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CONSUMER BEHAVIOUR IN THE MARKET WITHIN CONTEXT OF ENTREPRENEURIAL DECISION- MAKING

Summary of Promotion Paper

Sector: Management Science
Subsector: Entrepreneurship Management

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THE DOCTORAL DISSERTATION HAS BEEN PUT FORTH
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ATTESTATION

I hereby attest that I have prepared the presented promotion paper, which has been submitted for review at the Riga Technical University for obtaining a doctoral degree. The promotion paper has not been submitted at any other university for obtaining a scientific degree.

Ieva Andersone

March 27, 2012

The promotion paper has been written in the Latvian language and comprises an introduction, 4 parts, findings and recommendations, a list of resources, 10 annexes, 43 figures, 35 tables, 20 equations, on a total of 171 pages. The list of resources consists of 127 items.

The promotion paper and its summary are available for consideration in the Scientific Library of the Riga Technical University at 10 Kipsalas Street.

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GENERAL DESCRIPTION OF THE PAPER

Rapid economic growth in Latvia was observed during the period leading up to the year 2007. The fast pace of development was mainly due to the domestic demand, and private consumption increased considerably. Knowledge about consumer needs, factors and motives affecting one's behaviour is one of the ways of ensuring entrepreneurship competitiveness. Relevant information about the consumer obtained in a timely manner enables an enterprise to plan their work on the market more successfully. As the economic situation deteriorated in Latvia starting with the year 2008, both internal processes (weakening domestic demand impetuses) and external processes (slowing global growth pace) had a great impact. In such a situation, knowledge about consumer behaviour, which helps deciding on the future development and action scenario of an enterprise, is of avail.

The first surveys about the consumer as the object of research were already included in the antique economic concepts, when Democritus voiced a belief that the needs of a person's consumption has specific set boundaries. However, Aristotle saw two levels: economics and chrematistics. Over the time, theories on the place and role of a consumer in the economy were improved by such scholars as Adam Smith, Karl Marx, Karl Menger, Leon Walras, Vilfredo Pareto, and Alfred Marshall among others.

More specific studies of consumer behaviour emerged at the beginning of the 20th century in North America, and they were relating to enterprises that concentrate on the development of the product (production thereof), marketing and psychology science. Over the time, consumer behaviour has been studied by many well-known scientists, because it affects not only the economics, national economy, and entrepreneurship, but it encompasses also several other sectors of sciences, from the micro-level through to macro-level of consumer behaviour. However, this multifaceted interaction of sciences turns the consumer behaviour studies into a complex and resource-consuming process.

The modern-day studies on consumer behaviour in the market have been mainly conducted by scientists from the USA, Germany, and Great Britain. The majority of scientific and practical publications on this topic have been published in the USA, therefore these works reflect peculiarities characteristic specifically to the American culture, and an American-like course of development of this area of science can be observed. It must be noted that a large part of the conducted researches are based on the study of psychological and social aspects in consumer behaviour, however less emphasis is placed on modelling and forecasting consumer behaviour.

Consumer behaviour studies form an important component in the entrepreneurial decision-making process. By studying and forecasting consumer behaviour, managers of companies can plan their sales volumes, company's development opportunities, make justified investments. The best-known consumer behaviour models in the world, which can be used in business decision-making, are mainly applicable for large and medium sized enterprises. However, according to the statistical data, more than 95 % of enterprises in the Latvian market belong to the category of small and micro enterprises with services sector as the main field of operations. In order to employ the existing consumer behaviour models in Latvia, they must be adapted to the entrepreneurial, culture, and social environment of Latvia.

Taking into account the extensive global experience in developing consumer behaviour models, it is possible to develop a consumer behaviour model (or a set of models) for the needs of the Latvian entrepreneurship environment to be used in assessing retail development trends, taking into consideration the peculiarities of a Latvian consumer, and it could furthermore be used in forecasting the demand for certain product groups.

Hence, **the aim of the promotion paper** is to study and assess the theoretical aspects of consumer behaviour and to develop consumer behaviour models for the needs of Latvian entrepreneurship environment to be used in decision-making at different management levels.

To attain the proposed aim of the promotion work, the following tasks are set forth:

- To perform an in-depth analysis of theoretical aspects of consumer behaviour and an analysis and classification of consumer behaviour models;
- To determine and classify the motives and factors affecting consumer behaviour;
- To analyse the components and factors affecting consumer behaviour from the perspective of generations;
- To prepare solutions for consumer behaviour modelling in making entrepreneurial decisions;
- To develop relevant solutions concerning the trends and regularities studied and discovered during the research, as well as to prepare solutions and recommendations for practical application of the consumer behaviour model in Latvia.

Study object and subject

The study **object** is consumer behaviour in Latvia.

The study **subject** is consumer behaviour in the market and the reciprocal relationship of components affecting it, as well as problems of applying the buyer behaviour model in entrepreneurship when making managerial decisions.

Theses proposed for presentation

- Consumer behaviour is affected by various factors and motives, and this is one of the most important keystones of consumer behaviour. The factors and motives feature a differing degree of impact on the purchasing process. By grouping and classifying the factors that affect consumer behaviour, it is possible to manage resources in entrepreneurship more effectively.
- Based on an analysis of consumer behaviour, a decision-making model for the Latvian entrepreneurship environment can be developed to be used in adopting strategic and managerial decisions to ensure sustainable development of an enterprise.
- If the variable and constant factors affecting consumer behaviour are known, it is possible to forecast the dynamics of consumption of certain products and product groups.

Study methods

Conventional quantitative and qualitative data analysis methods of the economics science and management science have been employed during the preparation of the promotion work, including mathematical modelling, statistical data processing, data grouping, inductive–deductive data analysis methods. Surveying, observation, focus-group study method, as well as comparative, analytical, and graphical methods have been used in the scientific study; the author used the aforementioned methods to compare and analyse facts, as well as to evaluate solutions to specific issues. To improve the visual presentation, the author uses tables and figures.

Theoretical and methodological basis of the paper

The theoretical and methodological basis of the paper is built upon the theoretical and practical opinions in the field of economics and management sciences of foreign authors M. Solomon, Ph. Kotler, E. Berkowitz, R. Kerin, F. R. Kardes, W. O. Bearden, T. N. Ingram, R. W. Laforge, O. Omar, T. C. Kinneer, K. L. Bernhardt, K. A. Krentler, W. L. Wilkie, T. Foscht, B. Swoboda, D. Topscott, C. Rice and Latvian authors E. Gaile-Sarkane, V. Praude, J. Beļčikovs, J. Ē. Niedrītis, R. Garleja, L. Frolova and others.

