrics is increasing with the population growth so Pakiza can use its technology and image to get new markets by incising production capacity and seals.

As it has technology it can increase its product line like bed sheet, curtain and other fabrics.

W-O strategies

As the purchasing power of people is increasing so they want to pay for the quality now. Pakiza can use its groups backward linkage (Pakiza spinning, Pakiza weaving) to produce new quality fabrics for that quality seeking segment.

Pakiza need to do promotional activities and advertisement campaign to let the consumer know about its product. It will help the company to take new markets.

Pakiza need to re think about its distribution channel. As its competitor are trying to minimize the gap between consumers and the company by opining stores in different

[5] Management A Global perspective/Heinz Weihrich &Harold Koontz/ Tenth Edition-1995/ page-172

location. That's why Pakiza need to open new shops in different cities in Bangladesh. Currently it has whole seals shops only in Dhaka city.

S-T strategies

To deal with WTO situation Pakiza need to think from now. As it has good image and good financial back up it can promote to influence the woman of Bangladesh to buy Bangladeshi product to save the textile industry of Bangladesh.

It can increase its production capacity by investing the ideal cash it has. This way it can gain the benefit of marginal coasting and pass this benefit to the customers. This way it can create entry barriers for new entrain in the market.

It needs to be more integrated with the backward linkage industries of Pakiza group to take the benefit of transfer pricing. This way it could be more competitive to face the new entrant and importer of foreign fabrics who will get benefit of WTO.

W-T strategies

To deal with WTO crises Pakiza can make plan to take agency for similar kind of product from a well known Indian company (Vemal, Seyaram etc). Because when their will be no tariff Bangladeshi companies will face the competition from Indian companies in the textile sector. As only India produce similar kind of product as Bangladeshi local textile factories do. But India has better technology, high investment in R&D and use owns raw materials on the other hand Bangladesh have to import those competences from India. As Pakiza has good image, experience, distribution channel and financial back up so it won't be a problem for it to get the agencies. This could a great plan to deal with the threat of WTO.

[6]PEST ANALYSES:

Political Factors

- **Tax policy:** currently government had inputted VAT on the fabrics which is causing higher price of the fabrics and the price deference of local and imported fabrics is becoming smaller.
- **Employment laws:** currently government are thinking to increase Government employees salary scales which may create demand to increase the scales in private sector as well.
- **Environmental regulations:** currently government had banded plastic bags which are the main packaging materials for fabrics. Other laws on dismantle of west water causing lots of cost in water recycle plant.
- **trade restrictions and tariffs:**
- **Political stability:** political situation is worst in Bangladesh. There is lots of strike by opposition parties causing unscheduled holidays and hampering productions.

Economic Factors

- **Economic growth:** lots of local and international companies are coming and creating employment in Bangladesh. As a result purchasing power of the population is incising.
- **Interest rates:** currently government has decrease interest rate by 2%. Now it is 14%. This will increase businesses to grow. But in the other hand it is relatively higher then the other countries.

[6] Management A Global perspective/Heinz Weihrich &Harold Koontz/ Tenth Edition-1995/ page-335

- **Exchange rates:** government has policy to keep the exchange rate high to support the exporting industries, as the can get more local currency. The balance of payment in Bangladesh is highly negative in Bangladesh. So high exchange rate will emotive the importers to import foreign products.
- **Inflation rate:** it is stable. As our GDP growth is almost 6% so the extra demand is fulfill by the incising production.

Social Factors

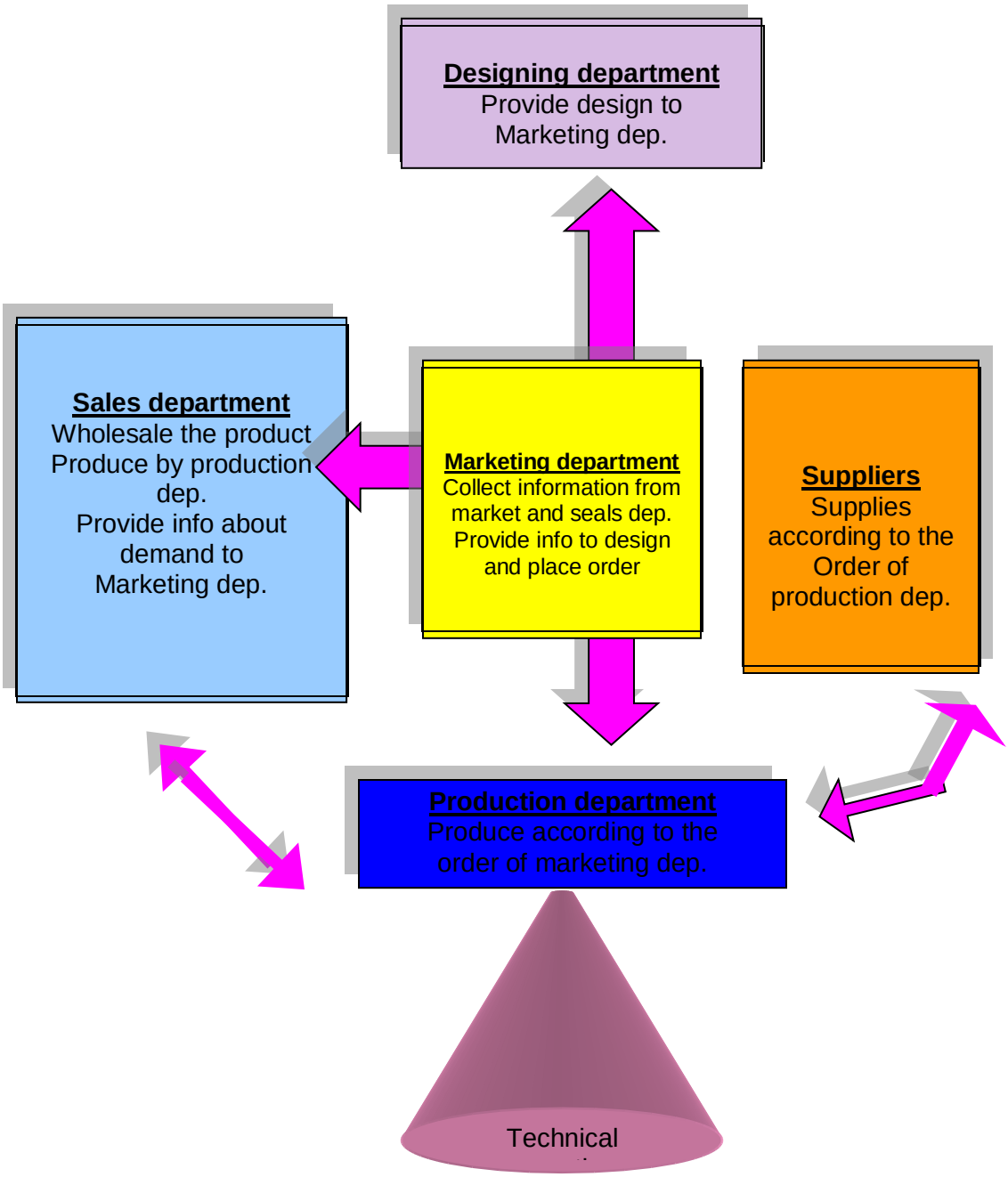
- **Health consciousness:** with the incising rate of literacy and education people are becoming more conscious about there health. That's why the demand for quality and friendly products are increasing.
- **Population growth rate:** there are lots of united nation organization (UNDP, CARE, UNISAF) and local NGOs are working with the support of government to control population growth with introducing family planning program.
- **Age distribution:** a large number of populations are under 14 and over 57years of age.
- **Career attitudes**: most of population of Bangladesh is farmer. With the increasing of population the land for cultivation is decreasing.
- **Emphasis on safety:** safety currently is becoming a popular issue in Bangladesh with the media coverage on accident and decease.
- **Religious value:** 85% of the population of Bangladesh is Muslim. So there is soft corner for Islamic values in the mind of the people of Bangladesh.

Technological Factors

- **R&D activity:** Bangladeshi local producer doesn't have financial capabilities, technology or expertise to run program like R&D. they mainly copy the product of foreign country especially Indian product.

- **Automation:** lobar cost is relatively cheaper the cost of automatic machines. With the high interest rate and low profit margin factories not motivated for automation.
- **Technology incentives:** no in local textile sector people are non reluctant to pay extra price for high quality product.
- **Rate of technological change:** most of the Bangladeshi industries are using technology of 20 years back (especially in local sectors). Even new establish factories also knee to use second hand mercenaries as they are 70% to 80% cheaper then new one.
- **Technical expertise:** in Bangladesh there are not many institutes to provide training to develop expertise to use new technologies.

[7]Value chain



[7] Thomas L. wheelen and J. David Hunger/ Strategic management and business policy/ 6th edition/ page -84

Value chain analyses:

Suppliers: they plays an important pert in value building in Pakiza as the quality of fabrics is highly depend on the quality of the raw material (gray fabrics, dyes and chemical) they supply. If the dyes and chemical are defective then color will not last for long and low quality gray fabrics will make the longevity of cloths shorter. Buying capacity Pakiza's customers are low and they only buy one or two cloths a year so long-lasting cloths are their desire. Pakiza have built this confidence of the buyers as being long-lasting cloth. So it needs to maintain a very good relation ship with the supplier to insure the quality of the raw materials. For gray cloth it need to expand its current weaving factory (unit of Pakiza group) to make sure the quality.

Designing department: from my point of view this is the most value building stage or department of the company. As Pakiza's customers are manly rural women and not very educated and they do not have much knowledge about the quality and the material of the fabrics. Even educated and city women also doesn't know much about the materials of fabrics. The buying decision is influence mainly by the color and design of the fabrics. They are knee about bright color and attractive design. So the designer needs to work very hard and use there imagination to come with new, attractive and desirable design to keep the customers loyalty. They have to highly interact with the marketing department and sales people to know the current successful designs and try to read the mind of the customer by looking at the sales report (the designs which sales more, are fulfilling the consumers' desire).

Technical support on production: the two GM (technical) decide which process to follow for different fabrics. There decision is very important in the quality and cost saving. The right procedure could produce nice quality in low cost. A wrong decision could lead the image of the company towards distinction (which could lower the quality for wrong processing of the fabrics). So the two GM and there assistance all ways need to concentrate and think care fully before giving any process decision and

need to keep them update with latest process system and technological changes to contribute in cost cutting process.

Marketing: this department's main work is to find out what design is new and popular in the market and collect sample of those designs for designing department. This department integrates designing department and sales department. It maintains communication with the sales department to know the demand of the customers and provide information to the designing department to use as idea for new design. This department also forecast the demand, chose design and place order to the production department. It plays important role in value building by forecasting right design to satisfy the consumers. Wrong selection of design may lead to huge pile up of unsold fabrics and large amount of cash could be stack up in the inventory.

Sales department: this department directly deals with the customers. It works as whole seller for product of Pakiza dying and printing industries ltd. By providing good service it satisfies and fulfills the need of the customers (retailers). Good relationship between sales people and the customers make the customer loyal towards the company. The main objective of this department to satisfy the customers and do long-term business. Sales people also visit different fabric retail stores to invite to promote the products. This department also provides credit facility to its loyal customers.

Competitor analyses:

Major competitors of Pakiza dying and printing industry limited are:

Major competitors:

(i) Jony Print textile

(ii) Shahi textile

(iii) Pride textile.

