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# SEGMENTATION IN SPORT SERVICES: A TYPOLOGY OF FITNESS CUSTOMERS 

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#### Abstract

This article considers customer typology in fitness centres. The main aim of our survey is to state the basic segments of fitness customers and create their typology. A survey was conducted on a sample of 1004 respondents from 48 fitness centres. We used questionnaires and latent class analysis for the assessment and interpretation of data. The results of our research are as follows: we identified 6 segments of typical customers, of which three are male (we called them student, shark, mature) and three are female (manager, hunter, and student). Each segment is influenced primarily by the age of customers, from which we can develop further characteristics, such as education, income, marital status, etc. Male segments use the main workout area above all, whilst female segments use a much wider range of services offered, for example group exercises, personal training, and cardio theatres.


Keywords: fitness; segmentation; typology; customer; Latent Class Analysis; questionnaire survey

DOI: 10.14712/23366052.2015.30

## INTRODUCTION

Nowadays people usually try to lead a healthy lifestyle. Since the level of childhood obesity (together with adult obesity) keeps increasing, there are many suggestions about how to stop it or slow the trend down. Physical or sport activities are often recommended as a prevention from health problems, and an improvement in physical condition, personal appearance and the quality of our lives as a whole. From this point of view a fitness and wellness facility provides opportunities for nearly every person. According to Hoeger and Hoeger (2011), physically fit and healthy people leading positive lifestyle have a healthier and better life. Bakas (2009) describes wellness as a way of coping with stress and considers it one of the main pillars of 21st century life. He also considers more sport
and physical exercise as important in wellness trends. Using today's fitness and wellness centres is common not only for people who are devoted to sport regularly, but also for people who call themselves sportspeople but are mostly irregular or inactive participants. This offers business opportunities for companies providing sport services.

However, in the market there are too many companies. On the one hand, customers have a wide range of services of varied quality, whilst, on the other, a customer does not know or even is lost in the plethora of sport services. Recently, many new exercises, lessons, and training methods have appeared, as reported by Thompson (2009). For companies dealing in this highly competitive market it is a tough contest to obtain as many target customers as possible. What is very important for any service company is the loyalty of present customers. The company must first be able to identify the target customers, before it can know and understand them, and be able to provide a "made to measure" service. Of course, whilst every customer is an individual with different characteristics and needs, it is nevertheless possible to divide customers into particular segments, which group similar characteristics and needs. A customer typology is one of the main tools of marketing activity, and not only in the service market. There are many general typologies of customers - e.g. see Vysekalová et al. (2011) or Shiffman et al. (2008) - but nevertheless, it is more suitable for each company to have a specific classification of their customers' types, especially in the sport services environment.

This article aims to create a specific customer typology in today's fitness centres in the region of Prague. This region was chosen for its diversity from the other regions in the Czech Republic. In the Prague area there is a huge number of fitness centres (with workout area/gym, cardio theatre and group lessons), which is, according to the number of inhabitants ( 51 fitness centres at circa $1,260,000$ inhabitants), a highly competitive environment, where the winners are those who know their customers and who offer them a proper service. In comparison with Prague, there are 28 fitness centres for circa $1,741,000$ inhabitants of Vienna, and 7 fitness centres for circa 380,000 inhabitants of Zurich (see website Statista.com). Our suggested typology of Prague fitness centres customers is based on answers to the questions: What are the customers like, what are their preferences, and what kinds of services do they use more often in Prague fitness centres? These are the main aspects of the presented typology.

In the Czech Republic so far, no similar research has been published i.e. mapping the recent market for customers in the area of sport services. In this field, this is an innovative study in the investigation of customers, or more precisely Prague customers. Companies often create their own customer typology, but their research methods and especially analytic methods are not sufficient from the scientific point of view. In our study we have sought to provide a typology across all fitness centres in Prague, mapping the Prague market regardless of the particular business subject. Obviously, it is not an exhaustive examination, but a representative selection of fitness centres and their customers as well.