The informative basis of the paper is formed of scientific literature, international publications, methodological literature, study reports and publications of Latvian and foreign institutions. The empirical base of the paper is formed of the information and summaries of statistical data of the Central Statistical Bureau of the Republic of Latvia (RL), press publications, and information available in electronic media about problems relating to the study topic.

Study limitations

Consumer behaviour covers a broad range of issues and problems to be studied, and within this context, all issues cannot be covered in one study to a sufficient level of depth and of sufficient quality, therefore the following limits are established:

- consumer behaviour in the promotion paper is analysed within the context of the retail sector;
- the paper covers the behaviour only of individual consumers; behaviour of participants in the market of industrial organisations is not considered;
- in academic and scientific literature, the following two concepts can be seen – *consumer behaviour* and *buyer behaviour*. On many occasions, inconsistent use of these concepts can be observed, when the two concepts are used as synonyms. The author's promotion paper mainly deals with the consumer behaviour instead of buyer behaviour.

Scientific novelties of the promotion paper are:

- on the grounds of a comprehensive theoretical analysis of consumer behaviour, a new consumer behaviour definition is proposed, serving as the grounds for further development of the promotion paper;
- motives affecting consumer behaviour have been determined and grouped, and this helps determining the consumers' needs and the components forming it;
- classification of the NSP (Needs – Social groups – Products) model components has been developed based on the link of A. Maslow's hierarchy of needs with classification of goods and the impact of affiliation with a social group on the choice of a product and brands;
- factors influencing consumer behaviour have been determined and classified according to the degree of their impact on consumer behaviour in the market;
- innovative consumer expectations theory has been developed and its practical applicability in retail has been demonstrated. Practical importance in planning a company's operations has been approved;
- an economically mathematical model of consumer behaviour has been developed, and it can be used to analyse the returns on investments of a company, to determine the perspective and less perspective fields of investments, to adopt well-grounded management decisions.
- a decision-making model in business has been developed based on the practical applicability of consumer behaviour models developed by the author.

Practical approbation of the study results of the promotion paper

The results of the promotion paper studies have been employed in the following scientific studies, in which the author has participated as the executor:

- R7215 grant "Opportunities of dynamic entrepreneurship environment analysis: development of the study system" (2008);
- LZP grant No. 08.2126 "Buyer behaviour changes in Latvia: evaluation of the impact of information technologies" (2008);
- RTU internal scientific study project "Perspectives of e-business development in the market of the Baltic States – development of methodologies" (2008);

- RTU fundamental and applied studies project “Methodology of use of the SWOT analysis in developing sustainable development strategy in small and medium enterprises” (2008).

A part of the promotion work materials are used in the RTU FEEM (Faculty of Engineering Economics and Management) study courses *Marketing*, *Marketing planning* and *New product marketing*.

Scientific publications

The results of the promotion work are presented in 21 publications, including 19 articles in universally recognised peer-reviewed scientific editions:

1. Gaile-Sarkane E., On factors what alter the consumer behaviour/ E.Gaile-Sarkane, I.Andersone // 6-й Международнаянаучно-техническая конференция „Наука – образованию, производству, экономике” Минск 2008, pp. 42–46.
2. Andersone I. On influence of factors on consumer behavior/ I.Andersone, E.Gaile-Sarkane// Business and management 2008, Vilnius, 16–17 May, 2008, pp. 331–337.
3. Andersone I. On influence of factors on consumer behaviour /I.Andersone, E.Gaile-Sarkane// Business and management 2008, Selected Papers, Vilnius, 16–17May, 2008, pp. 246–252.
4. Gaile-Sarkane E., Andersone I. Consumer behavior changing: methods of evaluation // TRENDS Economics and Management, Volume III, No. 04, 2009, Brno, pp. 63–71
5. Andersone I. Changes of demographical profile: case of Latvia/ E.Gaile-Sarkane, I.Andersone // Economics and management 2008, Kaunas 10–11 April, pp. 213–219.
6. Gaile-Sarkane E., Magidenko A., AndersoneI. Dynamics of Capital Market: Changes in Latvian Consumer Behavior // The 12th World Multi-Conference on Systemics, Cybernetics and Informatics: WMSCI 2008, June 29th–July 2nd, 2008 – Orlando, Florida, USA, pp. 30–34.
7. Andersone I. Changes in decision making process under impact of information technologies: theoretical approach./ I.Andersone, E.Gaile-Sarkane. – RTU 49th international scientific conference, 9–13 October, 2008, p. 4.
8. Andersone I. *Digital Consumer Behavior and Motivation Theories*/ Andersone I., Gaile-Sarkane E. –Management, Economics and business development in European conditions, VII. International Scientific Conference, Brno, 28th–29th May 2009, III./ pp. 1–11.(ISBN 978-80-214-3893-4).
9. Andersone I. Behavioral differences in consumer purchasing behavior between online and traditional shopping: case of Latvia /E. Gaile-Sarkane, I. Andersone // Economics and Management 2009, Kaunas 23–24 April, pp. 345–352.
10. Andersone I., Gaile-Sarkane E. Development of demand and consumption by generations // 5th international scientific conference “Social sciences in global world: possibilities, challenges and perspectives”, Klaipeda University, 2009, No. 39, BRIDGES.Supplementary issue: scientific volume, pp. 165–170.
11. Andersone I., Gaile-Sarkane E. Patērētāju gaidu modelis: teorija un prakse// RTU zinātnisko rakstu žurnāls, 3.sērija Ekonomika un uzņēmējdarbība, RTU, 2009, pp. 9–17.
12. Andersone I., Gaile-Sarkane E. On social behavior as a fundamental of consumption // Economics & Management – 2010 (ICEM-2010), No. 15, Kaunas university of technology, 2010, pp. 359–365. (ISSN 1822-6515)

13. Andersons I., Gaile-Sarkane E. Consumer expectancy theory for business // Business and management 2010, Vilnius, 13–14 May, 2010, pp. 321–327
14. Andersons I., Gaile-Sarkane E. Information Technologies as a tool for changes in consumer behavior // Management and sustainable development, Yundola, Bulgaria, 2010. – pp. 80–87.
15. Andersons I., Gaile-Sarkane E. Socially responsible marketing for sustainable development // 6th international scientific conference “The application of sustainable development: critical assessment”, Klaipeda University, 2010, No. 3, Human resources – the main factor of regional development: Journal of Social Sciences, pp. 197–205.
16. Andersons I., Gaile-Sarkane E. Aramina D. Sociāli atbildīgs mārketingas: teorija un prakse // RTU zinātnisko rakstu žurnāls, 3. sērija, 20.sējums, Ekonomika un uzņēmējdarbība, RTU, 2010, pp. 10–18.
17. Gaile-Sarkane E., Andersons I. Modeling of Consumer Behavior for Business Sophistication // The 15th World Multi-Conference on Systemics, Cybernetics and Informatics, 19–22 July, 2011, Orlando, Florida, USA, pp. 82–87.
18. Andersons I., Gaile-Sarkane E. Changes in consumer behavior in global context // 7th international conference Urban and Regional Development in Global Context, Klaipeda University, Lithuania, 2011, pp. 13–26.
19. Gaile-Sarkane E., Andersons I. Modeling of Consumer Behavior: Consumer Expectancy Theory for Retail // International Conference on Social Sciences and Society (ICSSS 2011), 14–15 October, Shanghai, China, 2011, pp. 135–140.