Jony textile:

Strength. ➢ **Early market taker.** ➢ **Established network.** ➢ **High brand awareness.**	**Opportunity.** ➢ **Customer taste change.** ➢ **Growing market.**
Weakness. ➢ **Dependency on third party.** ➢ **Old technology.** ➢ **Few designs.**	**Threats.** ➢ **New entry.** ➢ **WTO.**

SWOT Analysis of Jony Textile

It has established network of distribution channel all over Bangladesh. It has its wholesales point in the main cities of Bangladesh. Trough this it can reach the retailer of those cities more quickly. Retailers also can save the transportation cost.

This market is monopolistic market so promotional activity plays important role in this type of market. And jony is doing very high advertisement in the TV channels. So it's becoming more known day by day.

It is also very old textile company so brand jony is quite well positioned in the mind of its customers.

This company is well financially established as it has some cash cow divaricated business (real state, importer of different products). So it can provide more credit facilities to its customers.

It's a family business and run by large number of family member. So this company is most corruption free.

Currently it is expanding its wholesales point to more districts to minimize the distance between the company and retailer of fabrics. If retailers come to Dhaka they may have other option to choose from. But in the small cities they will go for only available brand to minimize the cost of transportation.

Shahi textile:

Strength. ➢ **Excellent brand awareness.** ➢ **Positive brand image.** ➢ **Full range production.** ➢ **Support.**	**Opportunity.** ➢ **Full range product offer.** ➢ **Growing market.**
Weakness. ➢ **Few designs.** **Limited distribution coverage.**	**Threats.** ➢ **New entry in market.** ➢ **WTO.**

SWOT Analysis of Shahi Textile

Shahi textile is relatively new company. The main investment of Shahi textile is in promotional and advertising activities to create a brand image in the market. And it has been successful by doing that as they became one of the major players in the market in short time.

Shahi has strong relation with the government as the owner is the brother of current prime minister of Bangladesh. So it got decimation advantage from government. This company has easy access to the fund of government own banks.

But the main strategy and objective of this company is rich directly to the end users. That's why they stared to open their own retail store in different location of Bangladesh. This way it can pass the price benefit of retail seller to the end-users.

But the problem this company has too much out sourcing of production is not allowing it to maintain the quality of the product.

So customers are not that much loyal to this company. As they buy the product for the first time by seeing at the advertisement. But by using the product they loss confident. Other lack of this company is low technological support. As they more concentrate on promotions it thinks that promotion will cover disadvantage of

Pride textile:

Strength. ➢ **Excellent brand awareness.** ➢ **Positive brand image.** ➢ **Full range production.** ➢ **Support.**	**Opportunity.** ➢ **Full range product offer.** ➢ **Growing market.**
Weakness. ➢ **Few designs.** **Limited distribution coverage.**	**Threats.** ➢ **New entry in market.** ➢ **WTO.**

SWOT Analysis of Pride Textile

Main strategy of this company is following that it had treated a separate target market then others. It had targeted the high income society. It had invested highly in designing of fabrics. It provides high quality and modern design. It also had opened lots of own retail stores to rich the end users.

But like other two players maximum of its production is provide by outside suppliers. Its main work is to market the products.

[8]Industry lifecycle:

Before liberation Bangladesh use be part of Pakistan and lots of Pakistani entrepreneurs has establish textile mills. But because of political instability those are not very success full. That's why this period before liberation could know as introductory or emerging stage of textile industry. Bangladesh has been liberated in 1971.after that government in 1973 started to take offer all the private companies to design the country as socialist country. But high corruption has failed that plans. So the industry was declining at that period. Then in 1978 the government establishes an independent organization named Bangladesh textile manufacturing association (BTMC) to control the textile industry. Under BTMC lots of textile mills have establish and started to produce local demanded fabrics. This time the textile sector started to grow. This period could be the known as growth period for the industry. In 1991 when new government came and establish open economy and started to encourage private companies to invest in textile to support the germane exporting, the industry started to grow in high speed. And a still lot of new industries of textile are coming. So it could be say that the textile industry of Bangladesh is in its growth stage.

Cloths are one of the basic needs of human beings. After food cloth is a very necessary for us. So in Bangladesh whit growth of population the demand for fabrics will rise day by day. That's why it's very hard to predict the time and situation of the nature stage and declining stage of this industry.

[8] Thomas L. wheelen and J. David Hunger/ Strategic management and business policy/ 6th edition/ page -91

Resources	**Capabilities**	**Competitive advantage**
Financial:		
Good will in financial institution, because of timely repayment of its depth.	Provide access to funds.	Can invest in backward linkage or modern technology.
Large amount of cash in hand. As it has high volume of sales and low receivables.	Can stock raw materials when price falls.	It can continue the same production rate if the price of raw materials increase.
Human resource		
Most of its expertise is highly experience as they worked for this company for many years.	So they can dell with any complicated products.	So they can produce unique product.
It is well known for advance technology.	Sales people have good and Long term relation with the customers (retailer).	Customer loyalty.
Shops are more then 20 years old.		
It has already invested 35, 00, 00,000 Taka. In machineries	It has advance technologies of textile.	No other local fabrics processor doesn't have this kind of technology.
Organizational		
It's a unit of one of the largest textile groups of industries in Bangladesh.	It can get benefit of integration and transfer pricing.	No other companies do not have large back up like this.

[9]Core competences:

As Pakiza started it journey from 1982 and now it is one of the big and oldest of all the textile mills in Bangladesh. So the 20ty years experience is one that other player do not have.

It all ways invested its profit to update its machineries to gain technological advantage and currently it has the modern technology then its competitors. So the quality it can produce cannot be easily copied.

This quality can attract the high society segment who now is buying imported fabrics.

Pakiza dying and printing industry is the part of Pakiza group of industries. The group is consist of Pakiza spinning, Pakiza weaving and Pakiza fabrics. So it has the opportunity to control the quality of fabrics from the purchasing of raw cotton.

[9] Thomas L. wheelen and J. David Hunger/ Strategic management and business policy/ 6th edition/ page -160

CHAPTER – 2

SURVEY & IT'S RESULT ANALYSIS

2.1 Survey Topic:

From the strategic analysis we have found out the Pakiza's capabilities and weaknesses. Currently the whole textile market in Bangladesh is going through a very critical situation. Lots of small dying and printing factories are entering the market with second hand machineries. Lots of European, Japanese textile mills is closing down due to high labor cost and huge competition with eastern Asian countries. That's why the cost of second hand textile machineries is not so high. So the cost of opening new factories is also coming down very much.

The overhead cost of those small factories are low and with help of corrupted government officers those factories can save money on there gas bills, electric bills and taxes. This way those mills are creating an unfair competition in this market by lowering there price blow cost. They count the corrupted savings as there profit. For this competition the fabrics price is getting lower day by day and the profit margin is also getting thinner.

In this situation survival is becoming more difficult for large factories like Pakiza dying and printing industry. Because of its size the overhead cost is much higher then other factories. Pakiza has extreme goodwill all over Bangladesh and its management follows very strict ethics to keep it. So taking help of corruption will be the last idea that Pakiza will take.

2.2 Survey Method:

To do business in this market situation Pakiza have understand the market very well and design its product and strategy accordingly. To know the market we have done a survey with a questioner consists of ten questions. The questions are all about the customer behavior and factors affecting there buying decision making process. We went to all the 5 stores of Pakiza and ask questions to 20 customers in each shop.

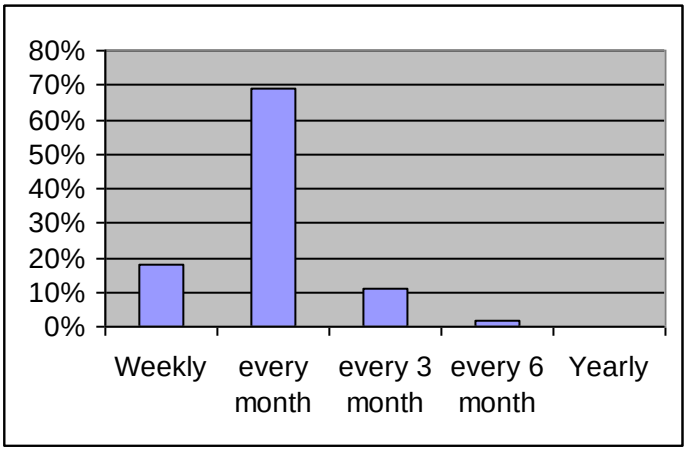
In this survey we did not choose the sample randomly. We choose them according to their quantity of purchase.

2.3 Analysis of the survey:

1. How often do you come to islampur to purchase sharres?

Answer summery

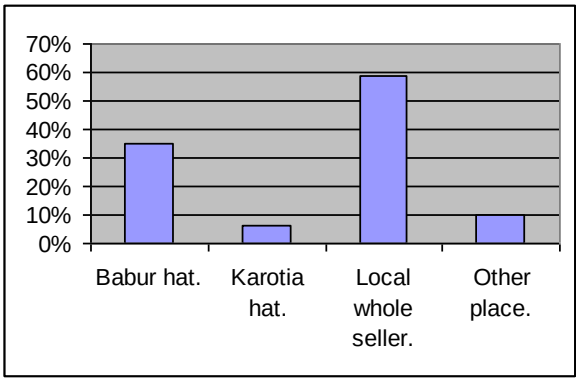
Weekly.	18%
Monthly	69%
In every 3 month.	11%
In every 6 month.	2%
Yearly	0%



Retailers of Dhaka city and cities around Dhaka districts come weekly. Because with in Dhaka the transportation cost of caring product is not high. So they buy small amount of product weekly and want new designs more. This way they can buy more verity of products and also can minimize the risk. On the other hand most of retailers of other district comes once a month and buy large number of product to minimize there transportation overhead. Those retailers buy in volume looks for quantity discount.

2. Do you go to other place then islampur to purchase sharee? If yes then which place?

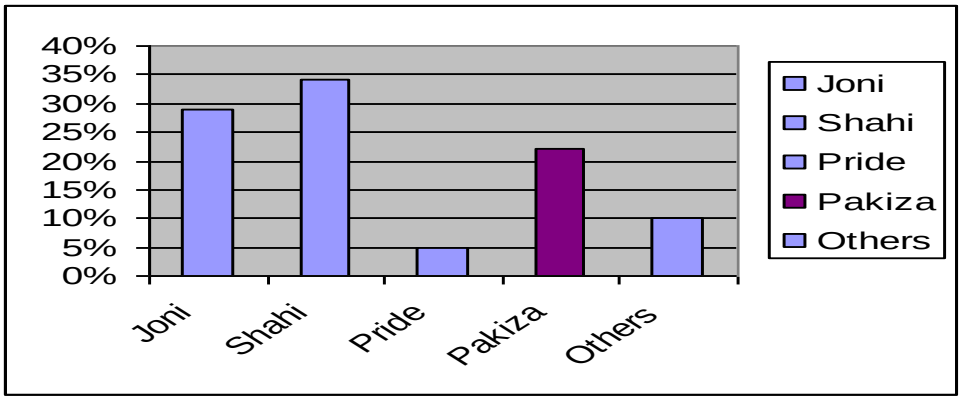
Babur hat.	**35%**
Karotia hat.	**6%**
Local whole seller.	**59%**
Other place.	**10%**



Most of the retails shops in Bangladesh are small. They do not have much capital to come to Dhaka quiet often and buy there merchandises. Most of time for small amount of merchandises, they goes to local wholesalers. Other then that big shops that do wholesaling to there local retail shops go to Babur hat.