## LITERATURE REVIEW

Current marketing tends to focus on the building of long-lasting relationships with customers. Especially in the area of services, precisely sport services, the relationship with
customers is an inseparable part of the everyday activities of sport service management. Customer relations in sport services are discussed thoroughly by Berry (2002). From this point of view it is necessary to know the customers and keep them loyal. Berry and Linoff (2004) deal with the importance of "customer relationship management" from the aspect of customer data collection. They demonstrate that recent customers are the richest source of data. Consequently, we can use the data for customer segmentation and to state their basic types. Čáslavová (2009) shows that these homogenous groups evidence similar needs and similar reaction to sales operations in the market. As mentioned above, many authors involved in marketing pay attention to customer typology in its basic form. This usually means a customer typology according to general segmentation criteria, including geographical, demographical, psychological, psychographical and social aspects, and then further aspects connected with the benefits of product use (as well as combinations of all the above) as noted by Schiffman et al. (2008). Vysekalová et al. (2011) extend the general typology of customers, for example including human physique, character, lifestyle, consumer behaviour, and neuropsychological factors, focusing on a specific product, generational type, etc. Vyncke (2002) deals with typology according to lifestyle, moving away from the AIO method (activities, interest, opinion) to aspects such as aesthetics, values, life visions, and media preferences. Kotler (2007) and his family life cycle (which includes a series of developmental stages through which a family moves over time - unattached adult, newly married adults, childbearing adults, pre-school-age children, school-age children, teenage children, launching centre, middle-aged adults, retired adults) must not be omitted, either.

Apart from the generally useful typologies, there are many features added for particular purposes e.g. Internet users (Schiffman \& Kanuk, 2004), online shoppers (Rohm \& Swaminanthan, 2004), social website users (Lorenzo-Romero \& Alarcon-del-Amo, 2012); and, in the sport context for example, cyclist typology (Vysekalová et al., 2011), ice hockey spectators (BPA study in Čáslavová, 2009), and football fans (UFA sports study in Čáslavová, 2009). Globally, Stewart, Smith and Nicholson (2003) offer a critical evaluation of the typology of sports consumers, as did Bednarik et al. (2007) in the context of Slovenia.

The fitness sphere, which is also connected with this article, is a contemporary focus, taking into account healthy lifestyle and wellness mentioned above. Prague, qua an examined region, is a very interesting market for fitness centres, and there is a highly competitive environment here, with several dominant chains such as BBC Solarium and Fitness, World Class, Holmes Place and Pure. Balance Club Brumlovka might be the only rival for these strong competitors. The rest of the fitness centres are mostly medium-sized or small local ones with a small market share. However, all of them have the same interest - to obtain as many loyal customers as possible.

The question of how to attract customers and retain a long-lasting relationship with them is addressed by Hurley (2004). He describes the classification of activities and inventiveness on 3 levels in relation to the decisive criterion of customers - financial (level 1); financial and social (level 2); financial, social and structural (level 3). Different marketing activities and tools are needed for each of these levels. Despite the many and various strategies and marketing tools used, proper and adequate quality of fitness service for particular groups of the customers remains important. According to SERVQUAL
methods customer loyalty is based on quality of sport services (see Javadein et al., 2008). Customers' expectation and appreciation of quality service in fitness centres, and response to customers' requirements, are suggested as important factors by many authors, e.g. Afthinos et al. (2005) and Ferrand et al. (2010).

Cluster analysis is the most frequently used method for research on customer typology. Funk, King and Pritchard (2015) used factor analysis with varimax rotation and with the help of this kind of cluster analysis, five segments of winter sport tourists were defined which differ with regard to age and chosen destination. In our case we used a different kind of factor analysis (latent class analysis) and 'chosen destination' was replaced by motives with which customers enter their fitness centre. Punj and Stewart (1983) briefly consider the kinds of cluster analysis often used in the marketing context. Nowadays an LCA (latent class analysis) method is widely used, for example by Bhatnagar and Goose (2004) for segmentation of online shoppers. An increase in popularity of this method against classic cluster analysis is seen by Magidson and Vermunt (2002), especially given the effectiveness of modern computers and statistical software. And de facto LCA method is based on the creation of a model to discover the latent classes (customer segments, in our case). In particular, this method is used by Lorenzo-Romero and Alarcon-del-Amo (2012). These studies, together with that of Gilani et al. (2014) regarding popular sport activities in Iran with use of factor analysis, are good foundations for our choice to use the LCA method for the creation of a customer typology.

## PURPOSE

The main aim of the survey is to create a specific typology of recent customers of Prague fitness centres. If we want to achieve this aim, it is necessary to find out whether the similar groups of customers really exist. The survey is based on a questionnaire which was answered by the customers of Prague fitness centres. Therefore we had to construct a questionnaire which measures the basic characteristics of customers. Consequently, the most important part is to select a proper and adequate statistical method for the analysis of collected data in order to be able to divide customers into the particular segments relevantly.