Other scientific publications:

20. Andersons I., Gaile-Sarkane E. Changes in consumer behavior in global context // 7th international conference Urban and Regional Development in Global Context, Klaipeda, Lithuania, 2011, pp. 13–26.
21. Gaile-Sarkane E., Magidenko A. Andersons I. Patērētāju rīcības izmaiņas Latvijā: informācijas tehnoloģiju ietekmes novērtēšana // LŽP Ekonomikas, juridiskās un vēstures zinātnes galvenie pētījumu virzieni 2008. gadā, No. 14, 2009, Latvia, Riga – Latvijas Zinātnes Padomes Humanitāro un sociālo zinātņu ekspertu komisija, 2009, pp. 61–66.

The results of the promotion paper have been presented in the following **international scientific conferences**:

- Andersons I. On influence of factors on consumer behaviour // I. Andersons, E. Gaile-Sarkane // Business and management 2008, Vilnius, 16–17 May.
- Andersons I. Changes in decision making process under impact of information technologies: theoretical approach. // I. Andersons, E. Gaile-Sarkane. – RTU 49th international scientific conference, 2008, 13–15 October.
- Andersons I. Behavioral differences in consumer purchasing behavior between online and traditional shopping: case of Latvia // E. Gaile-Sarkane, I. Andersons // Economics and management 2009, Kaunas 23–24 April.
- Andersons I. Aspects of interaction between changing consumer behavior and business development in Latvia // E. Gaile-Sarkane, I. Andersons // Current Issues in Management of Business and Society Development – 2009, University of Latvia 7–9 May.
- Andersons I., Gaile-Sarkane E. Development of demand and consumption by generations // 5th international scientific conference „Social sciences in global world: possibilities, challenges and perspectives”, Klaipeda University, 2009,

- Andersone I., Gaile-Sarkane E. Patērētāju gaidu teorija // 50th RTU international scientific conference, Latvia, Riga, 15–16 October, 2009.
- Andersone I., Gaile-Sarkane E. On social behaviour as a fundamental of consumption // Economics & Management – 2010 (ICEM-2010), Riga Technical university, 22–23 April, 2010.
- Andersone I., Gaile-Sarkane E. Consumer expectancy theory for business // Business and management 2010, Vilnius, 13–14 May.
- Andersone I., Gaile-Sarkane E. Social responsible marketing theory and practice // 51st International Riga Technical University Scientific Conference “Scientific Conference on Economics and Entrepreneurship” 15.10.2010.
- Andersone I., Gaile-Sarkane E. Socially responsible marketing for sustainable development // 6th international conference The application of sustainable development: critical assessment, 30.09-1.10.2010.
- Andersone I., Gaile-Sarkane E. Changes in consumer behaviour in global context // 7th international conference Urban and Regional Development in Global Context, Klaipeda, Lithuania, 29–30.09.2011

Scope and contents of the paper

The promotion paper has been prepared in the Latvian language and consists of an introduction, an account of contents, findings and suggestions, list of bibliography, and appendixes, a total of 171 pages, excluding appendixes. The paper includes 43 figures, 35 tables, and 10 appendixes, which explain and illustrate the contents of the study. During the course of promotion paper development, 127 various information sources in Latvian, English, German, and Russian language have been used and they are included in the list of bibliography.

The account of contents consists of four parts:

1. THEORETICAL GUIDELINES OF CONSUMER BEHAVIOUR

- 1.1. Concept and definitions of consumer behaviour
- 1.2. Theoretical aspects of consumer behaviour
 - 1.2.1. Classification of consumer behaviour models
 - 1.2.2. Behaviourism theories as the historical development of the base model for consumer behaviour
 - 1.2.3. Models dedicated to consumer behaviour studies
- 1.3. Decision-making process as the grounds for consumer behaviour
- 1.4. Making decision on purchasing and consumption – family and generation influence
- 1.5. Theoretical base for consumer behaviour modelling

2. FACTORS AFFECTING LATVIAN CONSUMER BEHAVIOUR

- 2.1. Changes in Latvia's consumer behaviour as a result of socially economic factors
- 2.2. Determination of components affecting consumer behaviour
 - 2.2.1. Determination and grouping of motives of consumer behaviour
 - 2.2.2. Aspects of interaction between consumer needs, social groups, and classification of goods
 - 2.2.3. Classification of goods according to the consumer needs
- 2.3. Determination and classification of factors affecting consumer behaviour
- 2.4. Consumer motivation and the use of influencing factors in the model of consumer expectations

3. ANALYSIS OF COMPONENTS AND FACTORS AFFECTING CONSUMER

BEHAVIOUR FROM THE PERSPECTIVE OF GENERATIONS

- 3.1. Analysis of components and factors affecting consumer behaviour
 - 3.1.1. Interaction between the needs and social status
 - 3.1.2. Retail staff and its impact on the product selling process
 - 3.1.3. Factors affecting consumer behaviour from the perspective of generations
- 3.2. Evaluation of factors affecting consumer behaviour in retail according to the model of consumer expectations

4. CONSUMER BEHAVIOUR WITHIN THE CONTEXT OF MAKING ENTREPRENEURIAL DECISIONS

- 4.1. Mathematical model for evaluating consumer behaviour and the opportunities of its use in entrepreneurship
- 4.2. Consumption forecasting opportunities in groups of goods in Latvia
- 4.3. Practical application opportunities of the developed models in entrepreneurship, decision-making model

The first part deals with an analysis of the concept and definitions of consumer behaviour, consumer behaviour models have been considered throughout their historical development, and a critical analysis thereof is performed. The decision-making process has been considered as the grounds for consumer behaviour and the adoption of a decision to make a purchase affected by a family life cycle and by generations. An extensive analysis of consumer behaviour models has been performed with the purpose of discovering their most typical characteristics.