3. Which company's sharees do you buy more?

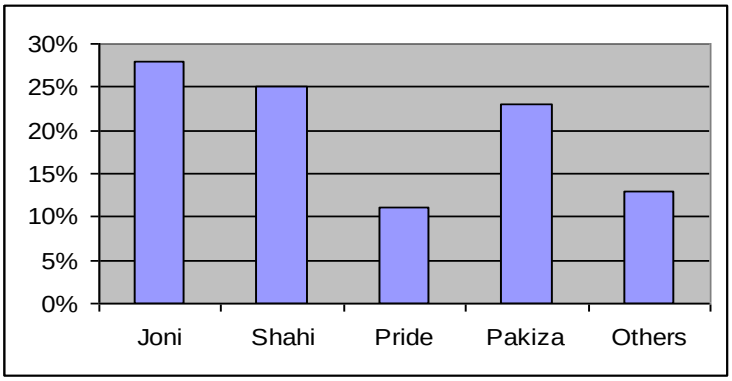
Joni	29%
Shahi	34%
Pride	5%
Pakiza	22%
Others	10%



In this market companies are doing business with other business mans. So customer always looks for the opportunity to maximize there profit margin. Customers buy more of Shahi print sharee due to its unique prize package. So in this market price play more effecting role then advertisement, quality and other feature in customer's decision making process.

4. Which company's sharee your customers ask first?

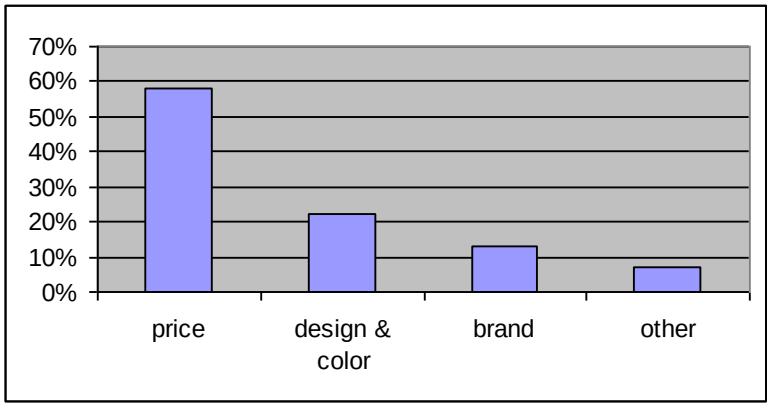
Joni	28%
Shahi	25%
Pride	11%
Pakiza	23%
Others	13%



We ask this question due to know, which brand is well known to the consumer of the sharees. We found that jony is more known then other. It may be due to its advertisement campaign. But due to the quality and long-lasting behavior consumer also ask for Pakiza and shahi. The deference between jony and Pakiza is not very much. Which indicate that advertisement does not play very important role to identify brand name in this market?

5. Which factor effect your customers buying decisions?

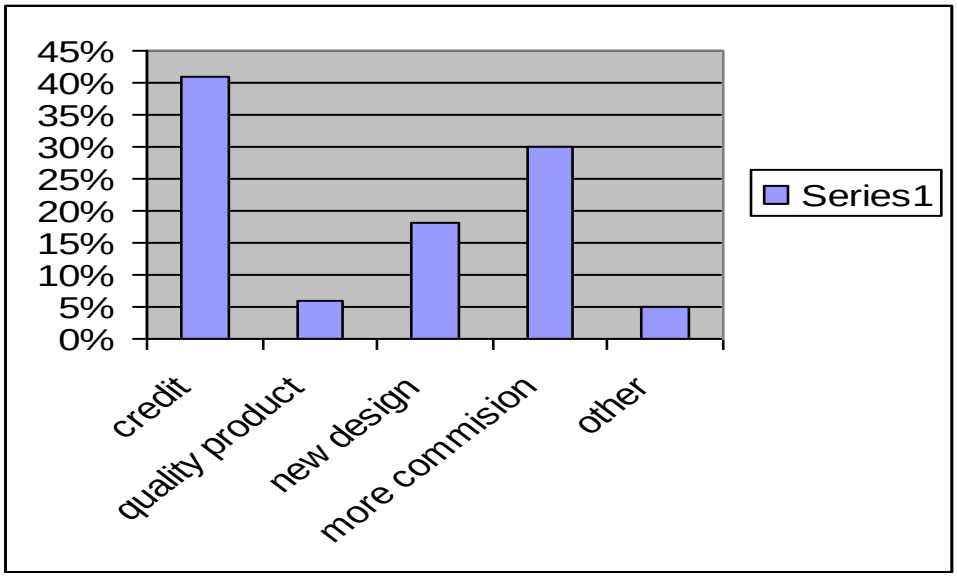
Price	58%
design & color	22%
brand	13%
Others	7%



The final consumer of this segment is low income rural women. Price play very important role in consumer buying decision making process. So the company can offer low price can sale more. After that, comes the cooler and design. Company which can understand the choice and test of this segment can come with successful designed sharees. In this case experience plays a great role. That's why only old companies are still surviving and able to keep there leading positioned. New companies face grate trouble to service.

6. Which kind of services do you prefer more from whole selling companies?

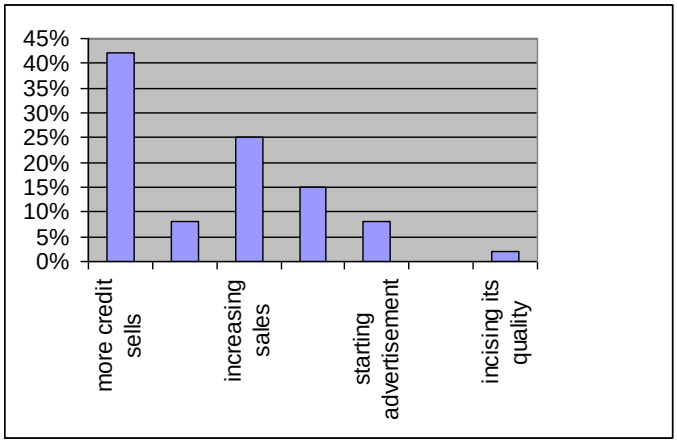
Credit	41%
Quality products	6%
More new designs	18%
More commission.	30%
Others	5%



In this market the customer are also business men. They always look for facilities. Many do not have enough capital to buy enough merchandise. They mainly depend on the credit line provided by the companies. This way they can make profit by using other people capital. Businessmen who have capital looks for company which give more commission. This way they can make more profit.

7. How Pakiza can sell more sheers?

❖ By doing more credit sells?	42%
❖ By coming up with more designs.	8%
❖ By increasing sales commissions.	25%
❖ By using promotional tools. (give free units, scratch cards)	15%
❖ By starting advertisement campaign.	8%
❖ Doing nothing and believe on its customer loyalty.	0%
❖ By incising its quality of the products.	2%



Same picture is also over here as most of the customer preferred credit services. This way they do not have to use bank loan and pay interest. On other hand customers have more money want more commission to increase there profit margin. Most of them answered this question according of there interest.

It is not possible to increase the credit sells in this competition market.

8. If Pakiza increase its product line, will you buy the product? (Salwar kamiz, voil, poplin, bed sheet)

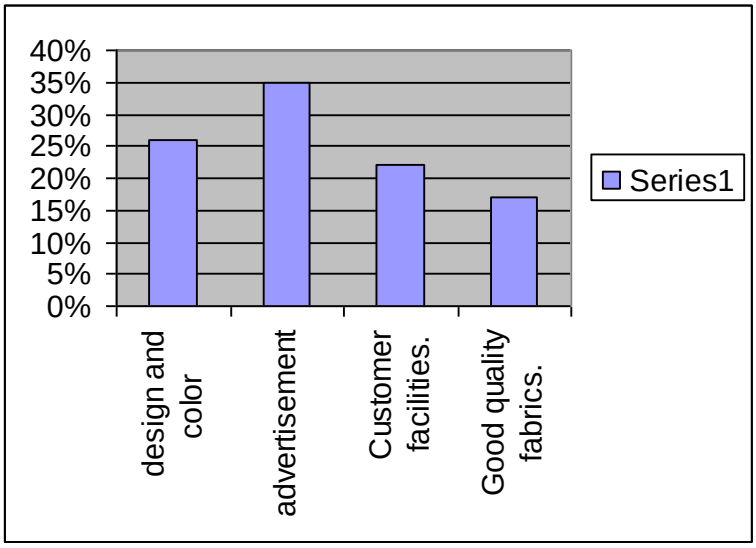
Yes	78%
no	22%

In this survey we got huge positive answer. It may be tendency of making us happy. But as Pakiza dying is producing those products since long time. It believes Pakiza can be successful with its experience and goodwill.

9. Which aspect do Pakiza have to consider more in order to establish this new products?

○ Design and color. ○ Advertisement. ○ Customer facilities.	**26%** **35%**

○ Good quality fabrics.	**22%** **17%**



As these products are new that's why most of the people think its need advertisement for introduction of the brand. That's why most of the people answer in fever of advertisement.

10. Any suggestion or comments.

All the customers mainly talk about to provide them competitive price and customer services like credit line and more commission. They also talk about the more new designs.

CHAPTER – 3

DATA ANALYSIS & PRICE PACKAGE DESIGN

3.1 Introduction of the Price Packaging Process:

After the survey we have found that the market is very much priced sensitive. The retail customer all ways look for benefit. Now a day to increase the credit line is almost impossible. Before textile companies use to take credit line from the raw materials and grey cloth suppliers and give that credit line to retail shops. But now days importers of raw materials and yearn have pay 100% LC margin. That's why they do not provide any credit line.

We tried to come up with price package which can benefit Pakiza and attract more customers. We tried to design it such a way so that the profit margin will go up again. That's why we have divided the sharees in to three categories and collect the sales data for last ten years. Then we will do regression analysis to find out the relation between the price and the sales quantity. Then we will use dummy variable to do time series analysis for forecasting the future sales. After all the analysis we tried to come up with some price package.

3.2 Cotton Sharees (60,60):

[10]Data for the 10 years of 60,60 Cotton Sharees

Year	Quarter	Sales Quantity	Price	Competitor Price	Purchasing Cost	Advertising
1992	1	396525	205	202	195	700000
	2	98675	205	202	194	230000
	3	128340	205	202	195	230000
	4	177990	205	202	193	240000
1993	5	430786	205	202	190	700000
	6	112875	205	202	198	230000
	7	141240	205	202	196	230000
	8	156900	205	202	198	240000
1994	9	587625	205	202	199	700000
	10	121245	205	202	200	230000
	11	152370	205	202	191	230000
	12	174678	205	202	196	240000
1995	13	598925	200	198	189	0
	14	129500	200	198	197	0
	15	176780	200	198	195	0
	16	201450	200	198	195	0
1996	17	652005	195	195	196	0
	18	129780	195	195	189	0
	19	169540	195	195	188	0
	20	199876	195	195	187	0

[10] sales report of Pakiza group from year 1992 to 2002

1997	21	754390	190	190	189	0
	22	149768	190	190	186	0
	23	229670	190	190	185	0
	24	248245	190	190	187	0
1998	25	781560	185	185	181	0
	26	163098	185	185	180	0
	27	229786	185	185	184	0
	28	262670	185	185	181	0
1999	29	803009	180	180	174	0
	30	176765	180	180	173	0
	31	251009	180	180	175	0
	32	282655	180	180	176	0
2000	33	829995	175	175	169	0
	34	186975	175	175	168	0
	35	267005	175	175	167	0
	36	282098	175	175	169	0
2001	37	852095	170	170	164	0
	38	191250	170	170	162	0
	39	271745	170	170	163	0
	40	293095	170	170	167	0
2002	41	866097	165	165	155	0
	42	199005	165	165	156	0
	43	276006	165	165	158	0
	44	299975	165	165	156	0

From the data, regression analysis has been done and the results are this:

[11]SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.97233067
R Square	0.94542693
Adjusted R Square	0.92203846
Standard Error	85454.8713
Observations	11

ANOVA

	do	*SS*	*MS*	*F*	*Significance F*
Regression	3	8.85567E+11	2.95E+11	40.4227941	8.65E-05
Residual	7	51117745185	7.3E+09		
Total	10	9.36684E+11			

	Coefficients	*Standard Error*	*t Stat*	*P-value*

[11] excel work sheet / Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 154:regression analyses

Intercept	4108089.71	582276.7977	7.055218	0.00020146
Price	-50488.279	54142.83151	-0.9325	0.38211525
Competitor Price	35839.5	55943.34517	0.640639	0.5421526
Advertisement	-0.0746347	0.099453845	-0.75045	0.47744799

After analysis, we found the demand equation through which we can calculate the demand of the sharees in different prices.