## METHODS

The procedures used by researchers cited above were the inspiration for the creation of the methodological design of our research, but due to the specific environment of the Czech fitness centres we finally resorted to a new operationalization in collaboration with experts from psychology, statistics, methodology and the fitness environment. The psychologists considered possible standards of behaviour of Czech respondents; the consultations with methodologists and statisticians were motivated by the aim of understanding the methodologies; and consultations with fitness experts included the specifics of this environment. Psychologists, statisticians and methodologists were recruited from among experts at Charles University. Fitness experts consisted of managers of major fitness chains in Prague.

## Participants

The survey population of participants is made up of a total of 1004 customers selected according to convenience from 48 randomly selected Prague fitness centres with a workout area/gym, a cardio theatre and group lessons. This includes both member and nonmember fitness centers, and everywhere it is possible to buy a single entry. Regarding the fact that the survey examined the structure and types of customers who attend Prague fitness centres, we did not use intentional (quota) selection. The resulting structure of the survey collection is described by two indicators - gender and age. These two criteria are taken into account in the description of each type of customer.

Gender was especially the main filter criterion. In the population there were 522 males and 482 females. With regard to the age structure of the survey, a detailed view is stated in the following Table 1. This table also demonstrates that Prague fitness centres are attended by customers within the age 15-40 (82.2\%), although older customers are also a significant part $-17.8 \%$.

Table 1. Age Structure of Participants

| Age | Absolute <br> frequency | Relative <br> frequency index |
| :---: | :---: | :---: |
| $15-20$ | 103 | 0.1027 |
| $21-25$ | 252 | 0.2512 |
| $26-30$ | 196 | 0.1953 |
| $31-35$ | 166 | 0.1653 |
| $36-40$ | 108 | 0.1079 |
| $41-45$ | 48 | 0.0477 |
| $46-50$ | 58 | 0.0574 |
| $51-55$ | 42 | 0.0417 |
| $56-60$ | 21 | 0.0207 |
| 61 and more | 10 | 0.0100 |
| Total | 1004 | 1 |

## Instruments

We used a questionnaire for the research of customer typology in Prague fitness centres. The questionnaire includes a list of criteria according to which the respondents are matched to customer types. The criteria were established during group discussions at the Faculty of Physical Education and Sport, Charles University in Prague. We did three group discussions with three independent groups formed from experts at the research and sport service, Faculty students and fitness centre employees. With the help of these discussions we set 13 criteria describing the customers. We had to omit two of them because of impossibility of including the results into the statistical data processing - time and distance availability of the fitness centre, and importance and ranking of the selected aspects for the customers. After final modification our questionnaire includes 11 criteria.

The criteria are stated as below:

- Gender
- Age
- Average monthly income
- Completed education
- Marital status
- Point of departure to the fitness centre
- Time spent in the fitness centre
- Relationship to sport outside fitness centre
- Frequency of attendance at the fitness centre
- Most frequent reasons for attending the fitness centre
- Most frequently used services in the fitness centre


## Procedures

As has been mentioned above, this was a questionnaire method used for the customers of Prague fitness centres, which ran during May 2012. The questionnaire survey itself was administered by 53 well-trained interviewers in 48 fitness centres in various city districts of Prague. Our paper questionnaire was distributed among the customers during their attendance in the fitness centre. They decided on whether to fill in it at the beginning or at the end of their attendance. Afterwards, the customer handed over the completed questionnaire to the interviewer. After data collection, the answers were encoded for statistical processing.

## Statistical analysis

Data were analysed using the LCA method. At first, a cluster analysis had been planned, but this was not appropriate for the number of respondents, nor for the large number of criteria established. The LCA method is able to divide respondents into single segments on the basis of likelihood of membership of the latent class (segment). The analysis consists of two models, one for males, and one for females. 3 basic types were created for each gender, making a total of 6 customer groups. An optimum number of customer types were established on the basis of test results and expert estimation in relation to the total number of respondents.

## RESULTS

By means of the LCA method, 3 types of male and female customers were identified. However, it is important to monitor other indicators describing the quality of the chosen models. The first important index is identification of each single latent class (customer types), which is marked as entropy statistics $-\mathrm{E}_{\mathrm{s}}$. In the table 2 below there are indices for each gender.