In the second part, the changes in consumer behaviour resulting from socially economic factors have been determined, and consequently, the portrait of the Latvian consumer has been developed; components affecting consumer behaviour have been determined and classified; motives of consumer behaviour have been grouped, and the aspects of interaction between the consumer needs, social groups, and classification of goods have been determined. Factors affecting consumer behaviour have been determined and classified in the paper according to the degree of impact on consumer behaviour. According to the Latvian situation, a model of consumer expectations has been developed, which can be used to determine how a person is acting to decide on making a purchase and how the consumer can be affected.

The third part presents the results of the study on the components and factors affecting consumer behaviour from a perspective of generations. A correlation between consumer needs and social status has been discovered during the study, as well as the effect of retail personnel on the product selling process and factors affecting consumer behaviour from a perspective of generations. Factors affecting consumer behaviour in retail have been evaluated in accordance with the model of consumer expectations developed by the author.

The fourth part presents a developed and approbated economically mathematical model of consumer behaviour in retail, which can be used to analyse returns of investments of enterprises, to determine the perspective and less perspective fields of investments. Possibilities of consumption forecasting in groups of goods in Latvia have been considered. A model for decision-making in entrepreneurship has been developed, based on consumer behaviour models considered by the author in the paper.

In the conclusion of the paper, the author has proposed a range of findings and suggestions for further scientific and practical development of the topic in Latvia.

MAIN SCIENTIFIC ELABORATIONS OF THE PAPER

1. THEORETICAL GUIDELINES OF CONSUMER BEHAVIOUR

The first records on consumers emerged already back in the antique economic notions. Consumer behaviour in the market as a separate sector formed in the USA in the first part of 1970-ties: in 1969, the Association of Consumer Research (ACR) was established, in 1974, a special publication – *Journal of Consumer Research* – was initiated.

The modern-day text books covering consumer behaviour in the market have been written and published mostly in the USA, and they reflect in particular the peculiarities of the American culture and the American way of development of this discipline.

In the Western Europe, consumer behaviour in the market as a separate marketing sector took shape in a different manner. While in the USA, this discipline was mainly within the range of interest of marketing specialists, then in Europe, matters related to consumption were studied also by historians, anthropologists, sociologists, culture scholars, social theoreticians.

Marketing studies of consumer behaviour started developing since the year 1950 and they can be divided into three stages:

- From 1950 until mid-1960-ties – the era of segmentation, when the majority of studies were related to using personalities and motivations, family life cycle and social cycle for segmentation;
- The period from mid-1960-ties until the end of 1970-ties is characterised with the fact that the main researches are dedicated to the decision on consumption;
- The period from 1980 until 1990 is referred to as the stage of diversification and development, based on using psychology and a cognitive approach;
- Since the end of 1990-ties until now, the main studies are related to the changes in consumer behaviour due to the impact of market globalisation.

The author believes that with respect to studies of consumer behaviour theories and practice, Latvia is not progressing at the same pace with the world, which can be explained with a peculiar manner of market development and with a transfer from command economy to free market within less than 18 years.

The promotion paper includes a summary of consumer behaviour definitions and the author concludes that they mainly characterise either the buying process or the psychological way of the consumer to making the purchase. Meanwhile, relatively little attention in these definitions is dedicated to individuality and individual characteristics.

On the grounds of analysis of consumer behaviour definitions and based on the studies performed by the author, the author proposes to define consumer behaviour as follows [definition developed by the author]:

Consumer behaviour is the behaviour of an individual person, which is stimulated by the impact of various factors and which is directly dependent on personal characteristics, psychologically-emotional condition, prior experience of the person, on resources at the person's disposal, and on the properties and price of the goods (service).

The author uses the concept *personal characteristics of the person* to denote age, gender, education, and other information characterising the particular person. It must be stressed that each consumer is affected by a range of external factors, including:

- personal (life style, size of households, etc.), social (family, roles, and statuses, etc.);
- economic (price level, income, etc.);

- cultural (subcultural, social status, etc.);
- situational (physical surroundings, stimuli at the store, causes for choice, timing, etc.);
- psychological (motivation, perception, attitude, etc.);
- complex marketing measures;
- and other factors.

The origin of consumer behaviour modelling can be found in the 60-ties of the 20th century, and it can be considered that consumer behaviour modelling has developed simultaneously with the marketing theory.

To explain consumer behaviour, several theories are available, which are rather different in type, scope, situation, conditions of use, and level of complexity; they are employed by all social sciences – economics, psychology, sociology, and anthropology.

One of the forefathers of consumer economics theory is Alfred Marshall. Marshall's theory is based on the assumption that an individual is a rational buyer, who has at his disposal all information about the market, who knows his needs and wishes, and can determine independently the best way of satisfying them. The Austrian neuropathologist, psychiatrist, psychologist Sigmund Freud (1856–1939) developed a model of psychoanalysis, which discovered new dimensions of consumer behaviour, by introducing psychological elements in buyer's decision-making.

Leon Festinger developed the cognitive dissonance theory (1957), who believed that people are tended to seek harmony between their attitude, conviction, and action. Cognitive dissonance is the feeling of discomfort caused in a person by two simultaneously existing contradicting ideas.

The behaviouristic model is based only on observations and measurable variables. The proponents of this model maintain that the consumer's physical processes cannot be observed and therefore are not to be studied.

Cognitive models (purchases related to cognition) in consumer behaviour are related to the process of processing the distinctive information. All cognitive models in essence are the process of decision-making, which is depicted in consecutive steps, by indicating various influential factors (Blackwell/Miniard/Engel model, Howard/Sheth model, etc.).

The described models are included in consumer behaviour studies and a large part of modern consumer behaviour theories are based in particular on the behaviouristic and neo-behaviouristic theory. Therefore, the author believes that quantitative and qualitative studies of consumer behaviour analysis must be based on a structured study of these models.

Upon summarising the information, it must be concluded that the behaviourism theory developed by the Russian scientist Ivan Pavlov and the US psychologists John Watson, Edward Thorndike, and Burrhus Frederic Skinner serves also nowadays as the grounds for studies of consumer behaviour. Besides the behaviourism theory, a range of other theories have developed and improved, which helps studying and evaluating consumer behaviour better and in more detail.

One of the wide-spread consumer behaviour study methods is the use of stage models (decision-making models).

It must be noted that the stage models are useful. The advantage ensured by modelling the purchasing stages must be emphasised. It is a simplified distinction into three stages – pre-purchase, purchase, and post-purchase stage.