Q = 4108090 – 50488.3*(Price) + 35839.5*(Competitor price) – 0.075*(Advertisement)

[12]From the original data, we reorganized the data by adding up and averaging those by yearly wise.

Year	Sales Quantity	Price	Competitor Price	Advertising	purchase	Profit
1992	801530	205	202	1400000	194.25	8616447
1993	841801	205	202	1400000	195.5	7997109
1994	1035918	205	202	1400000	196.5	8805303
1995	1106655	200	198	0	194	6639930
1996	1151201	195	195	0	190	5756005
1997	1382073	190	190	0	186.75	4491737
1998	1437114	185	185	0	181.5	5029899
1999	1513438	180	180	0	174.5	8323909
2000	1566073	175	175	0	168.25	10570992
2001	1608185	170	170	0	164	9649110
2002	1641083	165	165	0	156.25	14359476

From the data, regression analysis has been done and the results are this:

[13]SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.952364095
R Square	0.906997369

[12] excel work sheet

[13] excel work sheet/ Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 154:regression analyses

Adjusted R Square	0.896663744
Standard Error	4.718502532
Observations	11

ANOVA

	Df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1954.167059	1954.167	87.77146	6.14E-06
Residual	9	200.3783953	22.26427		
Total	10	2154.545455			

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	247.1221813	6.40277968	38.59608	2.61E-11
Quantity	-4.56756E-05	4.87537E-06	-9.36864	6.14E-06

After analysis, we found the price equation through which we can calculate the price of the sharees in different quantities.

P = 247.12218 – 0.000046 Q

[14]Sensitivity analysis – 1:

If the price changes and other variable remain constant then the changes of profit has shown in the analysis:

cost/unit	Price	competitor	Advertisement	Quantity	revenue	cost	Profit
155	155	165	0	2195921	340367755	340367755	0
155	156	165	0	2145432	334687501.2	332542068.5	2145433
155	157	165	0	2094944	328906270.8	324716382	4189889
155	158	165	0	2044456	323024063.8	316890695.5	6133368
155	159	165	0	1993967	317040880.2	309065009	7975871
155	160	165	0	1943479	310956720	301239322.5	9717398
155	161	165	0	1892991	304771583.2	293413636	11357947
155	162	165	0	1842502	298485469.8	285587949.5	12897520
155	163	165	0	1792014	292098379.8	277762263	14336117
155	164	165	0	1741526	285610313.2	269936576.5	15673737
155	165	165	0	1691038	279021270	262110890	16910380
155	166	165	0	1640549	272331250.2	254285203.5	18046047
155	167	165	0	1590061	265540253.8	246459517	19080737
155	168	165	0	1539573	258648280.8	238633830.5	20014450

[14] excel work sheet/ Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 161

155	169	165	0	1489084	251655331.2	230808144	20847187
155	170	165	0	1438596	244561405	222982457.5	21578948
155	171	165	0	1388108	237366502.2	215156771	22209731
155	172	165	0	1337619	230070622.8	207331084.5	22739538
155	173	165	0	1287131	222673766.8	199505398	23168369
155	174	165	0	1236643	215175934.2	191679711.5	23496223
155	175	165	0	1186155	207577125	183854025	23723100
155	176	165	0	1135666	199877339.2	176028338.5	23849001
155	177	165	0	1085178	192076576.8	168202652	**23873925**
155	178	165	0	1034690	184174837.8	160376965.5	23797872
155	179	165	0	984201	176172122.2	152551279	23620843
155	180	165	0	933713	168068430	144725592.5	23342838
155	181	165	0	883225	159863761.2	136899906	22963855
155	182	165	0	832736	151558115.8	129074219.5	22483896
155	183	165	0	782248	143151493.8	121248533	21902961
155	184	165	0	731760	134643895.2	113422846.5	21221049

[15]Sensitivity analysis – 2:

If the competitor price changes and other variable remain constant then the changes of profit has shown in the analysis:

Cost/unit	Price	competitor	Advertisement	Quantity	revenue	cost	Profit
155	177	155	0	726783.4	128640661.8	112651427	15989235
155	177	156	0	762622.9	134984253.3	118206549.5	16777704
155	177	157	0	798462.4	141327844.8	123761672	17566173
155	177	158	0	834301.9	147671436.3	129316794.5	18354642
155	177	159	0	870141.4	154015027.8	134871917	19143111
155	177	160	0	905980.9	160358619.3	140427039.5	19931580
155	177	161	0	941820.4	166702210.8	145982162	20720049
155	177	162	0	977659.9	173045802.3	151537284.5	21508518
155	177	163	0	1013499.4	179389393.8	157092407	22296987
155	177	164	0	1049338.9	185732985.3	162647529.5	23085456
155	177	165	0	1085178.4	192076576.8	168202652	23873925
155	177	166	0	1121017.9	198420168.3	173757774.5	24662394

[15] excel work sheet/ Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 161

155	177	167	0	1156857.4	204763759.8	179312897	25450863
155	177	168	0	1192696.9	211107351.3	184868019.5	26239332
155	177	169	0	1228536.4	217450942.8	190423142	27027801
155	177	170	0	1264375.9	223794534.3	195978264.5	27816270
155	177	171	0	1300215.4	230138125.8	201533387	28604739
155	177	172	0	1336054.9	236481717.3	207088509.5	29393208
155	177	173	0	1371894.4	242825308.8	212643632	30181677
155	177	174	0	1407733.9	249168900.3	218198754.5	30970146
155	177	175	0	1443573.4	255512491.8	223753877	31758615
155	177	176	0	1479412.9	261856083.3	229308999.5	32547084
155	177	177	0	1515252.4	268199674.8	234864122	33335553
155	177	178	0	1551091.9	274543266.3	240419244.5	34124022
155	177	179	0	1586931.4	280886857.8	245974367	34912491
155	177	180	0	1622770.9	287230449.3	251529489.5	35700960

[16]Sensitivity analysis – 3:

If the advertisement changes and other variable remain constant then the changes of profit has shown in the analysis:

Cost/unit	Price	competitor	Advertisement	Quantity	revenue	cost	Profit
155	165	165	0	1691038	279021270	262110890	16910380
155	165	165	100000	1683575	277789875	260954125	16835750
155	165	165	200000	1676112	276558480	259797360	16761120
155	165	165	300000	1668649	275327085	258640595	16686490
155	165	165	400000	1661186	274095690	257483830	16611860
155	165	165	500000	1653723	272864295	256327065	16537230
155	165	165	600000	1646260	271632900	255170300	16462600
155	165	165	700000	1638797	270401505	254013535	16387970
155	165	165	800000	1631334	269170110	252856770	16313340
155	165	165	900000	1623871	267938715	251700005	16238710
155	165	165	1000000	1616408	266707320	250543240	16164080
155	165	165	1100000	1608945	265475925	249386475	16089450
155	165	165	1200000	1601482	264244530	248229710	16014820

[16] excel work sheet/ Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 161

155	165	165	1300000	1594019	263013135	247072945	15940190
155	165	165	1400000	1586556	261781740	245916180	15865560
155	165	165	1500000	1579093	260550345	244759415	15790930
155	165	165	1600000	1571630	259318950	243602650	15716300
155	165	165	1700000	1564167	258087555	242445885	15641670
155	165	165	1800000	1556704	256856160	241289120	15567040
155	165	165	1900000	1549241	255624765	240132355	15492410
155	165	165	2000000	1541778	254393370	238975590	15417780
155	165	165	2100000	1534315	253161975	237818825	15343150
155	165	165	2200000	1526852	251930580	236662060	15268520
155	165	165	2300000	1519389	250699185	235505295	15193890
155	165	165	2400000	1511926	249467790	234348530	15119260
155	165	165	2500000	1504463	248236395	233191765	15044630
155	165	165	2600000	1497000	247005000	232035000	14970000
155	165	165	2700000	1489537	245773605	230878235	14895370
155	165	165	2800000	1482074	244542210	229721470	14820740

[17]Forecasting:

By doing time series analysis, we can predict the future sales of sharees, where we consider main independent variable is the sales of same quarter last year.

Year	Sales Quantity	last year sales	Year
1993	430786	396525	1992
	112875	98675	
	141240	128340	
	156900	177990	
1994	587625	430786	1993
	121245	112875	
	152370	141240	
	174678	156900	
1995	598925	587625	1994
	129500	121245	
	176780	152370	
	201450	174678	
1996	652005	598925	1995
	129780	129500	

[17] excel work sheet / Managerial Economics/ William F. Samuelson/ Third Edition -1993/ chapter 5: Time series analysis analyses

	169540	176780	
	199876	201450	
1997	754390	652005	1996
	149768	129780	
	229670	169540	
	248245	199876	
1998	781560	754390	1997
	163098	149768	
	229786	229670	
	262670	248245	
1999	803009	781560	1998
	176765	163098	
	251009	229786	
	282655	262670	
2000	829995	803009	1999
	186975	176765	
	267005	251009	
	282098	282655	
2001	852095	829995	2000
	191250	186975	
	271745	267005	
	293095	282098	
2002	866097	852095	2001
	199005	191250	
	276006	271745	
	299975	293095	

From the data, [18]regression analysis has been done and the results are this:

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.99282825
R Square	0.985707933
Adjusted R Square	0.985331826
Standard Error	29027.99212
Observations	40

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	2.20836E+12	2.21E+12	2620.818	1.14542E-36
Residual	38	32019724407	8.43E+08		
Total	39	2.24038E+12			

[18] excel work sheet/ Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 154:regression analyses

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*
Intercept	8374.103302	7813.431037	1.071757	0.290589	-7443.36144
Last Year sales	1.040548807	0.020325632	51.19392	1.15E-36	0.999401716

After analysis, we found the forecasting demand equation through which we can calculate the demand of the sharees in next year based on the sales of sharees of the same quarter of the previous year.

Q = 8374.103302 + 1.040548807 * (Previous sales)

By doing time series analysis, we can predict the future sales of sharees, where we consider dummy variables. From this analysis, we can also find the seasonality of the data.