Table 2. Quality of classification

| Typology acc. Gender | $\mathbf{E}_{\mathbf{s}}$ |
| :---: | :---: |
| Males | 0.887 |
| Females | 0.886 |

As we can see from T2, both indices are near to 1 , so we can say that the latent classes are not the result of coincidence. In the following T3 there are matrices with coefficients which describe the likelihood of members of one latent class coexisting as members of other latent classes, for each gender.

Table 3. Likelihood of membership in latent classes

|  |  | Latent class - males |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | 1 | 2 | 3 |
| Members of latent classes - males | 1 | 0.996 | 0.033 | 0.000 |
|  | 2 | 0.029 | 0.931 | 0.040 |
|  | 3 | 0.000 | 0.051 | 0.949 |
|  |  |  |  |  |
|  |  | Latent class - females |  |  |
|  |  | 1 | 2 | 3 |
| Members of latent classes - females | 1 | 0.955 | 0.045 | 0.000 |
|  | 2 | 0.035 | 0.928 | 0.037 |
|  | 3 | 0.000 | 0.047 | 0.953 |

If we look at the indices of matrices diagonally, we see a really high value of likelihood, so we can deduce a high definiteness of partition and membership of the respondents in the single classes. On the other hand, in some cases the likelihood of coexistence of a member of one class as a member in another class is really low, nearly negligible, even zero. The basis for the predictive value of results is whether each section contains enough respondents. The function of this criterion is to confirm that a group of similar customers was used, not just several individuals. The analysis is demonstrated in T4.

Table 4. Distribution of respondents in the latent classes

| Latent class - males | Absolute frequency | Relative <br> frequency index |
| :---: | :---: | :---: |
| 1 | 166 | 0.31801 |
| 2 | 222 | 0.42529 |
| 3 | 134 | 0.25670 |
| Latent class - females | Absolute frequency | Relative <br> frequency index |
| 1 | 153 | 0.31743 |
| 2 | 164 | 0.34025 |
| 3 | 165 | 0.3432 |

In the case of this research the respondents are distributed quite equally, though a smaller deviation is seen in males. The second latent class is represented by nearly $42.5 \%$ of males, and the next two groups are numerous enough to be considered as types (groups) of customers. The following text names the resulting latent classes, and provides descriptions of the six identified types of customers in Prague fitness centres.

## Male Typology

## 1st latent class - Students

This class consists of 166 students, young men up to the age of 25 (dominant possibility 21-25), whose income, according to age, is not very high. They might either be dependent on parents' income or temporary jobs, otherwise they are not able to attend the gym. Education is mostly secondary schooling, with a leaving exam. They are single men, without a partner or in a partnership. They are mostly students and young people living with their parents. They go to the fitness centre from their home or from their school. They have a lot of free time, they do not work full-time, consequently they spend a longer period of time during one visit to the fitness centre. They do not have to rush to their jobs or home. They are mostly recreational sportsmen, but they often feel like professionals. As mentioned above, they have plenty of leisure time, so they go to the fitness centre during the week often; most frequently $2-3$ times per week.

Concerning the reason "why", there are three typical possibilities: body-building, physical condition improvement and to a certain extent, part of training process. By far the most dominant service used by students is the main workout area. In this case it is logically related to the reasons of visit.

Table 5. Male student characteristics

| Criterion | Variation of criterion | Relative frequency index occurrence of value in class |
| :---: | :---: | :---: |
| Age | $\begin{aligned} & 16-20 \\ & 21-25 \end{aligned}$ | $\begin{aligned} & 0.329 \\ & 0.593 \end{aligned}$ |
| Average income, monthly | $\begin{gathered} \hline 0-9,999 \mathrm{CZK} \\ 10,000-19,999 \mathrm{CZK} \end{gathered}$ | $\begin{aligned} & 0.556 \\ & 0.313 \end{aligned}$ |
| Education | Secondary with leaving exam | 0.523 |
| Marital status | Single (without partner) Single (partnership) | $\begin{aligned} & 0.441 \\ & 0.511 \end{aligned}$ |
| Point of departure | Place of living School | $\begin{aligned} & 0.578 \\ & 0.270 \end{aligned}$ |
| Most frequent time spent in fitness | $\begin{aligned} & 31-60 \mathrm{~min} . \\ & 61-90 \mathrm{~min} . \\ & 91-120 \mathrm{~min} . \end{aligned}$ | $\begin{aligned} & 0.240 \\ & 0.491 \\ & 0.213 \end{aligned}$ |
| Relationship to sport | Recreational Professional | $\begin{aligned} & 0.532 \\ & 0.344 \end{aligned}$ |
| Frequency of attendance to fitness | 2-3 per week | 0.438 |
| Most frequent reason of going to fitness | Bodybuilding Keeping fit Part of training process | $\begin{aligned} & 0.303 \\ & 0.304 \\ & 0.203 \end{aligned}$ |
| Most widely used service | Main workout area | 0.844 |