Base models or the so-called structure models are frequently used in consumer behaviour studies, explaining the dominating cognitive decisions. The base models include the models developed by Blackwell, Miniard, Engel and by Howard, Sheth, which describe the correlations of mental processes coordinating the purchasing decisions.

Upon considering the key studies, discoveries, and consumer behaviour models up until the beginning of the 21st century, the author believes that they mostly show the process of consumer's decision-making and to a greater or lesser extent elaborately cover all decision-making stages. The author considers that relatively little attention is dedicated to the analysis of factors affecting consumer behaviour and to determining intensity of their impact. The majority of the said models illustratively describe the purchase decision-making process, therefore the author emphasises that in assessing consumer behaviour, a complex approach must be employed, combining expert methods, marketing models, and economics-mathematical modelling methods.

To summarise, a conclusion must be drawn that when developing consumer behaviour models for the market of Latvia to be used in entrepreneurship when making managerial decision, the stage approach must be used.

Purchase decision-making and consumer conduct is a difficult process, however, to facilitate its perception, generalised (or easy to perceive) models are often presented. To enable a more elaborate analysis of the decision-making process, at first, it must be established, why a consumer makes a decision and what are they trying to achieve. A range of various causes for the consumer's choice can be named, for instance, acquisition of knowledge and information, product consumption, future security, etc.

The author suggests dividing all decision-making situations in three groups:

- 1) Individual decision-making;
- 2) Household consumption;
- 3) Corporate consumption.

To enable considering the purchase decision-making process in detail, the author recommends distinguishing between three decision-making situations:

1. Consumption (to satisfy the basic needs and social needs in accordance with the Maslow's theory of needs (pyramid of needs);
2. Self-improvement (health care, information acquisition and knowledge, including education). It is a need to use internal potentials and to realise the identity always and everywhere;
3. Security reserves (investments for the future and for ensuring welfare).

Theoreticians propose various assumptions on the family as an institution, interpreting the family as a system of power relations, however, when deciding on making a purchase, oftentimes the decision is taken individually, upon having distributed the roles within the family.

There is a wide-spread stereotype that one person (authority), for instance the husband or wife, dominate in the family, which does not always match the reality. A family is characterised rather by a distribution of tasks and roles, which affects also the decision-making process. H. L. Davis and B. Rigaux has developed a model of distribution of roles between the wife and husband with respect to the decision-making processes in the family relating to purchasing products.

If back in the day in the Latvian countryside, three generations lived and cooperated under the same roof, then nowadays the society and organisations are grouped within the framework of one generation. In a long-term, those organisations, which learn to take advantage of the differences between generations, will be more successful. We live in a time, when the differences between generations have become very explicit. It is fostered by development of technologies, speed of information circulation, changes in consumer behaviour, growing mobility of people, among many other factors. To depict the differences between generations, usually, the perspective developed by scholars in the Western world is used. Overall, five generations are distinguished in this classification, the oldest being Silver streakers or as they are also referred to – the traditionalists or the silent generation, the veterans (see Table 1.1)

Table 1.1

Division of generations and their proportion in Latvia

<i>Generation</i>	<i>Years of birth</i>	<i>Age</i>	<i>%</i>
“Net” generation	1988–2008	0–19	23
“Y” generation	1978–1988	20–30	17
“X” generation	1964–1978	31–45 (50)	30
“Post-war” generation	1946–1964	46(51)–62	14
“Silver streakers”	Before 1946	63 and older	22

Upon analysing the generations, differences can be found between the oldest and youngest generations. In the former Soviet republics, the description of generation differs from that of the Western Europe countries, due to the different values and life style, economic potential, and alternative behaviour.

When companies plan their work, as well as when choosing marketing measures, it is necessary to determine the target audience as precisely as possible. Division of consumers in generations can facilitate this process, because, if the consumers’ age is known, it is possible to find out more precise characteristics typical for the particular generation, its life style, values, and behaviour in the market.

2. FACTORS AFFECTING CONSUMER BEHAVIOUR

Consumer behaviour is known to be affected by a range of various factors. Several authors renown globally have conducted studies on mutual interaction of factors, they have grouped, analysed, evaluated them, etc., in order to analyse consumer behaviour more precisely.

One of the key parameters important in each study of consumer behaviour is the demographic profile or consumer portrait. Upon summarising the information available in scientific studies, the author concludes that **factors that form the demographic profile of a consumer** are as follows: age, gender, occupation, education, marital status, income, living conditions, and lifespan.

Since the promotion paper studies the consumer behaviour of Latvia, the author performed an analysis of the relevant statistical data in order to create the Latvian consumer portrait.

At the beginning of the year 2011, there were 2 million 229 thousand inhabitants in Latvia. Within a decade, since the beginning of the year 2000, the population has declined by 152 thousand people.

The proportion of urban and rural inhabitants in the overall population over the course of last five years has not changed considerably – 68 % of population lives in cities, but 32 % - in rural areas. High concentration of inhabitants of Latvia is observed in the capital – at the beginning of 2011, 700 thousand people lived in Riga (31.4 % of the country’s inhabitants). However, since 2000, the number of people living in Riga has declined by 66 thousand.

The average size of a household in 2011 is 2.48 persons. In cities, 1–2 person households are the most common, and their proportion in 2010 was 59.4 %. The parameter of household size is one of the important parameters for forecasting consumer behaviour. Normally, according to the size of a household, the volume and structure of consumption is forecasted, as well as the future potential demand is planned.

Household consumption expenses on average in the country, if calculated per member of household, in 2010 were Ls 178.01 per month, which is 91 % of the average results regarding expenses in the year 2009.

The main consumption priority in all households is expenses for subsistence – 28.3 % of the total expenses of consumption and the proportion of these expenses in consumption expenses, in comparison with the previous year (26.7 %) have increased slightly. At the same time, expenses for food on average per member of household have decreased from Ls 52.04 down to Ls 50.47.

Overall, in all households generally such primary expenses as costs for food, housing maintenance and utility payments, transportation costs, purchasing clothing and footwear, and health care formed two thirds (66 %) of the overall consumption costs.

The second biggest expense item after food since 2006 has been transportation expenses, however in 2009, the second biggest item was expenses for housing and utilities. It is the household expense item, in which an increase in costs is observed several years in a row, and it indisputably affects the overall consumption cost structure.

