Marketing Research of Women Costume Consumers of the Republic of Kazakhstan of Different Price Segments

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ABSTRACT

Purpose of this research is the discovery of preferences of different consumer segments of women costumes market of Almaty city in order to automate the consulting processes of bespoke tailoring and preparation of design technology documentation which allow increasing the competitive ability of dressmakers owing to the decrease of production prime cost and increase of customer service quality.

INTRODUCTION

This research is an intermediate stage in the complex research, which objective is search of possibilities for business processes automation in dressmakers activity.

Actuality of the task on automation is to provide competitive ability of enterprises of the service industry with regard to direct competitors as well as industrial enterprises selling products through the outlet chains.

Prime cost of dress produced by dressmakers includes additional expenses to support such processes as customer consulting, measure taking, design in accordance with individual request, preliminary fit tests, etc. Expenses for research and development or acquisition of design technology documentation in industrial manufacture are distributed to bigger batch of each model that decrease significantly this part of prime cost.

In industrial manufacture there is a possibility to divide the production process into simple operations which may be performed by unskilled workers or robots that gives an option to reduce prime cost. Dressmakers have restriction of such possibilities.

Hypothesis of the complex research is a possibility to automate the following processes:

• customer consulting for selection of model, fabrics and accessories,
• development of design technology documentation,
and get economy owing to the decrease of man-hours and use of cheaper unskilled workers.

Hypothesis of this research is a possibility to reduce time and increase effectiveness of consulting through the offering models which meet preferences of certain customer consumer segment.

The author of the research supposed that each market segment has own preferences concerning the mode of dress, quality of fabric, originality of product and other criteria. Therefore, a dressmaker consultant may carry out preliminary diagnostics to classify a customer in accordance with certain segment and then offer appropriate models based on preliminary investigations.

Design, Methodology, Approach:

The research of women wear consumers of Almaty city was carried out using the structured questioning method based on probability sampling of 53 persons. Questionnaires were filled according to respondents' words and by the respondents using internet distribution. Analysis performed considers the preferences of different consumer segments concerning the mode of dress and fabric fibre composition, level of requirements.
in regard to quality of production, fitting and originality as well as readiness to pay for products in different price ranges.

Research Limitations, Implications:
Population of Kazakhstan is distributed on the large territory; the preferences vary enormously depending on region due to cultural differences, state and level of life. Therefore, results of the research may be applied only to the Almaty market, since all respondents represent Almaty city.

Originality, value:
Value of the research is what the results allow forming an algorithm for automation of customer consulting process owing to proposal of models preferred by corresponding consumer segment as well as automation of design process and preparation of design technology documentation. Decrease of production terms and expenses as a result of automation allows increasing competitive ability of dress-goods industry enterprises.

Literature Review:
When developing competitive products the manufacturers should focus on the estimation of all market factors based on buyer demand and market requirements research. Manufacturer should define characteristics of forecast demand as exact as possible in order to make competitive own products [1].

Competitive ability includes three main components. One of components is rigidly connected with a good and confined with quality in a great measure. The other is connected both with the economy of creation of good sale and service and economic possibilities and restrictions of a consumer. At last the third reflects everything that may be pleasant or unpleasant for a consumer as a buyer, a person, a member of one or another social group [2].

Questionnaire Development:
Questionnaire is a system of questions united by one research intention which are directed to revelation of qualitative and quantitative characteristics of the object and subject of the research.

Introductory clause is on the first page of questionnaire. It contains information about who carries out the survey; purpose; instruction on filling out a questionnaire.

Further a questionnaire contains contact questions. Their task is to provoke interest of interlocutor, put in the way of the problems under investigation.

A package of questions which may be divided into close-end and open-end questions should correspond to every assigned task.

Close-end questions suppose selection of answers from a full set of options given in questionnaire.

As against close end questions the open-end questions do not contain any prompts and are designed for unformalised answers.

Final questions finish a questionnaire. Their purpose is to remove respondent psychological tension.

To decrease questionnaire quality and collect marketing data successful there is a row of recommendations which may be highly useful for the receipt of initial marketing information.

1. Observance of principal requirements to question formulation:
- questions shall be simple and understandable;
- questions shall be simple and unequivocal;
- questions should be neutral (not to direct an answer to certain side);

2. Observance of questionnaire development principles:
- order of question: from simple to complex, from general to special, from non-obligatory to delicate;
- at the beginning - questions establishing confidence, then questions of substance, then control questions are possible, and at the end questions about personality.