## 2nd latent class - Sharks

The second class consists of men, who are older than those from the first group - between $26-35$ years. They are strong and determined to succeed in life, and have a higher income,
on average $20,000-40,000 \mathrm{CZK}$. Most graduated from university, and many from secondary school with a leaving exam. As we can judge, they are quite rich people, who started their careers immediately after leaving school, or started their own business and nowadays are financially safe. We can also find in this group men with degrees (MA, Dipl.-Ing.), who have a high income because of their education. They are mostly single, which is similar to the first group, but we can also find married men with or without children. They have a regular job, and often go to the fitness centre from their place of work. In comparison with the first latent class they spend less time during one visit, because of their occupation. Most of them are active recreational sportsmen. Most probably they are motivated and successful people, who try to go regularly to keep fit and to build their bodies. Again, the most dominant service it the main workout area.

Table 6. Shark characteristics

| Criterion | Variation of criterion | Relative frequency index occurrence of value in class |
| :---: | :---: | :---: |
| Age | $\begin{aligned} & 26-30 \\ & 31-35 \end{aligned}$ | $\begin{aligned} & 0.420 \\ & 0.346 \end{aligned}$ |
| Average income, monthly | $\begin{aligned} & \hline 20,000-29,999 \mathrm{CZK} \\ & 30,000-39,999 \mathrm{CZK} \end{aligned}$ | $\begin{aligned} & 0.389 \\ & 0.306 \end{aligned}$ |
| Education | Secondary with leaving exam University (Master's degree) | $\begin{aligned} & 0.279 \\ & 0.358 \end{aligned}$ |
| Marital status | Single (without a partner) Single (partnership) Married (without children) | $\begin{aligned} & 0.221 \\ & 0.426 \\ & 0.204 \end{aligned}$ |
| Point of departure | Place of living <br> Place of work | $\begin{aligned} & 0.345 \\ & 0.644 \end{aligned}$ |
| Most frequent time spent in fitness | $\begin{aligned} & 31-60 \mathrm{~min} . \\ & 61-90 \mathrm{~min} . \end{aligned}$ | $\begin{aligned} & 0.284 \\ & 0.467 \end{aligned}$ |
| Relationship to sport | Recreational | 0.736 |
| Frequency of attendance to fitness | 2-3 per week | 0.476 |
| Most frequent reason of going to fitness | Bodybuilding Keeping fit | $\begin{aligned} & 0.238 \\ & 0.389 \end{aligned}$ |
| Most widely used service | Main workout area | 0.701 |

## 3rd latent class - Matures

This class is very diverse concerning the age. But we are able to say they are older men than in the first group. They have high income. Education is the same as in the first class - university, secondary with a leaving exam. They probably have a child, and they go to the fitness centre from their homes or work. They spent less time there compared with the other two groups. They are mostly active recreational sportsmen. They train irregularly, very likely because of their work, but they are ready to spend more money, often to pay for a personal coach. They prefer weight reduction and health reasons, which is also different from the first two groups. The main workout area service still dominates but to a lesser extent in comparison with the other classes. Consequently, cardio theatre and relax and wellness services begin to be used.