Upon summarising the study results, the author has created the portrait of a Latvian consumer. **The Latvian consumer** is generally 40.9 years old with life expectancy of 68–69 years for men and 78–79 years for women. The consumer is of working age and has paid employment with the average income of Ls 192 per month, spends income for food (26.7 %), housing maintenance and improvement (15.5 %), transport (13.1 %), clothing and footwear (5.3 %), entertainment and culture (8 %), communications (5.1 %), restaurants and cafés (4.3 %), health care (5.3 %), alcohol and tobacco (3.6 %). He/she lives in the city, in a multi-apartment building, the average number of people per household is 2.51 people. 14 % have higher education and 37.2 % are married.

The consumer portrait can be used in entrepreneurship for making marketing planning decisions.

The motive is the rational consciousness act, the grounds for a person's behaviour, which is triggered before the behaviour and determines the behaviour forms, choice of means, direction of action, desire to act.

The stronger is motivation, the faster the consumer makes a decision on consumption (also purchasing). Motivation is affected by a range of factors: functional ability of a person, energy, interests, authorities, social standards and norms, external stimuli, situations, etc.

The purchase of goods or the use of services is equally affected by several motives. When analysing, which of the motives of existing and potential clients at this time and in the nearest future could be decisive, when determining the use of a product, then, in fact, the following question must be answered: what will be the benefits for the performer of activity.

The occurring processes in the society's behaviour are difficult to explain, because in practice, very rarely such behaviour can be observed, which is based on satisfying the basic needs, at the base of behaviour are various motives, which can usually be only determined, but cannot be easily measured.

Members of the society often consume services and goods not due to necessity, but instead guided by various other motives, they cannot be easily measured, but they can be identified and their variable factors can be determined.

The aim of the promotion paper is to emphasise in particular the external factors affecting the consumer, while realising that the mentally emotional condition of the consumer considerably affects the process of deciding on making the purchase.

A. Maslow's theory in the modern day management has been improved and adapted for the changes of the era and it is interpreted in different ways.

Upon summarising the messages related to A. Maslow's hierarchy of needs within the context of consumer behaviour, the author has grouped various products according to Maslow's levels of needs.

The author realises that it is infeasible to implement identical classification in all markets. The author wishes to emphasise that such classification can be formed, by setting restrictions

according to geographic, economic, political, religious, national, and other restrictions. Furthermore, such classification is limited in time.

A. Maslow's theory serves as the basis for developing a range of theories dealing with consumer behaviour, therefore, when developing the consumer behaviour model in Latvia, the author decided to integrate the better known theories:

- A. Maslow's hierarchy (pyramid) of needs;
- classification of consumption objects and production means;
- the effect of affiliation to social groups on the choice of the product and trade brand;
- distribution of roles in a family, when purchasing various products.

In order to combine the said theories and to integrate them into the consumer behaviour model, at first, structuring of goods and services in the relevant models must be carried out.

In the promotion paper, the author assumes that within the framework of one social layer, the level of hierarchy of satisfying the needs, to which a group of goods belongs to, can be precisely determined.

Similarly, products can be grouped according to the impact of affiliation to social groups on the choice of products and brands. All products can be divided into four types:

- public prestige products;
- personal prestige products;
- necessary public products;
- necessary personal products.

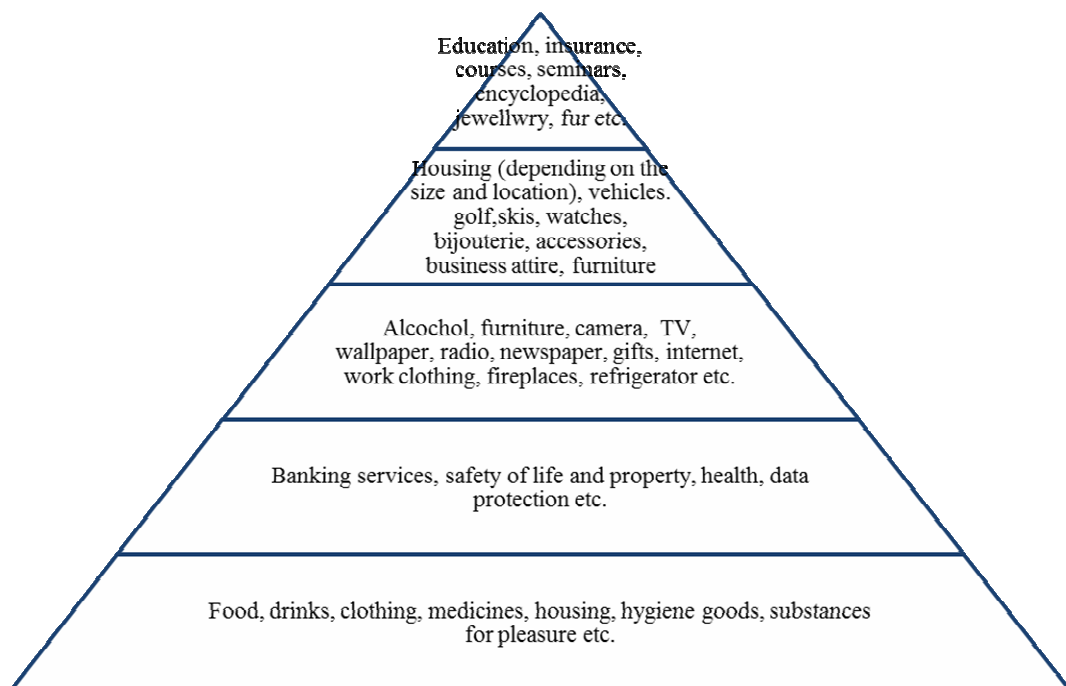


Fig. 2.1 Distribution of products and services in accordance with the Maslow hierarchy theory [figure by the author, novelty]

The product distribution mentioned in this theory is applicable to A. Maslow's hierarchy of needs, the necessary personal products correspond to the physiological needs, but other products are distributed into several groups.

Upon summarising all of the afore-considered theories and novelties proposed by the author, it can be concluded that the hierarchy of needs by A. Maslow is at the base of many theories. The author has summarised the interconnections in Figure 2.2.