3. Selection of optimum size of questionnaires:
- big questionnaires lead to a large number of refuses to answer;
- short questionnaires create the impression that problem discussed or a fact of appeal to opinion of certain person is not significant;
- maximum time required for questionnaire filling out in case of mail inquiry should not exceed 20-30 minutes.

4. Questionnaires quality preliminary assessment:
- questionnaires developed are subjected to logical control, all questions and answer variants as well as composition of questionnaire in whole are checked;
- detailed survey of small group of people (10-15 persons) on the basis of which improvement is made.

5. Increase of a rate of questionnaires return in case of mail inquiries:
- encouragement (however it is necessary to take into account expenses and possible embellishment of answers due to a feeling of gratitude);
- accompanying letter (interest incentive, anonymity guaranty);
- phone notice concerning sending questionnaires;
- stamped envelope for answer should be enclosed [3].

**Sample volume determination:**

The following stages of sampling plan may be separated:
1. Determination of respective aggregate.
2. Receipt of aggregate "list".
3. Sampling plan design.
4. Determination of access methods to aggregate.
5. Achievement of required sample size.
6. Check of sample correspondence to requirements.

Decision on the sample size is a compromise between theoretical assumptions concerning correctness of survey results and possibilities of their practical implementation; first of all we mean expenses for survey [4].

It is necessary to note that there is no direct connection between the sample size and representativity of received results.

Random approach is based on the use of "rule of thumb". For example, it is precariously assumed that to receive exact results the sample should be 5% of the aggregate. This approach is simple and easy in execution, however, it is impossible to state correctness of received results. Moreover, in case of sufficiently large aggregate it may be expensive.

Sample size may be stated based on some pre-agreed conditions. For example, an orderer of marketing research knows that in case of opinion polling the sample is usually 1000-1200 persons, that is why it recommend to adhere to this value. In case if annual researches are carried out at any market then the sample of the same size is used in each year. As opposed to the first approach when defining the sample size known logic is used, which however is very vulnerable.

For example, less correctness may be required for certain researches than in case of opinion polling, moreover sample size may be less manifold than for opinion polling. Therefore, this approach does not considers current circumstances and may be sufficient expensive [4].

Sample size may be defined based on statistic analysis. This approach is based on determination of minimum sample size on account of certain requirements to reliability and accuracy of received results (figure 1). It is also used when analysing received results for some subgroups formed in the structure of sample by sex, age, education level and etc. Requirements to reliability and accuracy of results for some subgroups impose specific requirements to the sample size in whole [5].

![Fluctuation and distribution curves](image)

**Fig. 1:** Fluctuation and distribution curves.

Inasmuch as all marketing decisions are taken based on conditions of uncertainty then this circumstances should be considered when defining the sample size. As investigated values for the aggregate in narrow sense
are determined on the basis of sample statistic, then it is necessary to state a range (confidential interval), which as expected will include the estimations for the whole aggregate and error of their determination [6].

Confidential interval is a range where certain percent of certain answers to a question corresponds to its extreme points. Confidential interval is closely connected with mean square deviation of investigated sign in general aggregate: the bigger mean square deviation, the wider confidential interval should be to include certain percent of answers in its structure.

Confidential interval equal to 95% or 99% is standard for marketing researches. No any company carries out marketing researches by forming several samples. Mathematical statistics gives a possibility to receive some information concerning sampling distribution having only data of fluctuation of one sample.

Initial information required to define the sample size based on calculation of confidential interval is: value of fluctuation which the aggregate possesses as considered; desired precision; confidence level which the results of conducted research should meet.

When there are only two variants of answer to question expressed in percent (percentage measure is used), sample size is defined according to the following formula:

\[ n = \frac{z^2 \times p \times (1-p)}{e^2} \]  

where \( n \) is sample size;
\( z \) is normalized deviate defined based on selected confidence level;
\( p \) is determined fluctuation for the sample;
\( e \) is admissible error.

When defining fluctuation value for certain aggregate first of all it is expedient to carry out preliminary qualitative analysis of the aggregate investigated, to determine similarity of units of aggregate in demographic, social and other aspects which are of interest of a researcher. Pilot survey, use of results of similar previous researches is possible. When using percentage measure of variability it is taken into consideration the fact that maximum variability is achieved for \( p = 50\% \) that is the worst case. In addition this value does not influence materially to the sample size. Opinion of the research orderer concerning the sample size is also taken into account.

The sample size may be determined on the basis of use of average values, rather than percent values.

\[ n = \frac{s^2}{e^2} \]  

where \( s \) is mean square deviation.