Table 7. Mature characteristics

| Criterion | Variation of criterion | Relative frequency index occurrence of value in class |
| :---: | :---: | :---: |
| Age | $\begin{aligned} & 31-35 \\ & 36-40 \\ & 41-45 \\ & 46-50 \\ & 51-55 \end{aligned}$ | $\begin{aligned} & 0.126 \\ & 0.242 \\ & 0.169 \\ & 0.235 \\ & 0.147 \end{aligned}$ |
| Average income, monthly | 20,000-29,999 CZK 30,000-39,999 CZK 40,000-49,999 CZK 50,000 CZK and more | $\begin{aligned} & 0.212 \\ & 0.241 \\ & 0.241 \\ & 0.251 \end{aligned}$ |
| Education | Secondary with leaving exam University (Master's degree) | $\begin{aligned} & 0.239 \\ & 0.467 \end{aligned}$ |
| Marital status | Married (with children) | 0.569 |
| Point of departure | Place of living Place of work | $\begin{aligned} & 0.346 \\ & 0.632 \end{aligned}$ |
| Most frequent time spent in fitness | $\begin{aligned} & 31-60 \mathrm{~min} . \\ & 61-90 \mathrm{~min} . \end{aligned}$ | $\begin{aligned} & 0.284 \\ & 0.467 \end{aligned}$ |
| Relationship to sport | Recreational | 0.736 |
| Frequency of attendance to fitness | 2-3 per week 1 per week | $\begin{aligned} & 0.344 \\ & 0.347 \end{aligned}$ |
| Most frequent reason of going to fitness | Health reasons Keeping fit Weight reduction Relaxation | $\begin{aligned} & 0.181 \\ & 0.367 \\ & 0.122 \\ & 0.115 \end{aligned}$ |
| Most widely used service | Main workout area Personal training Cardio theatre Relax and wellness | 0.408 0.202 0.179 0.131 |

## Female Typology

## 1st latent class - Managers

This latent class consists of women between the ages of 31-55. It is necessary to emphasize that the first class is very diverse. Some women are of above average income in comparison with the average nominal wage in the region. Secondary education or Master's degree is the most frequent type of education connected with this class. They are successful and financially safe. Those women are married, but getting older, and the number of divorced women is increasing. They go to the fitness centre from their home or place of work. They do not spend much time in the fitness centre. The time is maximally 90 minutes, but more often 60 minutes. They work or look after their children. They are active recreational sportswomen. They want to look good for their age and to keep good a figure. They like going to the fitness centre regularly to reduce their weight and to build their bodies. They are determined. They go mainly to the group lessons, which is very different from male classes. Males prefer the main workout area, females prefer group lessons, but also cardio theatres and personal training.

Table 8. Manager characteristics

| Criterion | Variation of criterion | Relative frequency index occurrence of value in class |
| :---: | :---: | :---: |
| Age | $\begin{aligned} & 31-35 \\ & 36-40 \\ & 41-45 \\ & 46-50 \\ & 51-55 \end{aligned}$ | $\begin{aligned} & 0.155 \\ & 0.208 \\ & 0.156 \\ & 0.171 \\ & 0.145 \end{aligned}$ |
| Average income, monthly | $\begin{aligned} & \text { 20,000-29,999 CZK } \\ & \text { 30,000-39,999 CZK } \end{aligned}$ | $\begin{aligned} & 0.333 \\ & 0.327 \end{aligned}$ |
| Education | Secondary with leaving exam University (Master's degree) | $\begin{aligned} & 0.288 \\ & 0.481 \end{aligned}$ |
| Marital status | Married with children Married with independent children Divorced | $\begin{aligned} & 0.536 \\ & 0.217 \\ & 0.191 \end{aligned}$ |
| Point of departure | Place of living Place of work | $\begin{aligned} & 0.622 \\ & 0.372 \end{aligned}$ |
| Most frequent time spent in fitness | $\begin{aligned} & 31-60 \mathrm{~min} . \\ & 61-90 \mathrm{~min} . \end{aligned}$ | $\begin{aligned} & 0.429 \\ & 0.395 \end{aligned}$ |
| Relationship to sport | Recreational | 0.729 |
| Frequency of attendance to fitness | 1 per week 2-3 per week | $\begin{aligned} & 0.349 \\ & 0.342 \end{aligned}$ |
| The most frequent reason of going to fitness | Health reasons Weight reduction Bodybuilding Keeping fit Enjoyment Relaxation | $\begin{aligned} & 0.118 \\ & 0.194 \\ & 0.268 \\ & 0.138 \\ & 0.130 \\ & 0.123 \end{aligned}$ |
| Most widely used service | Main workout area Group lessons Cardio theatre Personal trainings | $\begin{aligned} & 0.239 \\ & 0.474 \\ & 0.100 \\ & 0.103 \end{aligned}$ |