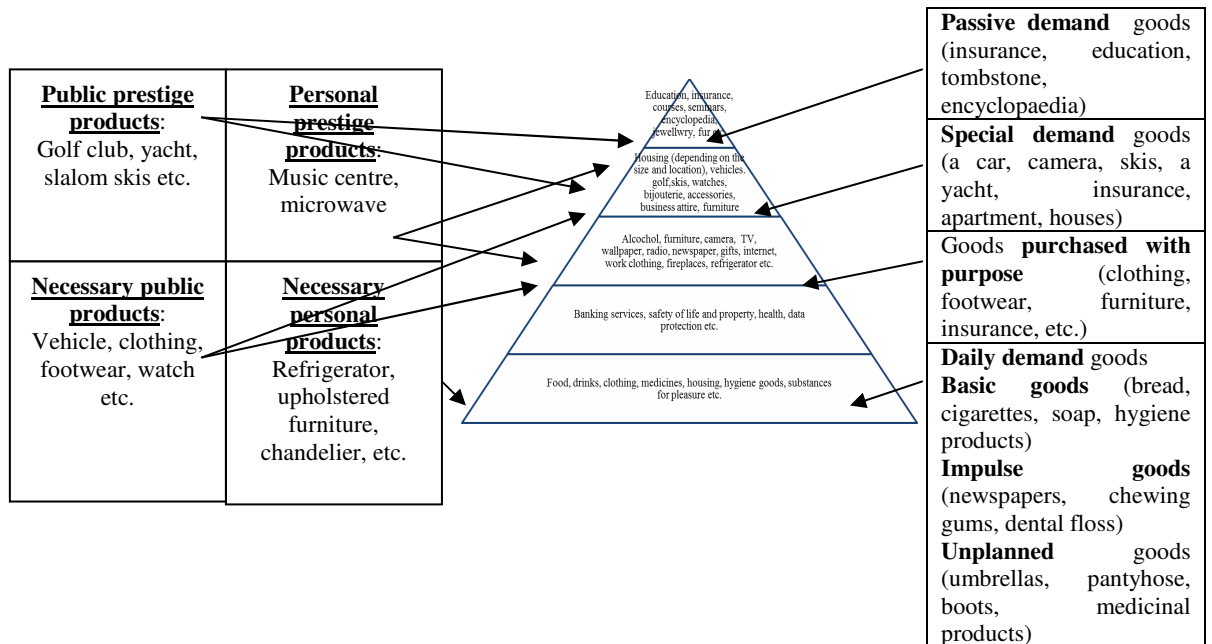


Fig. 2.2. Relationship of A. Maslow's pyramid of needs with classification of goods and the impact of affiliation to social groups on the choice of products and brands [author's developed figure]

The author concludes that the process of classification of goods according to the consumers' needs is a rather big challenge, however, establishment of such classification is justified by the need of measuring the supply and demand in a particular market. The author recommends developing such mathematical models for evaluating the demand of separate groups of goods, which could be modelled with one, two, or several variables.

The developed model can serve to forecast and make decisions at several levels – starting with national level down to company and individual level.

In order to approbate the classification of goods in accordance with the consumers' needs developed by the author (hereinafter CGACN), a focus group was created, which included consumers of various age, of both genders, having consumption experience, along with theoretical and practical knowledge in the field of marketing.

As a result of the work of the focus group, the following conclusions were made regarding CGACN:

- 1) The distribution of products and services into levels for each consumer is different;
- 2) The CGACN developed by the author can be used as an additional method to segment the consumers;
- 3) The CGACN developed by the author can be used by any manufacturer to position the assortment products according to the consumer needs. The promotion paper includes an example on the use of CGACN;
- 4) Different needs dominate in A. Maslow's pyramid of need for each age phase, therefore the CGACN model can be used in various age groups, when the understanding of specific needs expands.

Classification of goods cannot be applicable to a specific level, it applies to all levels, because, for example, goods purchased with purpose correspond to several levels.

The bibliographical sources provide various models, which include factors affecting consumer behaviour. In the promotion paper, the author has gathered information available in various bibliographical sources concerning consumer behaviour and factors affecting it.

Taking into account the findings of studies performed earlier, the author concludes that the following factors affect the behaviour of all consumers: social, personal, economic, cultural, situational, psychological, as well as macro-environmental and individual factors. A detailed account of the factors is provided in Table 2.1.

Table 2.1

Factors affecting consumer behaviour [author's created table, novelty]		
Factor	Example	
Individual factors	Psychological, personal	
Macro-environmental factors	Economic, politically-legal, scientific and technological, cultural and social environment, ecology, geography	
Macro-environmental factors	Direct effect	Marketing mix
	Indirect effect	Economic, cultural, social
	Situational factors	A person and various situations

The impact of these factors on the consumer is not homogeneous, therefore the author recommends grouping these factors according to the intensity of impact on the process of making a decision on a purchase and to their use in entrepreneurship. Micro-factors can be divided into three groups – direct effect and situational factors (see Table 2.2). The direct effect factors include marketing mix and all types of communication. The indirect effect factors are economic, cultural, and social (a part of social factors can belong also to the direct effect factors). Meanwhile, the factors forming a situation are psychological, personal, and situational (situational factors include particular circumstances of the surrounding environment or optional criteria).

The direct effect factors include factors, with which various organisations affect consumer behaviour, normally, they include various marketing tools, the organisations are trying to affect consumer behaviour with various manipulations, by successfully employing the elements of marketing mix, using effective communication methods, etc.

Indirect effect factors include factors characteristic for each individual. With the help of these factors, it is possible to segment the market; these factors are as follows: economic, cultural, and social factors.

Such situational factors can be isolated, which strongly affect the decision-making process, which is the final stage of buyer behaviour. The situation factors are various situations, in which a person finds himself or herself, including the way of how these factors can affect the person's behaviour.

Scientific and practical literature sources include a great number of theories and practical advice regarding motivation. Oftentimes, motivation is believed to be manipulation, therefore, the concept *motivation* is not always perceived from a positive standpoint. All the while, scientific literature provides extensive writings on the so-called expectations theory, which precisely could be interpreted as the theory of expectations of motivation results. In the promotion paper, the author develops *an expectation theory*, which can be used to analyse and assess consumer behaviour in the market.

Table 2.2

Classification of factors affecting consumer behaviour [author's created table, novelty]

Feature	Parameter	Criterion
Direct effect factors, with which consumer behaviour is affected by organisations (manipulations)	Marketing mix Word of mouth Communication	Marketing measures
Indirect effect factors – typical for each individual, according to which even the market can be segmented	Economic	Prices Income Available funds Value of money Current expenses etc.
	Cultural	National affiliation Culture Subculture Traditions, ways, etc.
	Social	Employment guarantee Referent groups Family Marital status Status in the society Social class Affiliation to a formal or informal group
Situational factors – strongly affect the decision-making process, which is the final stage in buyer behaviour (related to the particular goods)	The person and various situations	Shop's stimuli Physical environment Choice criteria Time

At the base of the expectations theory is the assumption that people's needs are not the only cause for possible motivation of a person (stimulation to behave in a certain way). The expectations theory looks at how people are motivated to behave or how they can be motivated to perform certain activity, as a result of which value is created. The author divides the initial nine parts of the Expectations Theory Model into four stages (see Fig. 2.3).