In practice if the sample is newly formed and similar surveys have not been carried out, then \( s \) is unknown. In such a case it is reasonably to set inaccuracy \( e \) in its fractions of mean square deviation. Calculation formula is converted and is as follows:

\[ n = \frac{z^2}{e^2} \times \frac{1}{s} \]  

The large aggregates are discussed above. However in some cases the aggregates are not large.

Usually, if the sample is less than five percent of the aggregate, then the aggregate is considered as large and calculations are made based on the above rules.

If the sample size is more than 5% of the aggregate, then the sample is considered as small and correction factor is applied in the above formulas.

In such case the sample size is calculated as follows:

\[ n = \frac{N}{N-1} \times n \]  

where \( n \) is sample size for small aggregate;
\( n \) is sample size calculated according to the above formulas;
\( N \) is general aggregate size.

It is obviously that the use of sample of less sizes will lead to saving of time and costs.

The given formulas for calculation of sample size are based on assumption that all rules of sample formation are observed and the only error of the sample is an error conditioned by its size. However it should be noted that the sample size defines accuracy of received results, but not their representativeness.

The last one is defined by a method of sample formation. All formulas for sample size calculation suppose that the representativeness is guaranteed by the use of correct probabilistic procedures of sample formation [4].
**Research Design:**

Marketing research consists of five basic phases (figure 2), of which identification of problem and setting the objectives are determinant. The objectives may be searching, descriptive or experimental, and their achievement occurs through collecting, processing of initial and secondary information.

<table>
<thead>
<tr>
<th>Problem identification and setting the objectives</th>
<th>Selection of information sources</th>
<th>Collecting the information</th>
<th>Analysis of the information collected</th>
<th>Presentation of the results obtained</th>
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</table>

**Fig. 2: Scheme of Basic Phases of Marketing Research.**

As a result of marketing researches, the author splits the market into segments, i.e. consumer groups with similar preferences and equally responding to applied methods of attraction of attention to the product.

Within the scope of this work women’s wear segments (jackets+skirt) of different price brackets were analyzed. For consumers with low, medium and high income level the preferences differ significantly in models, constructive solutions and materials of which the product is made and manufacture quality. The purpose of this research was to identify the price ranges for jackets of different price brackets in Almaty and consumer preferences of these brackets.

The marketing research was carried out by structured survey and questioning method. Questionnaires have been completed by interviewees and independent respondents in case of internet distribution. Sample amount made 53 people. Representativeness of the sample was provided by probabilistic approach whereby selection of respondents was accomplished on the basis of subjective criteria – women aged from 20 to 55 years, social status – students, specialists, line managers, department heads, and company directors.

Reliability of conclusions on regularity of social phenomena depends on the quality of the sample performed. At scientifically substantiated determination of number of respondents a sampled population serves as a model of general population provided that statistical partition is accurately reproduced, i.e. a sample in decreased size delivers diversity by the index of partition dispersion of general population individuals.

Quality of sample is estimated by two aspects: representativeness and reliability, so that discrepancies between the values of sampled and general average shall not exceed allowable value of sample limiting accuracy.

The sample can be repeated and non-repeated. The same element at repeated sample may get into sampled population several times, as this element returns to general population after testing and may get into sample repeatedly.

In non-repeated sample each element of general population may get into the sample population only once, since after the test it does not return into general population [7].

Non-repeated sample is used in this marketing research because the respondent is inquired once.

Volume of random non-repeated sample id calculated according to formula:

\[ n = \frac{t^{2} \cdot S^{2} \cdot N}{N \cdot \Delta^{2} + t^{2} \cdot S^{2}} \]  

where \( t \) - confidence coefficient,  
\( S^{2} \) - variance estimate of response;  
\( N \) – number of general population;  
\( \Delta^{2} \) - confidence interval or reduced error.

At sufficiently huge volumes of general population (N) the augend in denominator \( (t^{2} \cdot S^{2}) \) can be ignored then formula shall beread as:

\[ n = \frac{t^{2} \cdot S^{2}}{\Delta^{2}} \]  

Depending on the value of sampled population measurement precision and value of sample limiting accuracy \( \Delta \) can be determined:

\[ \Delta = \pm t \sqrt{\frac{S^{2}}{n}} \]  

Confidence coefficient \( t \) is determined from the tables made for probability distribution function. At confidence level \( \varepsilon = 0.05 \) to which confidence probability \( \gamma = 0.95 \) corresponds (i.e. reliability level 95%) confidence coefficient is \( t = 2 \).