Year	Sales Quantity	Quarter	Q1	Q2	Q3
1992	396525	1	1	0	0
	98675	2	0	1	0
	128340	3	0	0	1
	177990	4	0	0	0
1993	430786	5	1	0	0
	112875	6	0	1	0
	141240	7	0	0	1
	156900	8	0	0	0
1994	587625	9	1	0	0
	121245	10	0	1	0
	152370	11	0	0	1
	174678	12	0	0	0
1995	598925	13	1	0	0
	129500	14	0	1	0
	176780	15	0	0	1
	201450	16	0	0	0
1996	652005	17	1	0	0
	129780	18	0	1	0
	169540	19	0	0	1
	199876	20	0	0	0

1997	754390	21	1	0	0
	149768	22	0	1	0
	229670	23	0	0	1
	248245	24	0	0	0
1998	781560	25	1	0	0
	163098	26	0	1	0
	229786	27	0	0	1
	262670	28	0	0	0
1999	803009	29	1	0	0
	176765	30	0	1	0
	251009	31	0	0	1
	282655	32	0	0	0
2000	829995	33	1	0	0
	186975	34	0	1	0
	267005	35	0	0	1
	282098	36	0	0	0
2001	852095	37	1	0	0
	191250	38	0	1	0
	271745	39	0	0	1
	293095	40	0	0	0
2002	866097	41	1	0	0
	199005	42	0	1	0
	276006	43	0	0	1
	299975	44	0	0	0

From the data, [19]regression analysis has been done and the results are this:

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.973754214
R Square	0.94819727
Adjusted R Square	0.942884169
Standard Error	55964.57311
Observations	44

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	2.23582E+12	5.59E+11	178.464	1.65838E-24
Residual	39	1.22149E+11	3.13E+09		
Total	43	2.35797E+12			

[19] excel work sheet/ Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 154:regression analyses

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*
Intercept	98785.93182	23259.14003	4.247188	0.00013	51739.92672
T	5655.252841	667.0015848	8.47862	2.2E-10	4306.116118
Q1	469091.2131	23947.12187	19.58863	8.74E-22	420653.6347
Q2	-72389.13068	23900.63159	-3.02875	0.004341	-120732.6737
Q3	-20357.56534	23872.69397	-0.85276	0.399002	-68644.5992

After analysis, we found the forecasting demand equation through which we can calculate the demand of the sharees in next year based on the seasonality.

$Q = 5655.253t + 567877.13Q_1 + 26396.83Q_2 + 78428.33Q_3 + 98785.93Q_4$

From this equation, we predict the sales of sharees for the next four years.

Year	Quarter	Forecasting sales
2003	45	822363
	46	286538
	47	344225
	48	370238
2004	49	844984
	50	309159
	51	366846
	52	392859
2005	53	867605
	54	331780
	55	389467
	56	415480
2006	57	890226
	58	354401
	59	412088
	60	438101

Growth Rate of sales:

Year	Sales Quantity	Growth rate of sales
1992	801530	
1993	841801	5%
1994	1035918	23%
1995	1106655	7%
1996	1151201	4%
1997	1382073	20%
1998	1437114	4%
1999	1513438	5%
2000	1566073	3%
2001	1608185	3%
2002	1641083	2%

In 1994, the unions of dying printing association heavily protest against the smuggling of Indian Sharees. In the result, government put heavy security on the border ad the smuggling was almost nil at that time. That is why, the sales in 1994 was very high.

[20]Price elasticity:

Year	Sales Quantity	Price	elasticity
1992	801530	205	
1993	841801	205	α
1994	1035918	205	α
1995	1106655	200	-2.799658853
1996	1151201	195	-1.61011336
1997	1382073	190	-7.821403908
1998	1437114	185	-1.513348427
1999	1513438	180	-1.965041048
2000	1566073	175	-1.252023538
2001	1608185	170	-0.941156638
2002	1641083	165	-0.695524458

[20] excel work sheet /Managerial Economics/ William F. Samuelson/ Third Edition-1993/ chapter 3: price elasticity

From the analysis of the price elasticity, we have observed that form the year 1992 to 2000, the behavior of price tendency was elastic. This means that if the change in price affect in the change in demand. According to this information, if the price increases, the demand will go downward more and if the price decreases, a significant number of demands will increase more.

Price package:

From the data and sensitivity analysis, we come to know that the company can maximize its profit by maintaining a price of taka. 177 when cost (taka. 155) and competitor price (taka. 165) remain constant. However, in this situation the sales of the company will go down by high margin. Therefore, the selling price of the sharees should be taka. 177.

However, the market constrain, it is not possible for the company to set its sharee's price at taka. 177. Because most of the time the company has to set its sharee's price based on market going rate. Here price the most sensitive variable factor to affecting the demand. Therefore, if we set a price higher than the market price, the demand will fall much more than the calculating result.

It is better to fix a price same as the competitor price i.e. taka 165. However, if we sale at this price, the total profit remain lower. Though the sales will be in high quantity.

Therefore, we should set a price in such a level, which will increase the profit level without decreasing the quantity of sales in higher amount.

New price package:

As the company in the wholesaling business, so it sales the sharees in large amount. From the past data we come to know that company did not offer any pricing package or any discount to boost up its sales and from the regression analysis we have seen that the advertisement does not have any affect on sales. From the sales data of last 5 years, it clearly shown that the growth rate of sales is approximately 2% to 5%. This growth is not affected by the price. Because the company has set its price on the market rate.

If the company wants to increase the profit, it needs to set its price in a higher level, it may cost them decrease in sales quantity. If the company raises the price, company must add some features or give some discount to its customers to maintain its business with its current customers.

If the company increases the price of an old product, it may have a negative affect to the customer mind. For introducing the new price, the company needs to redesign the current product giving new package and set the price taka at 170. At this price, company needs to offer volume discount to its retailers. Like if, any retailer purchases hundred units, and then they will get one unit free. With this feature and discount, we hope that the sales of the company will not go down. Because the company already have established goodwill, customer loyalty and has a position as a good quality, long lasting, new design, long color fastness.

From the analysis of the price elasticity, we have observed that form the year 1992 to 2000, the behavior of price tendency was elastic. This means that if the change in price

affect in the change in demand. According to this information, if the price increases, the demand will go downward more and if the price decreases, a significant number of demands will increase more.

Year	Sales Quantity	Price	elasticity
1992	801530	205	
1993	841801	205	α
1994	1035918	205	α
1995	1106655	200	-2.799658853
1996	1151201	195	-1.61011336
1997	1382073	190	-7.821403908
1998	1437114	185	-1.513348427
1999	1513438	180	-1.965041048
2000	1566073	175	-1.252023538
2001	1608185	170	-0.941156638
2002	1641083	165	-0.695524458

From this table, we have found that in year 2001 and 2002; the behavior of price was inelastic, which means that the changes of price do not affect the demand that much. We have realized that this happened due to a brand loyalty, high quality and long durability behavior. Finally, from the elasticity behavior we have strength to make a price package to increase the price. The inelastic behavior and mentioned favorable other factors support us to predict that the increasing price will not affect in decrease of large amount of demand.

If we give 1 unit free with 100 units, then the selling price

Taka. 170 × taka 100 = taka 17,000
So, sales per unit = 17000 / 101 = 168.32
By doing this the profit margin per unit will be
168.32 – 155 = taka 13.32 per unit.
From the sensitivity analysis – 1, we can prove that this new feature will increase the total profit in large amount. Thought the company loses some sales as the competitor is keeping its price constant.

When forecasted selling price is 168 then the forecasted total profit and selling quantity is 20,014,450 and 1,539,573 respectively.
When forecasted selling price is 165 then the forecasted total profit and selling quantity is 16,910,380 and 1,691,038 respectively.

Therefore, profit will increase by taka 3104070.

Now, we suggested the company to fix up its sharees price at taka170.

Long-term effect:

The segment of this product is rural women and the women who work in the factories. This segment wants it's product to be last for the long time as they do not buy sharees more than once or twice a year. If they find that this product is long lasting and color fastness of this product is very good, they will become loyal to this product. This way the company can keep a high level of sales for long time.
As the retailer can sales more of this product, they will come back to wholesaler to by more of this product to make more profit.

3.3 Cotton Sharees (60,80):

[21]Data for the 10 years of 60,80 Cotton Sharees						
Year	Quarter	Sales Quantity	Price	Competitor Price	Purchasing Cost	Advertising
1992	1	297394	270	268	249	700000
	2	74006	270	286	248	230000
	3	96255	270	268	251	230000
	4	133493	270	268	251	240000
1993	5	323090	270	270	249	700000
	6	84656	270	270	248	230000
	7	105930	270	270	251	230000
	8	117675	270	270	250	240000
1994	9	440719	270	270	254	700000
	10	90934	270	270	252	230000
	11	114278	270	270	253	230000
	12	131009	270	270	255	240000
1995	13	449194	265	265	248	0
	14	97125	265	265	247	0
	15	132585	265	265	246	0
	16	151088	265	265	247	0
1996	17	489004	260	260	245	0
	18	97335	260	260	244	0
	19	127155	260	260	243	0

[21] sales report/ Pakiza group/1992-2002

	20	149907	260	260	244	0
1997	21	545793	250	250	242	0
	22	112326	250	250	241	0
	23	172253	250	250	242	0
	24	186184	250	250	243	0
1998	25	586170	245	245	238	0
	26	122324	245	245	237	0
	27	172253	245	245	239	0
	28	186184	245	245	237	0
1999	29	602257	240	240	233	0
	30	132574	240	240	232	0
	31	188257	240	240	231	0
	32	211991	240	240	233	0
2000	33	622496	230	230	227	0
	34	140231	230	230	226	0
	35	200254	230	230	226	0
	36	211576	230	230	226	0
2001	37	639071	220	220	218	0
	38	143438	220	220	217	0
	39	203809	220	220	216	0
	40	219821	220	220	217	0
2002	41	650573	215	215	209	0
	42	149254	215	215	208	0
	43	207005	215	215	207	0
	44	224981	215	215	208	0

From the data, regression analysis has been done and the results are this:

[22]SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.977474073
R Square	0.955455564
Adjusted R Square	0.936365092
Standard Error	57648.59639
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	4.98991E+11	1.66E+11	50.04882	4.27E-05

[22] excel work sheet / Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 154:regression analyses

Residual	7	23263524663	3.32E+09
Total	10	5.22254E+11	

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	3022166.894	291742.5054	10.35902	1.69E-05
Price	-59630.10956	35323.12383	-1.68813	0.135241
Competitor Price	51498.75	35302.41139	1.458788	0.187987
Advertisement	-0.087538795	0.041276571	-2.12079	0.071638

After analysis, we found the demand equation through which we can calculate the demand of the sharees in different prices.

Q = 3022166.894 – 59630.10956*(Price) + 51498.75*(Competitor price) – 0.088*(Advertisement)

From the original data, we reorganized the data by adding up and averaging those by yearly wise.[23]

year	sales	price	competitor price	advertisement	purchase price	profit
1992	601148	270	268	1400000	249.75	12173247
1993	631351	270	270	1400000	249.5	12942696
1994	776940	270	270	1400000	253.5	12819510
1995	829992	265	265	0	247	14939856
1996	863401	260	260	0	244	13814416
1997	1016556	250	250	0	242	8132448
1998	1066931	245	245	0	237.75	7735250
1999	1135079	240	240	0	232.25	8796862
2000	1174557	230	230	0	226.25	4404589
2001	1206139	220	220	0	217	3618417
2002	1231813	215	215	0	208	8622691

From the data, regression analysis has been done and the results are this:

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.941108
R Square	0.885683

[23] excel work sheet / Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 154:regression analyses

Adjusted R Square	0.872982
Standard Error	7.264324
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	3679.612	3679.612	69.7287	1.57E-05
Residual	9	474.9337	52.77041		
Total	10	4154.545			

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	329.018	9.872152	33.32789	9.71E-11
Price	-8.4E-05	1.01E-05	-8.35037	1.57E-05

After analysis, we found the price equation through which we can calculate the price of the sharees in different quantities**.** **P = 329.018 – 0.000084 Q**

[24]Sensitivity analysis – 1:

If the price changes and other variable remain constant then the changes of profit has shown in the analysis:

cost/unit	Price	competitor	Advertisement	Quantity	revenue	cost	Profit
208	208	215	0	1691335	351797753.9	351797754	0
208	209	215	0	1631705	341026396.4	339394691	1631705.2
208	210	215	0	1572075	330135778.6	326991628	3144150.3
208	211	215	0	1512445	319125900.7	314588566	4537335.1
208	212	215	0	1452814	307996762.5	302185503	5811259.7
208	213	215	0	1393184	296748364	289782440	6965924
208	214	215	0	1333554	285380705.4	277379377	8001328.2
208	215	215	0	1273924	273893786.5	264976314	8917472.1
208	216	215	0	1214294	262287607.5	252573252	9714355.8
208	217	215	0	1154664	250562168.2	240170189	10391979

[24] excel work sheet/ Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 161

208	218	215	0	1095034	238717468.7	227767126	10950343
208	219	215	0	1035404	226753508.9	215364063	11389446
208	220	215	0	975774	214670289	202961000	11709288
208	221	215	0	916143	202467808.8	190557938	11909871
208	222	215	0	856513	190146068.4	178154875	11991194
208	223	215	0	796883	177705067.8	165751812	11953256
208	224	215	0	737253	165144807	153348749	11796058
208	225	215	0	677623	152465285.9	140945687	11519599
208	226	215	0	617993	139666504.7	128542624	11123881
208	227	215	0	558363	126748463.2	116139561	10608902
208	228	215	0	498733	113711161.5	103736498	9974663.3
208	229	215	0	439103	100554599.5	91333435	9221164.1

[25]Sensitivity analysis – 2:

If the competitor price changes and other variable remain constant then the changes of profit has shown in the analysis:

cost/unit	Price	competitor	Advertisement	Quantity	revenue	cost	Profit
208	222	208	0	496022.5717	110117010.9	103172695	6944316
208	222	209	0	547521.3217	121549733.4	113884435	7665298.5
208	222	210	0	599020.0717	132982455.9	124596175	8386281
208	222	211	0	650518.8217	144415178.4	135307915	9107263.5
208	222	212	0	702017.5717	155847900.9	146019655	9828246
208	222	213	0	753516.3217	167280623.4	156731395	10549229
208	222	214	0	805015.0717	178713345.9	167443135	11270211
208	222	215	0	856513.8217	190146068.4	178154875	11991194
208	222	216	0	908012.5717	201578790.9	188866615	12712176

[25] excel work sheet/ Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 161

208	222	217	0	959511.3217	213011513.4	199578355	13433159
208	222	218	0	1011010.072	224444235.9	210290095	14154141
208	222	219	0	1062508.822	235876958.4	221001835	14875124
208	222	220	0	1114007.572	247309680.9	231713575	15596106
208	222	221	0	1165506.322	258742403.4	242425315	16317089
208	222	222	0	1217005.072	270175125.9	253137055	17038071
208	222	223	0	1268503.822	281607848.4	263848795	17759054
208	222	224	0	1320002.572	293040570.9	274560535	18480036
208	222	225	0	1371501.322	304473293.4	285272275	19201019
208	222	226	0	1423000.072	315906015.9	295984015	19922001
208	222	227	0	1474498.822	327338738.4	306695755	20642984
208	222	228	0	1525997.572	338771460.9	317407495	21363966
208	222	229	0	1577496.322	350204183.4	328119235	22084949

[26]Sensitivity analysis – 3:

If the advertisement changes and other variable remain constant then the changes of profit has shown in the analysis:

cost/unit	Price	competitor	Advertisement	Quantity	revenue	cost	Profit
208	215	215	0	1273925	2.74E+08	2.65E+08	8917472
208	215	215	100000	1265175	2.72E+08	2.63E+08	8856222
208	215	215	200000	1256425	2.7E+08	2.61E+08	8794972
208	215	215	300000	1247675	2.68E+08	2.6E+08	8733722
208	215	215	400000	1238925	2.66E+08	2.58E+08	8672472
208	215	215	500000	1230175	2.64E+08	2.56E+08	8611222
208	215	215	600000	1221425	2.63E+08	2.54E+08	8549972
208	215	215	700000	1212675	2.61E+08	2.52E+08	8488722

[26] excel work sheet/ Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 161

208	215	215	800000	1203925	2.59E+08	2.5E+08	8427472
208	215	215	900000	1195175	2.57E+08	2.49E+08	8366222
208	215	215	1000000	1186425	2.55E+08	2.47E+08	8304972
208	215	215	1100000	1177675	2.53E+08	2.45E+08	8243722
208	215	215	1200000	1168925	2.51E+08	2.43E+08	8182472
208	215	215	1300000	1160175	2.49E+08	2.41E+08	8121222
208	215	215	1400000	1151425	2.48E+08	2.39E+08	8059972
208	215	215	1500000	1142675	2.46E+08	2.38E+08	7998722
208	215	215	1600000	1133925	2.44E+08	2.36E+08	7937472
208	215	215	1700000	1125175	2.42E+08	2.34E+08	7876222
208	215	215	1800000	1116425	2.4E+08	2.32E+08	7814972
208	215	215	1900000	1107675	2.38E+08	2.3E+08	7753722
208	215	215	2000000	1098925	2.36E+08	2.29E+08	7692472
208	215	215	2100000	1090175	2.34E+08	2.27E+08	7631222

Forecasting:

[27]By doing time series analysis, we can predict the future sales of sharees, where we consider main independent variable is the sales of same quarter last year.

Year	Sales Quantity	Last year sales	Year
1993	323090	297394	1992
	84656	74006	
	105930	96255	
	117675	133493	
1994	440719	323090	1993
	90934	84656	
	114278	105930	
	131009	117675	
1995	449194	440719	1994
	97125	90934	

[27] excel work sheet / Managerial Economics/ William F. Samuelson/ Third Edition-1993/ chapter 5: time series analysis analyses

	132585	114278	
	151088	131009	
1996	489004	449194	1995
	97335	97125	
	127155	132585	
	149907	151088	
1997	545793	489004	1996
	112326	97335	
	172253	127155	
	186184	149907	
1998	586170	545793	1997
	122324	112326	
	172253	172253	
	186184	186184	
1999	602257	586170	1998
	132574	122324	
	188257	172253	
	211991	186184	
2000	622496	602257	1999
	140231	132574	
	200254	188257	
	211576	211991	
2001	639071	622496	2000
	143438	140231	
	203809	200254	
	219821	211576	
2002	650573	639071	2001
	149254	143438	
	207005	203809	
	224981	219821	

From the data, regression analysis has been done and the results are this:

[28]SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.993285
R Square	0.986615
Adjusted R Square	0.986263
Standard Error	20983
Observations	40

ANOVA

[28] excel work sheet / Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 154:regression analyses

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1.23E+12	1.23E+12	2801.024	3.29E-37
Residual	38	1.67E+10	4.4E+08		
Total	39	1.25E+12			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*
Intercept	5938.561	5655.175	1.050111	0.3003	-5509.74
Last year sales	1.042262	0.019693	52.9247	3.29E-37	1.002395

After analysis, we found the forecasting demand equation through which we can calculate the demand of the sharees in next year based on the sales of sharees of the same quarter of the previous year.

Q = 5938.561 + 1.042262 * (Previous sales)

By doing time series analysis, we can predict the future sales of sharees, where we consider dummy variables. From this analysis, we can also find the seasonality of the data.

Year	Sales Quantity	Quarter	Q1	Q2	Q3
1992	297394	1	1	0	0
	74006	2	0	1	0
	96255	3	0	0	1
	133493	4	0	0	0
1993	323090	5	1	0	0
	84656	6	0	1	0
	105930	7	0	0	1
	117675	8	0	0	0
1994	440719	9	1	0	0
	90934	10	0	1	0
	114278	11	0	0	1
	131009	12	0	0	0
1995	449194	13	1	0	0
	97125	14	0	1	0
	132585	15	0	0	1
	151088	16	0	0	0
1996	489004	17	1	0	0
	97335	18	0	1	0
	127155	19	0	0	1
	149907	20	0	0	0
1997	545793	21	1	0	0

	112326	22	0	1	0
	172253	23	0	0	1
	186184	24	0	0	0
1998	586170	25	1	0	0
	122324	26	0	1	0
	172253	27	0	0	1
	186184	28	0	0	0
1999	602257	29	1	0	0
	132574	30	0	1	0
	188257	31	0	0	1
	211991	32	0	0	0
2000	622496	33	1	0	0
	140231	34	0	1	0
	200254	35	0	0	1
	211576	36	0	0	0
2001	639071	37	1	0	0
	143438	38	0	1	0
	203809	39	0	0	1
	219821	40	0	0	0
2002	650573	41	1	0	0
	149254	42	0	1	0
	207005	43	0	0	1
	224981	44	0	0	0

[29]From the data, regression analysis has been done and the results are this:

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.974141
R Square	0.94895
Adjusted R Square	0.943714
Standard Error	41497.76
Observations	44

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	1.25E+12	3.12E+11	181.2404	1.25E-24
Residual	39	6.72E+10	1.72E+09		
Total	43	1.32E+12			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*

[29] excel work sheet / Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 154:regression analyses

Intercept	73186.75	17246.66	4.243531	0.000131	38302.11
T	4238.086	494.582	8.569027	1.68E-10	3237.701
Q1	351064.4	17756.8	19.7707	6.29E-22	315148
Q2	-53315.3	17722.33	-3.00837	0.004583	-89162
Q3	-14296	17701.61	-0.80761	0.424214	-50100.9

After analysis, we found the forecasting demand equation through which we can calculate the demand of the sharees in next year based on the seasonality.

$Q = 4238.086t + 424251.15Q_1 + 19871.45Q_2 + 58890.75Q_3 + 73186.75Q_4$

[30]From this equation, we predict the sales of sharees for the next four years.

Year	Quarters	Forecasting
2003	45	614965.02
	46	214823.406
	47	258080.792
	48	276614.878
2004	49	631917.364
	50	231775.75
	51	275033.136
	52	293567.222
2005	53	648869.708
	54	248728.094
	55	291985.48
	56	310519.566
2006	57	665822.052
	58	265680.438
	59	308937.824
	60	327471.91

Growth Rate of sales:

[30] excel work sheet

Year	Sales Quantity	Growth rate of sales
1992	601148	
1993	631351	5%
1994	776940	23%
1995	829992	7%
1996	863401	4%
1997	1016556	18%
1998	1066931	5%
1999	1135079	6%
2000	1174557	3%
2001	1206139	3%
2002	1231813	2%

In 1994, the union of dying printing association heavily protests against the smuggling of Indian Sharees. In the result, government put heavy security on the border ad the smuggling was almost nil at that time. That is why, the sales in 1994 was very high.

[31]Price elasticity:

year	sales	price	Elasticity
1992	601148	270	
1993	631351	270	α
1994	776940	270	α
1995	829992	265	-3.6873
1996	863401	260	-2.13337
1997	1016556	250	-4.61203
1998	1066931	245	-2.47773
1999	1135079	240	-3.12977
2000	1174557	230	-0.83472
2001	1206139	220	-0.61843
2002	1231813	215	-0.93659

[31] excel work sheet / Managerial Economics/ William F. Samuelson/ Third Edition-1993// chapter 3: price elasticity

From this table it is clear that the demand behavior is inelastic for 60,80 sharees. It means that is relatively unresponsive to price. So we can assume that the raising price of the sharees won't be affecting the demand of the sharees.

Price package:

From the data and sensitivity analysis, we come to know that the company can maximize its profit by maintaining a price of taka. 222 when cost (taka. 208) and competitor price (taka. 215) remain constant. However, in this situation the sales of the company will go down by high margin. Therefore, the selling price of the sharees should be taka. 222.

However, the market constrain, it is not possible for the company to set its sharee's price at taka. 222. Because most of the time the company has to set its sharee's price based on market going rate. Here price the most sensitive variable factor to affecting the demand. Therefore, if we set a price higher than the market price, the demand will fall much more than the calculating result.