## 2nd latent class - Hunters

The second class consists of younger females than those in the first group (between 21-35 years old) and their average monthly income is smaller than in the first group (10,000-29,999 CZK). Educational background is the most diverse of all groups, including secondary schooling with a leaving exam, Bachelor's degree and Master's degree. They are about a generation younger than the first group, and are mostly single, but a fairly large fraction are married. They mainly go to the fitness centre from their home or place of work. They spend more time there, since they have more free time than the older women in the first category. An active recreational sportswoman profile dominates again. They are motivated and young they want to be considered attractive. They are old enough to seek for the best partner for their lives, therefore we cannot avoid volatility in their behaviour. They do exercises $2-3$ times per week. They are focused on weight reduction, body-building, and to a certain extent on keeping fit. They predominantly attend group
lessons, and cardio theatre, whilst the main workout area is used by a minority. They are not willing to pay money for a personal coach, so they primarily do not attend individual classes.

Table 9. Hunter characteristics

| Criterion | Variation of criterion | Relative frequency index - <br> occurrence of value in class |
| :---: | :---: | :---: |
| Age | $21-25$ | 0.147 |
|  | $26-30$ | 0.445 |
|  | $31-35$ | 0.296 |
| Average income, monthly | $10,000-19,999$ CZK | 0.335 |
|  | $20,000-29,999$ CZK | 0.451 |
| Education | Secondary with leaving exam | 0.234 |
|  | College | 0.155 |
|  | University (Bachelor's degree) | 0.232 |
|  | University (Master's degree) | 0.263 |
| Marital status | Single (partnership) | 0.481 |
|  | Married without children | 0.269 |
| Point of departure | Place of living | 0.396 |
|  | Place of work | 0.578 |
| Most frequent time spent | 31-60 min. | 0.369 |
| in fitness | 61-90 min. | 0.459 |
| Relationship to sport | Recreational | 0.683 |
| Frequency of attendance | 1 per week | 0.295 |
| to fitness | 2-3 per week | 0.402 |
| Most frequent reason | Weight reduction | 0.308 |
|  | Bodybuilding | 0.297 |
| Keeping fit | 0.214 |  |
|  | Main workout area | 0.228 |
|  | Group lessons | 0.343 |
|  | Cardio theatre | 0.279 |

## 3rd latent class - Students

The third class is represented by women aged 25 and under. They are usually students with a very low income. According to their age, they are university student with a Bachelor's degree, or future university students. They have a lot of leisure time and they can spend it in the fitness centre, so average visit is $61-91$ minutes. They go to the fitness centre from home or school, and they are recreational sportswomen. They want value for money, and their attendance is $2-3$ times per week. In comparison with the types mentioned above, their main reason for going to the fitness centre is not weight reduction, since they are young and do not have the same issues that we can see with females in middle age. These women want to build and shape their bodies, and so we can see an increase of interest in the main workout area compared with other segments. They also use cardio theatre and group lessons to meet their goals. Considering their age, they are not willing to pay or they do not have enough money for a personal trainer.

Table 10. Female student characteristics

| Criterion | Variation of criterion | Relative frequency index - <br> occurrence of value in class |
| :---: | :---: | :---: |
| Age | $16-20$ | 0.282 |
|  | $21-25$ | 0.640 |
| Average income, monthly | $0-9,999$ CZK <br> $1,000-1,999$ CZK | 0.588 |
|  | Secondary with leaving exam | 0.302 |
| University (Bachelor's degree) | 0.662 |  |
| Marital status | Single (without partner) | 0.147 |
| Single (partnership) | 0.370 |  |
| Point of departure | Place of living | 0.593 |
| Most frequent time spent | School | 0.560 |
| in fitness | 31-60 min. | 0.291 |
| Relationship to sport | Re90 min. | 0.290 |
| Frequency of attendance | Recreational | 0.499 |
| to fitness | 2-3 per week | 0.602 |
| Most frequent reason | Bodybuilding | 0.368 |
| of going to fitness | Keeping fit | 0.360 |
| Most widely used service | Main workout area | 0.229 |
|  | 0.340 |  |
|  | Cardio theatre | 0.298 |

## DISCUSSION

This survey covers a representative sample of 1004 respondents, which is an adequate sample for normal quantitative research. Although the population was found sufficient, we would need samples with a larger number of respondents for the LCA method. It depends on the criteria and indicators, and in this case it is true that the more variable quantities of segmentation criteria, the larger the number of respondents is needed. LCA methods for the limits of customer typology were found to be the most suitable tool, because cluster analysis is very limited in the forms and numbers of variables and indicators. Models of 3 latent classes for each gender are optimal, as it is demonstrated by entropy indices (vide T2) and matrices of likelihood of the membership to the classes (vide T3). If we notice the division evenness of respondents to the single segments, the results reveal a slight unevenness in advantage for the second class (sharks).