Variance estimate is calculated as arithmetic average out of deviation squares per formula (2.4):
where $x_i$ - value of respondents' results
\[ \bar{x} \] - average value of respondents results.
For questions of sociologic questionnaire with quantitative scales maximum estimated numeric value of evaluation of response variance is $S^2 = 0.24$.
Value of respondent answers, average value and calculated dispersion are given in Table 1. The questionnaire contains 8 open- and close-end questions.

**Buyer Questionnaire:**

1. How often do you buy a jacket?
   a) every month
   b) every half-year
   c) every year
   d) every two year
   e) less often than once every two year

2. What criteria are important for you when you choose women costume? (specify three criteria in ascending order)
   a) price
   b) interesting solution of details (pocket, collar, sleeves)
   c) fibrous composition of fabric
   d) quality of product
   e) quality of fitting
   f) brand

3. Specify brands/shops where you buy women clothes more often
   a)
   b)
   c)
   d)
   e)

4. What silhouette do you prefer in costumes?
   a) close-fitting
   b) semi-close-fitting
   c) straight
   d) trapeze

5. Choose the type of jacket collar which do you like
   a)
   b)
   c)
   d)
   e)

6. What is fibrous composition of women costumes which you buy more often?
   a) 100% wool, silk, cotton or linen
   b) 70-90% natural fibres and 10-30% synthetic fibres
   c) 50-70% natural fibres and 30-50% synthetic fibres
   d) 20-50% natural fibres and 80-50% synthetic fibres
   e) 100% synthetic fibres

7. Tick the range of cost of women costume acceptable for you
   a) below 5,000
   b) 5,000 - 15,000
   c) 15,000 - 35,000
   d) 35,000 - 60,000
   e) 60,000 - 85,000
   f) 85,000 - 125,000
   g) above 125,000

8. You age
   a) under 20
   b) 20 - 35
   c) 35 - 45
   d) above 45
Table 1: Values of respondents answers, average value and dispersion.

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Sample limiting accuracy is established by researchers logically based on determination on allowed deviation degree from theoretical variables of general population partition or calculated based on value of already available sample.

Value of sample limiting accuracy is calculated according to formula (9):

\[
\Delta = \pm 2 \sqrt{\frac{0.24}{53}} = 0.134 \approx 13\%
\] (9)

It means that in 87% of possible samples the consumers' responses will match with the responses received from the survey, and in 13% they will not.
The age of major part of inquired buyers (59%) is within the range from 20 to 35 years old. Complete distribution of respondents per age groups is presented in Figure 3.

![Figure 3: Circular chart of respondents' distribution per age groups.]

Distribution of respondents per social status is presented in Figure 4. More than a half consists of employees engaged in engineering and technical, economic and other activities.

![Figure 4: Circular chart of respondents' social status.]

34% of inquired women indicated that the jacket cost acceptable for them is within the range of up to 15,000 KZT, 43% indicated the range 15,000 - 50,000 KZT, and 23% have possibility to buy a jacket for more than 50,000 KZT. Percentage ratio of all jackets cost ranges is presented in figure 5.

![Figure 5: Circular chart of jackets cost for consumers with different income level.]

Since living standards and price level in different regions of country differ greatly from each other, then when determining the price brackets for women's wear population consumer demand should be reasonably regarded. According to statistic data, average salary in 2012 in Almaty Oblast made 92,840 KZT. This index and acceptable ranges of jacket cost for women of different ages and social status allow distinguishing following segments of jackets market: low price bracket – up to 15,000 KZT, average – from 15,000 to 50,000 KZT, high price bracket – above 50,000 KZT [8].
Low market price bracket is targeted to consumers with average income and presented by inexpensive clothing, whose price is kept near clothing markets level. Consumers of said group have rational approach to selection of clothes, give preference to less extravagant, more practical and universal models suitable for different situations.

Consumer questioning results on criteria of jacket selection (Figure 4) revealed that the determinants for consumers of low price group are optimal correlation of price and quality: at cheap cost of good there should be sufficiently good make and fitting.

Such requirement is conditioned with the fact that in low price bracket the consumers cannot afford to change items of their wardrobe frequently and look at selection of clothing from usability standpoint. With that, you often have to renounce from the material quality, its fibrous composition and finishing, and original constructive solution of model, since these criteria increase product cost.

There is one more trend in low price bracket - youth clothing with low price and low quality. Such clothing is designed for one season at most and is popular among teen-agers who are inclined to change it frequently.

The main share of low price bracket of Kazakhstan clothing market is hold by SELA, OGGI, OSTIN, INCITY, Gaukhar, Stradivarius, Bershka, ParkBravo, NewYork, Jennifer. The analysis of the range allowed identifying cost of jackets: 2,000 – 13,995 KZT. In general, the products are made of materials with high content of synthetic fibers: from 65% to 100%. The content of natural fibers in composition of material does not exceed 40%. Figure 5 shows the chart of ranges of natural fibers content in jackets of different price brackets.