It is better to fix a price same as the competitor price i.e. taka 215. However, if we sale at this price, the total profit remain lower. However, the sales will be in high quantity.

So, we should set a price in such a level, which will increase the profit level without decreasing the quantity of sales in higher amount.

New price package:

The market is very sensitive about the price. Therefore, it is very critical to raise the price. The current sales of the company are not making the profit maximize. With the current price, they are selling in large amount but the profit margin is low. It almost impossible for the company to cut the cost of the sharees. Therefore, if the company wants to increase the price, they should need to use the sales promotion tools to support the rising price.

If the company raises its price by 5 taka according to the sensitivity analysis, the sales will go down by almost three lacs pieces of sharees but it will make the profit twenty-eight lacs higher. As we know that the market is very much price sensitive, the rises of price may cause drop the sales in large number than forecasted.

So to support the increased price and hold the forecasted sales quantity on that price, we can suggest offering some prizes to its consumers. In the current period, no other company is offering such promotional tools. So it's a very good opportunity for the company to increase its sales by offering some prize to it customers.

The current situation:

year	sales	price	competitor price	advertisement	purchase price	profit
2002	1231813	215	215	0	208	8622691

If we increase the price by 5 taka, the forecasted sales will be

year	sales	price	competitor price	advertisement	purchase price	profit

2003	975774	220	215	0	208	11709288

Price elasticity:

year	sales	Price	elasticity
2000	1174557	230	-0.83472
2001	1206139	220	-0.61843
2002	1231813	215	-0.93659

From this table it is clear that the demand behavior is inelastic for 60,80 sharees. It means that is relatively unresponsive to price. So we can assume that the raising price of the sharees won't be affecting the demand of the sharees.

Growth Rate of sales:

Year	Sales Quantity	Growth rate of sales
1998	1066931	5%
1999	1135079	6%
2000	1174557	3%
2001	1206139	3%
2002	1231813	2%

From the growth rate of the sales table, we can see that the company has a positive-growth rate of the sales for last five years on an average 3.8%. Therefore, we hope that the growth rate of sales won't be too much affected by price rise. So can expect that the next year sales will be remain same.

In reality, it is very difficult to predict the demand through the demand equation. Many other factors can affect the demand. So to get the forecasted sales, we will give scratch card with 60, 80 sharees and fixed the price at taka 220.

Scratch card will contain 100 prizes, which will present in each quarter for year 2003. The prizes include

(i) 5 gold necklaces – taka. 50,000

(ii) 35 gold rings – taka 50,000

(iii) 60 gold chain – taka 75,000

Total cost of the prizes taka 1,75,000 per quarter.

So Total cost of the prizes per year is taka 7,00,000.

For this package, we hope that the profit will go rise by 28 lacs. But if we deduct the prizes' cost 7,00,000, net profit will be increased by taka 21 lacs approximately.

Long run effect:

This strategy of giving prizes will bring many new customers who will be using this product for the first time. If the company can maintain desire quality and design, then these customers will make repeat purchase and be loyal to the company for long time, which will help the sales to continue go upwards in futures.

As the retailer can sales more of this product, they will come back to wholesaler to by more of this product to make more profit.

3.4 Cotton Sharees (80,80):

[32]Data for the 10 years of 80,80 Cotton Sharees						
Year	Quarter	Sales Quantity	Price	Competitor Price	Purchasing Cost	Advertising
1992	1	147,890	350	345	309	700000
	2	35,098	350	345	312	230000
	3	48,100	350	345	310	230000
	4	65,678	350	345	311	240000
1993	5	151,454	350	348	308	700000
	6	41,339	350	348	307	230000
	7	53,588	350	348	310	230000
	8	59,836	350	348	306	240000
1994	9	233,465	350	349	306	700000
	10	46,549	350	349	305	230000
	11	58,134	350	349	308	230000
	12	67,657	350	349	309	240000
1995	13	234,532	340	340	304	0

[32] Sales report of Pakiza Dying & Printing -1992-2002

	14	45,567	340	340	303	0
	15	66,292	340	340	302	0
	16	75,565	340	340	304	0
1996	17	245,402	335	335	299	0
	18	47,665	335	335	298	0
	19	63,567	335	335	297	0
	20	76,987	335	335	300	0
1997	21	282,798	330	330	294	0
	22	57,123	330	330	295	0
	23	87,657	330	330	293	0
	24	94,567	330	330	291	0
1998	25	309,876	325	325	286	0
	26	60,987	325	325	288	0
	27	85,678	325	325	285	0
	28	92,093	325	325	287	0
1999	29	312,354	320	320	281	0
	30	67,543	320	320	280	0
	31	96,453	320	320	280	0
	32	116,578	320	320	283	0
2000	33	311,234	315	315	275	0
	34	71,234	315	315	276	0
	35	101,123	315	315	273	0
	36	106,987	315	315	271	0
2001	37	320,656	308	308	266	0
	38	72,726	308	308	267	0
	39	112,006	308	308	268	0
	40	129,876	308	308	265	0
2002	41	345,465	300	300	259	0
	42	76,857	300	300	258	0
	43	123,508	300	300	259	0
	44	123,467	300	300	260	0

From the data, regression analysis has been done and the results are this:

[33]SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.979257
R Square	0.958945
Adjusted R	0.94135

[33] excel work sheet / Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 154:regression analyses

Square	
Standard Error	31046.03
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	1.58E+11	5.25E+10	54.5012	3.21E-05
Residual	7	6.75E+09	9.64E+08		
Total	10	1.64E+11			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*
Intercept	2590583	277383	9.339372	3.35E-05	1934677
Price	-28035.6	10580.97	-2.64963	0.03296	-53055.6
Competitor	21696.62	10545.81	2.057368	0.07867	-3240.25
Advertisement	0.015848	0.030561	0.518558	0.620053	-0.05642

After analysis we found the demand equation through which we can calculate the demand of the sharees in different prices.

Q = 2590583 – 28035.6*(Price) + 12696.62*(Competitor price) + 0.015848*(Advertisement)

[34]From the original data, we reorganized the data by adding up and averaging those by yearly wise.

year	sales	price	competitor price	Advertisement	profit
1992	296766	350	345	1400000	11722257
1993	306217	350	348	1400000	12937668
1994	405808	350	349	1400000	17449744
1995	421966	340	340	0	15507251
1996	433621	335	335	0	15827167
1997	522142	330	330	0	19058183
1998	548634	325	325	0	21122409
1999	592928	320	320	0	23124192
2000	590578	315	315	0	24361343
2001	635264	308	308	0	26363456
2002	669297	300	300	0	27441177

From the data, regression analysis has been done and the results are this:

SUMMARY OUTPUT

[34] excel work sheet / Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 154:regression analyses

Regression Statistics	
Multiple R	0.962778
R Square	0.926942
Adjusted R Square	0.918825
Standard Error	4.979493
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	2831.387	2831.387	114.1902	2.05E-06
Residual	9	223.1582	24.79535		
Total	10	3054.545			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*
Intercept	394.0766	6.23921	63.1613	3.15E-13	379.9625
Quantity	-0.00013	1.23E-05	-10.686	2.05E-06	-0.00016

After analysis, we found the price equation through which we can calculate the price of the sharees in different quantities.

P = 394.0766 – 0.00013 Q

[35]Sensitivity analysis – 1:

If the price changes and other variable remain constant then the changes of profit has shown in the analysis:

cost/unit	Price	competitor	Advertisement	Quantity	revenue	cost	Profit
259	259	300	0	1838348.6	476132287.4	476132287.4	0
259	262	300	0	1754241.8	459611351.6	454348626.2	5262725
259	265	300	0	1670135	442585775	432564965	10020810
259	268	300	0	1586028.2	425055557.6	410781303.8	14274254
259	271	300	0	1501921.4	407020699.4	388997642.6	18023057
259	274	300	0	1417814.6	388481200.4	367213981.4	21267219
259	277	300	0	1333707.8	369437060.6	345430320.2	24006740
259	280	300	0	1249601	349888280	323646659	26241621

[35] excel work sheet/ Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 161

259	283	300	0	1165494.2	329834858.6	301862997.8	27971861
259	286	300	0	1081387.4	309276796.4	280079336.6	29197460
259	289	300	0	997280.6	288214093.4	258295675.4	29918418
259	292	300	0	913173.8	266646749.6	236512014.2	30134735
259	295	300	0	829067	244574765	214728353	29846412
259	298	300	0	744960.2	221998139.6	192944691.8	29053448
259	300	300	0	688889	206666700	178422251	28244449
259	304	300	0	576746.6	175330966.4	149377369.4	25953597
259	307	300	0	492639.8	151240418.6	127593708.2	23646710
259	310	300	0	408533	126645230	105810047	20835183
259	313	300	0	324426.2	101545400.6	84026385.8	17519015

[36]Sensitivity analysis – 2:

If the competitor price changes and other variable remain constant then the changes of profit has shown in the analysis:

Cost/unit	Price	competitor	Advertisement	Quantity	Revenue	cost	Profit
259	300	259	0	1838348.6	476132287.4	476132287.4	0
259	300	262	0	1754241.8	459611351.6	454348626.2	5262725
259	300	265	0	1670135	442585775	432564965	10020810
259	300	268	0	1586028.2	425055557.6	410781303.8	14274254
259	300	271	0	1501921.4	407020699.4	388997642.6	18023057
259	300	274	0	1417814.6	388481200.4	367213981.4	21267219
259	300	277	0	1333707.8	369437060.6	345430320.2	24006740
259	300	280	0	1249601	349888280	323646659	26241621

[36] excel work sheet/ Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 161

259	300	283	0	1165494.2	329834858.6	301862997.8	27971861
259	300	286	0	1081387.4	309276796.4	280079336.6	29197460
259	300	289	0	997280.6	288214093.4	258295675.4	29918418
259	300	292	0	913173.8	266646749.6	236512014.2	30134735
259	300	295	0	829067	244574765	214728353	29846412
259	300	298	0	744960.2	221998139.6	192944691.8	29053448
259	300	300	0	688889	206666700	178422251	28244449
259	300	304	0	576746.6	175330966.4	149377369.4	25953597
259	300	307	0	492639.8	151240418.6	127593708.2	23646710
259	300	310	0	408533	126645230	105810047	20835183
259	300	313	0	324426.2	101545400.6	84026385.8	17519015
259	300	316	0	240319.4	75940930.4	62242724.6	13698206

[37]Sensitivity analysis – 3:

If the advertisement changes and other variable remain constant then the changes of profit has shown in the analysis:

cost/unit	Price	competitor	Advertisement	Quantity	revenue	cost	Profit
259	300	300	0	1838348.6	551504580	476132287.4	75372293
259	300	300	100000	1754241.8	526272540	454348626.2	71923914
259	300	300	200000	1670135	501040500	432564965	68475535
259	300	300	300000	1586028.2	475808460	410781303.8	65027156
259	300	300	400000	1501921.4	450576420	388997642.6	61578777
259	300	300	500000	1417814.6	425344380	367213981.4	58130399
259	300	300	600000	1333707.8	400112340	345430320.2	54682020

[37] excel work sheet/ Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 161

259	300	300	700000	1249601	374880300	323646659	51233641
259	300	300	800000	1165494.2	349648260	301862997.8	47785262
259	300	300	900000	1081387.4	324416220	280079336.6	44336883
259	300	300	1000000	997280.6	299184180	258295675.4	40888505
259	300	300	1100000	913173.8	273952140	236512014.2	37440126
259	300	300	1200000	829067	248720100	214728353	33991747
259	300	300	1300000	744960.2	223488060	192944691.8	30543368
259	300	300	1400000	688889	206666700	178422251	28244449
259	300	300	1500000	576746.6	173023980	149377369.4	23646611
259	300	300	1600000	492639.8	147791940	127593708.2	20198232
259	300	300	1700000	408533	122559900	105810047	16749853
259	300	300	1800000	324426.2	97327860	84026385.8	13301474
259	300	300	1900000	240319.4	72095820	62242724.6	9853095

[38]Forecasting:

By doing time series analysis, we can predict the future sales of sharees, where we consider main independent variable is the sales of same quarter last year.