A probable weak point of the survey is the selection of fitness centres. Although it was done by random selection method, as described in the literature reference, the market in Prague is really specific. Four big chains operate there and then medium-sized or more typically small local fitness centres. Of course, the profile of customers may differ from the view of their attending at one of big chains or at a small local fitness centre. This fact was not taken into account in the survey, however, because the number of respondents would have been decreased for the LCA analysis, and consequently we would not have been able to create models precisely.

Finally, we should present the choice of segmentation criteria, which is, of course, a contentious issue. However, we can judge the selection as valuable, owing to two group discussions which were took place during two seminars at the Faculty of Physical Education and Sport, Charles University in Prague, and consultation with an expert on sport services. Criteria were stated with respect to the selected method - an LCA method. Because of the specifics and limitations of the LCA method we had to remove some other results of other criteria from data analysis and interpretation in the paper. These criteria, which are not analysed in this paper are drive/ride/walk time to the fitness centre, facets and preferences which are important for customers. Possible future research may include these other criteria. Also, future research may be made in other regions of the Czech Republic for mutual comparison.

## CONCLUSION AND IMPLICATIONS

The main aim of the survey was to create a customer typology in Prague fitness centres. By means of the latent class analysis method, we established 3 types of customers for each gender. Males (customers of Prague fitness centres), were divided into students, sharks and matures. The main differences arise from their age. Students are the youngest customers, single and with the lowest income, as well as the lowest education. They are focused on bodybuilding and keeping fit, for which they use the main workout area, where they spend quite a lot of time.

Sharks are in the most productive age and at the same time quite young. They manage a larger financial budget than students and they have a better education. They do not have enough time for the main workout area because of their working hours and developing their family life. Matures are the oldest group, and they manage the largest financial budget. They do not go to the fitness centre so often, but they also use other services, especially those focused on health improvement and physical conditioning. All three types are very similar in the frequency of attendance at fitness centres ( $2-3$ per week), the main workout area dominates, and all are recreational sportsmen.

Females were divided into managers, hunters and students. As with males, the biggest differences are connected to their age. Female students are very similar to male students, but they also use cardio theatre and group lessons with different types of exercises. Hunters are the middle-aged group. Predominantly, they are well-educated women with average income, looking for partners for their lives. They are mainly oriented towards weight reduction and bodybuilding. They mainly use group lessons, but the time spent in the fitness centre is restricted by their working hours. Managers in the mid-age are the most varied group, who manage the biggest financial budget. They do not have enough time for fitness activities, but they are really efficient in spending it. They use individual personal training in all basic services offered by fitness facilities - the main workout area, cardio theatre, and group lessons. They have various reasons for going to the fitness centres according to their current physical condition, so it might be body-building, weight reduction or pure enjoyment. Similarly to males, females attend the fitness centre 2-3 times per week and they are recreational sportswomen.

This survey is, to a certain extent, an innovative study, and it should be followed by other research in this area of sport study. The methodology used in the survey appears to be suitable for customer segmentation in the sport service of fitness and wellness types. The outcomes of the survey seem to be useful in providing an analysis of target customers for Prague fitness centres, of course considering the limits described in the discussion section.

The customer typology presented in the paper is useful for marketing managers of the fitness centres, especially in the creation of a product offer for specific groups and types of customers. Today's policy of season tickets and memberships is mostly based on time aspects and amount of all services. But it could be based on this typology, for example for each type of customers, a 'special products/services' package could be made with a suitable pricing structure. This means different types of season ticket or membership for male students, female students, sharks, hunters, matures, and managers for different prices. The marketing communication strategy could include these special offers, and also reasons for going to the fitness centres, according to target groups of the communication campaign.

## ACKNOWLEDGEMENTS

This research was supported by the scientific branch development program UK FTVS n. 39 - Social-Sciences Aspects of Human Movement Studies for the years 2011-2015 at the Charles University in Prague.

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