In medium bracket the price range and consumer demand is higher than in low range. Consumers of this group of goods are mostly people aged from 22 to 40 years with regular and stable income, those are people working in middle management or young people supported by their parents - all of them may afford frequent visits to fashion stores and buy both sensible and not quite sensible clothing.

Survey results showed significance of construction singularity and quality of jackets manufacture for consumers of medium price bracket (Figure 6).
The manufacturers that dynamically respond to high fashion trends are able to comply with the demands of this category. However, not all experts agree with such viewpoint, as in many cases quick copying of fashionable models lead to low quality of good. Furthermore, the buyers prefer to buy clothing not just for one season, but for a longer period. The representatives of medium price bracket as compared to the low one are more inclined to buy clothes of specific brands.

Medium price bracket of women’s wear is presented by domestic companies Semiramida, Symbat, Kaumenova, foreign Zara, Mango, MEXX, and Benetton. Prices for jackets in listed stores are varied from 14,995 to 52,950 KZT. As a rule, the content of natural fibers in material composition is from 35 to 85%.

High price bracket has restricted trend for consumer class with very high demands to clothes. These are women mostly of over 30 years old, with high income level. First of all, it should be noted that this category of people value perfect quality in everything: materials, construction, processing. Models, presented by boutiques of popular brands completely satisfy these demands. Consumer adherence to one or another brand depends on the buyer’s taste and brand orientation to age group. Several fashion lines made in different styles are often released by a brand. According to the survey, the women from high price category are interested in exclusiveness of a model and material irrespective of product cost, as well as quality of fitting (Figure 6).

Representatives of high price category stored are boutiques with world-known names such as LiuJo, Kuralai, PatriziaPepe, MaxMara, Etro, MonPlaisir, Kenzo. Prices for jackets in Almaty stores are within the range from 67,250 to 238,750 KZT. Products are made solely of natural materials, where small content of elastane is admitted.

Recommendations for further research:

The research conducted showed the prospects of automation of a part of business processes of garment manufacture. To confirm the hypotheses that dressmakers will receive competitive advantages as a result of automation it is necessary to make economic calculations.

In particular it is necessary to estimate the economic effect from the introduction of clothes designing process automation expected owing to the reduce of time of highly skilled labour use as well as economic effect from the consulting and sale process automation expected as a result of the decrease of man-hours and increase of acceptable quality of service.

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**Fig. 8:** Criteria chart for jacket selection in medium price bracket.

**Fig. 9:** Jacket selection criteria in high price bracket.
Existing IT technologies create wide possibilities both of customers consulting and women clothes designing. In particular, developing technologies of 3D modelling create conditions for virtual fit test of clothes for customer.

Development of individual dressmaking industry may receive additional momentum due to creation of library of 3D images of customers (full length figure) and order/production of clothes without visiting a dressmaker, fit tests and participation of consultants. This will create new conditions in which dressmakers could compete with industrial manufacture, and fashion designer's clothes could compete with brands excluding expensive marketing activities.

Hence, it is recommended to continue research work in the following directions:

1. Calculation of economic effect from clothes designing process automation.
2. Assessment of the potential of existing technologies including 3D modelling for the use during customers consulting, sale and clothes designing.
3. Assessment of the influence of IT technologies use during customers consulting and sales to the perception of service quality, level of loyalty and economic results of company’s activity.
4. Revelation of criteria for differentiation of models, constructions, materials and processing methods according to price segments.
5. Development of data base of models, construction units, materials and processing methods for different price segments and methods of its replenishment.
6. Establishment of automated system of selection of materials, structural and technology concepts of women jackets for different price group on the basis of specifiable cost of product.
7. Development and implementation of mathematical model of selection of optimal collection from the point of view of minimization of processing methods number.

Conclusions:

After analysis of consumers preferences for costumes buying and assortment of women wear shops, three main price segments were separated and the significance of selection criteria for each of them were defined. Therefore the research confirmed that the different consumer segment of the market have conspicuous preferences in regard to one or another features of clothes. It creates favourable conditions for development of consulting and sale algorithm for dressmakers.

Based on the results of research carried out it is possible to make conclusion that women costumes are actual type of clothes independent on price segment. Hence automation of design process of women clothes (jackets+skirts) on the basis of the actual models and materials is a high-demand tool for garment manufacturer, which will allow forming a model range for each of selected price categories of consumers.

REFERENCES