Year	Sales Quantity	Previous sales	Year
1993	151,454	147,890	1992
	41,339	35,098	
	53,588	48,100	
	59,836	65,678	
1994	233,465	151,454	1993

[38] excel work sheet / Managerial Economics/ William F. Samuelson/ Third Edition-1993/ chapter 5: Time series analysis analyses

	46,549	41,339	
	58,134	53,588	
	67,657	59,836	
1995	234,532	233,465	1994
	45,567	46,549	
	66,292	58,134	
	75,565	67,657	
1996	245,402	234,532	1995
	47,665	45,567	
	63,567	66,292	
	76,987	75,565	
1997	282,798	245,402	1996
	57,123	47,665	
	87,657	63,567	
	94,567	76,987	
1998	309,876	282,798	1997
	60,987	57,123	
	85,678	87,657	
	92,093	94,567	
1999	312,354	309,876	1998
	67,543	60,987	
	96,453	85,678	
	116,578	92,093	
2000	311,234	312,354	1999
	71,234	67,543	
	101,123	96,453	

	106,987	116,578	
2001	320,656	311,234	2000
	72,726	71,234	
	112,006	101,123	
	129,876	106,987	
2002	345,465	320,656	2001
	76,857	72,726	
	123,508	112,006	
	123,467	129,876	

[39]From the data, regression analysis has been done and the results are this:

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.986795
R Square	0.973764
Adjusted R Square	0.973074
Standard Error	15224.15
Observations	40

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	3.27E+11	3.27E+11	1410.401	1.18E-31
Residual	38	8.81E+09	2.32E+08		
Total	39	3.36E+11			

[39] excel work sheet / Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 154:regression analyses

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*
Intercept	4450.286	4079.883	1.090787	0.282235	-3809.01
Last year sales	1.040918	0.027717	37.5553	1.18E-31	0.984808

After analysis, we found the forecasting demand equation through which we can calculate the demand of the sharees in next year based on the sales of sharees of the same quarter of the previous year.

Q =4450.286 + 1.040918 * (Previous sales)

[40]By doing time series analysis, we can predict the future sales of sharees, where we consider dummy variables. From this analysis, we can also find the seasonality of the data.

Year	Sales Quantity	Quarter	Q1	Q2	Q3
1992	147,890	1	1	0	0
	35,098	2	0	1	0
	48,100	3	0	0	1
	65,678	4	0	0	0
1993	151,454	5	1	0	0
	41,339	6	0	1	0
		7	0	0	1

[40] excel work sheet / Managerial Economics/ William F. Samuelson/ Third Edition-1993/ chapter 5

	53,588				
	59,836	8	0	0	0
1994	233,465	9	1	0	0
	46,549	10	0	1	0
	58,134	11	0	0	1
	67,657	12	0	0	0
1995	234,532	13	1	0	0
	45,567	14	0	1	0
	66,292	15	0	0	1
	75,565	16	0	0	0
1996	245,402	17	1	0	0
	47,665	18	0	1	0
	63,567	19	0	0	1
	76,987	20	0	0	0
1997	282,798	21	1	0	0
	57,123	22	0	1	0
	87,657	23	0	0	1
	94,567	24	0	0	0
1998	309,876	25	1	0	0
	60,987	26	0	1	0
	85,678	27	0	0	1
	92,093	28	0	0	0
1999	312,354	29	1	0	0
	67,543	30	0	1	0
	96,453	31	0	0	1
	116,578	32	0	0	0
2000	311,234	33	1	0	0
		34	0	1	0

	71,234				
	101,123	35	0	0	1
	106,987	36	0	0	0
2001	320,656	37	1	0	0
	72,726	38	0	1	0
	112,006	39	0	0	1
	129,876	40	0	0	0
2002	345,465	41	1	0	0
	76,857	42	0	1	0
	123,508	43	0	0	1
	123,467	44	0	0	0

[41]From the data, regression analysis has been done and the results are this:

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.971766
R Square	0.944329
Adjusted R Square	0.938619
Standard Error	22479.59
Observations	44

ANOVA

[41] excel work sheet / Managerial Economics/ William F. Samuelson/ Third Edition-1993/ page: 154:regression analyses

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	3.34E+11	8.36E+10	165.386	6.73E-24
Residual	39	1.97E+10	5.05E+08		
Total	43	3.54E+11			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*
Intercept	34615.74	9342.623	3.705142	0.000654	15718.52
t	2380.749	267.9181	8.88611	6.49E-11	1838.834
Q1	178581.8	9618.968	18.56559	5.81E-21	159125.6
Q2	-30384.2	9600.294	-3.16493	0.003006	-49802.6
Q3	-7908.8	9589.072	-0.82477	0.414517	-27304.5

After analysis, we found the forecasting demand equation through which we can calculate the demand of the sharees in next year based on the seasonality.

$Q = 2380.749t + 213197.54Q_1 + 4231.54Q_2 + 26706.94Q_3 + 34615.74Q_4$

[42]From this equation, we predict the sales of sharees for the next four years.

Year	Quarter	Forecasting sales
2003	45	320331.245
	46	113745.994
	47	138602.143
	48	148891.692
2004	49	329854.241
	50	123268.99
	51	148125.139
	52	158414.688
2005	53	339377.237
	54	132791.986
	55	157648.135
	56	167937.684
2006	57	348900.233
	58	142314.982

[42] excel work sheet

	59	167171.131
	60	177460.68

[43]Growth Rate of sales:

Year	Sales Quantity	Growth rate of sales
1992	296766	
1993	306217	3%
1994	405808	33%
1995	421966	4%
1996	433621	3%
1997	522142	20%
1998	548634	5%
1999	592928	8%
2000	590578	0%
2001	635264	8%
2002	669297	5%

In 1994, the union of dying printing association heavily protests against the smuggling of Indian Sharees. In the result, government put heavy security on the border ad the smuggling was almost nil at that time. That is why, the sales in 1994 was very high.

[44]Price elasticity:

year	sales	price	elasticity
1992	296766	350	
1993	306217	350	α
1994	405808	350	α
1995	421966	340	-1.39359007
1996	433621	335	-1.8782082
1997	522142	330	-13.6776286
1998	548634	325	-3.34865228
1999	592928	320	-5.24777903
2000	590578	315	0.25365643
2001	635264	308	-3.40491857
2002	669297	300	-2.0625606

[43] excel work sheet
[44] excel work sheet/Managerial Economics/ William F. Samuelson/ Third Edition-1993/ chapter 3: price elasticity

In this segment, customers more depend on the quality and design. Price does not play much affect on buying decision making. So, elastic behavior is in elastic in this product.

Price package:

This 80,80 sharees are mainly for the women of urban areas. The quality of the yarn and the color is much better than the other sharees. Therefore, the demand of this product is low. That is why the company charges higher mark up.

Current situation of the company sells is

Year	sales	price	competitor price	Advertisement	profit
2002	669,297	300	300	0	27,441,177

To find the maximum profit we did a sensitivity analysis with the demand equation. The significant data of the analysis, we found that

cost/unit	Price	competitor	Advertisement	Quantity	revenue	cost	Profit
259	259	300	0	1838348.6	476132287.4	476132287.4	0
259	286	300	0	1081387.4	309276796.4	280079336.6	29197460
259	289	300	0	997280.6	288214093.4	258295675.4	29918418
259	292	300	0	913173.8	266646749.6	236512014.2	30134735
259	295	300	0	829067	244574765	214728353	29846412
259	298	300	0	744960.2	221998139.6	192944691.8	29053448
259	300	300	0	688889	206666700	178422251	28244449
259	304	300	0	576746.6	175330966.4	149377369.4	25953597

From this analysis, we see that if the company cut it price taka 8 and other things remain constant, then the profit will go up with the demand. In this case, if the competitor also cut the price, the quantity of sales won't be lower enough.

Therefore, we suggest that to bring the price down to taka 292 for year 2003.

Long-term effect:

Main segment of this product is the educated women of urban areas who seek for modern design and high quality and decent color. If the company invests some money for buying new computer software from India and can recruit some fashion designer from India or even Bangladesh who have experience in these kinds of design to up to date the designs for theses products. The quality plays a major buying decision for these products. A new dye has come recently called azo-free, which is friendly for the skin. So, if the company uses this dye, this product could be position as a skin friendly product in the mind of the customer. This idea could bring a competitive age for this product in long-term.

The new price cut will bring more customers and with providing the higher quality make them loyal to the company. This will help the company to earn more sales in the long-term.

As the retailer can sales more of this product, they will come back to wholesaler to by more of this product to make more profit.

3.5 Effect of the price packing:

The company is in the monopolistic competition market. Therefore, the quality and price has a very affective impact on the pricing. The prices also consider the competitor price.

Profit	60,60	60,80	80,80
2002	14359476	8622691	27441177
Forecasted profit	20014450	11009288	30134735
Profit increased	5654974	2386597	2693558

So, Total profit increased = 1,07,35,129.

The design price package will be very good suggestion to increase the profit of the company.

Bibliography

1. An integrated approach to business studies/Bruce R Jewell/ third edition -1997
2. Management A Global perspective/Heinz Weihrich &Harold Koontz/ Tenth Edition-1995
3. Thomas L. wheelen and J. David Hunger/ Strategic management and business policy/ 6th edition
4. sales report of Pakiza group from year 1992 to 2002
5. Managerial Economics/ William F. Samuelson/ Third Edition-1993
6. www.quickmba.com

INDEX

Questioner:

Name:

Company/shop name:

Address:

1. **How often do you come to islampur to purchase sharres?**

(A) Weekly.

(B) Monthly

(C) In every 3 month.

(D) In every 6 month.

(E) Yearly.

2. Do you go to other place then islampur to purchase sharee? If yes then which place?

(A) Babur hat.

(B) Karotia hat.

(C) Local whole seller.

(D) Other place. ……..

3. Which companies' sharees do you buy more?

(A) jony

(B) shah

(C) pride

(D) Pakiza

(E) others……..

4. Which company's sharee your customers ask first?

(A) jony

(B) shahi

(C) pride

(D) Pakiza

(E) Others……..

5. Which factor effect your customers buying decisions?

(A) price

(B) design & color

(C) brand

(D) Others……..

6. Which kind of services do you prefer more from whole selling companies?

(A) credit

(B) quality products

(C) more new designs

(D) more commission.

(E) Others…….

7. How Pakiza can sell more shrees?

(A) By doing more credit sells?

(B) By coming up with more designs.

(C) By increasing sales commissions.

(D) By using promotional tools. (give free units, scratch cards)

(E) By starting advertisement campaign.

(F) Doing nothing and believe on its customer loyalty.

(G) By incising its quality of the products.

8. If Pakiza increase its product line, will u buy the products? (Salwar kamiz, voil, poplin, bed sheet)

(F) Yes

(G) no

9. which aspect do Pakiza have to consider more in order to establish this new products?

(A) design and color

(B) advertisement

(C) Customer facilities.

(D) Good quality fabrics.

10. Any suggestion or comments.

Thank you.