In the first stage, the expected consumption value is included and it normally includes functional, economic, and social gains, as well as the possible social value of the purchase is evaluated according to the specific social layer and prior experience. This stage can be referred to as the *expected result stage*.

In the second stage, the process of obtaining the goods is evaluated, by determining how much information must be sought, how a decision must be made on the purchase of goods, what roles affect the decision-making process. This phase corresponds to the wide-spread theory (model) of decision making described in a range of sources.

The third stage is the purchasing process, in which a major role is attributed to the salesperson, physical contact, and other factors affecting the purchasing process. Many well-known marketing specialists have written about the factors affecting the purchase process. The said factors are grouped according to their field of influence. The author has also grouped these factors and recommends dividing them into three groups: direct effect, indirect effect,

and situational factors. It must be concluded that this stage could be theoretically referred to also as the *purchase stage*.

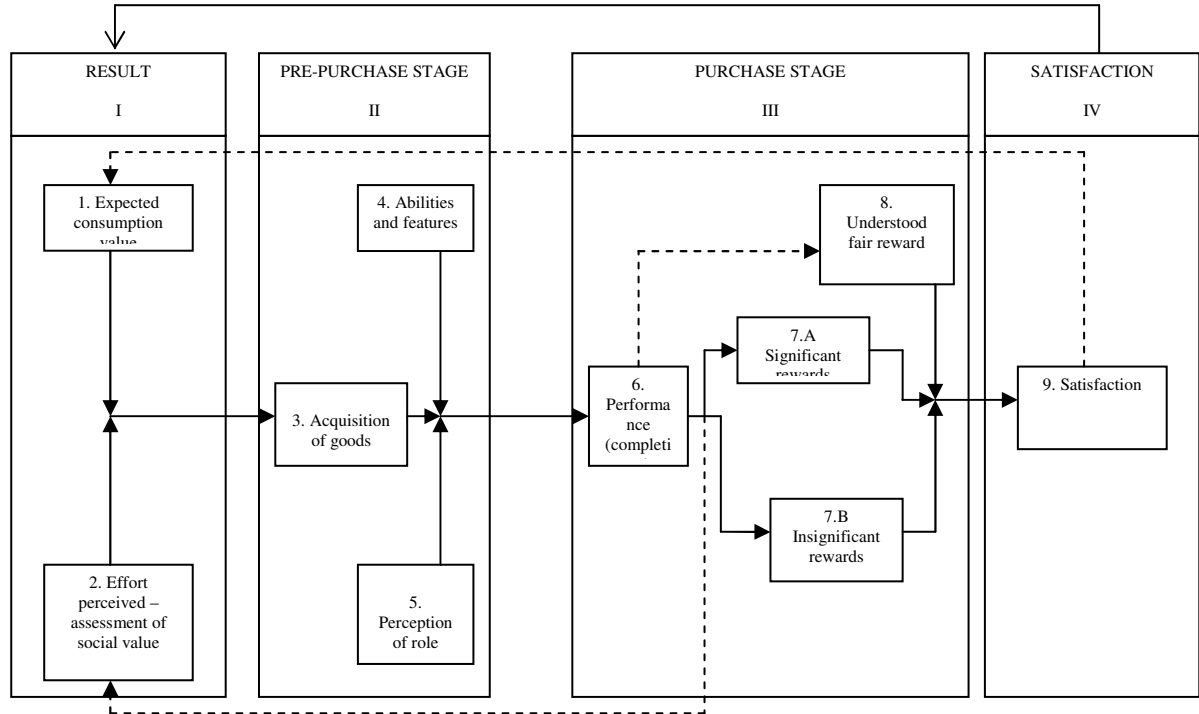


Fig. 2.3. Consumer's expectation model [author's created figure, novelty]

In the last, the fourth stage, customer satisfaction occurs. Satisfaction can occur only if the consumer has gone through all of the afore-mentioned stages. In this stage, if the consumer is satisfied with the purchase, trust towards the brand, product, or company takes shape. It is particularly important in case of a service. Upon summarising the aforementioned information, the author concludes that the fourth stage can be referred to as the *stage of satisfaction of desires*.

With the developed model of consumer expectations theory, one can analyse, how a person behaves to take a decision on the desirable result and how he or she can be affected. The developed Expectations Model is approbated in Part 3 of the paper. The main conclusion is that the developed expectations theory model works only in retail and, as the trade structure changes, especially as electronic trading is developing, The level of involvement of buyers can diminish, therefore, this model cannot be directly applied to e-commerce.

3. ANALYSIS OF COMPONENTS AND FACTORS AFFECTING CONSUMER BEHAVIOUR FROM THE PERSPECTIVE OF GENERATIONS

To approbate the scientific novelties developed in Part 2 and to determine the components and factors affecting consumer behaviour, surveying was conducted. In November and December 2009, 250 respondents aged 18–65, coming of households with differing levels of income per one person per month, participated in the survey.

The study questionnaire was prepared to find out the following:

- interaction between the needs and social status. The main task was to find out, whether, upon satisfying the needs, the consumer also confirms his or her status in the society;
- what is the importance of a salesperson in the shop and what the seller does correctly or incorrectly;
- the level of influence of factors affecting consumer behaviour on the decision-making process.

The study results can be analysed and interpreted from various perspectives, but in order to achieve the study aim, the survey results were summarised, by dividing all respondents into generations in line with the division described in Chapter 1.5 of the promotion paper. Thus, the author determined whether there are explicit differences in behaviour depending on the generation.

Upon comparing the opinions of all generations, no major differences in opinions are found, however there is a more marked difference between people having a different level of income. The greater is the income level the more respondents consider that people shop not only to satisfy needs but also to prove their status in the society. It proves the assumption expressed by the author that one of the main driving forces for consumption is the level of income of people or the desire to belong to a particular social group.

Upon considering the matters on interaction between satisfaction of the needs and of the social status, the respondents of all generations responded similarly, which means that there are no major differences between generations with respect to this issue, and the needs are interacting with the social status.

Upon analysing the summarised study results, the author concludes that the Latvian consumers pay attention to the salesperson's work, they analyse and observe them. Depending on the salesperson's behaviour, the buyer forms an opinion about the company, shop, trade point, therewith shaping the overall image about the company. During in-depth interviews, people pointed out that it is difficult to change the negative experience, and oftentimes this negative experience is disseminated in the buyer's social layer through word of the mouth.

Upon summarising the issues considered in this part of the study, the author concludes that the salesperson's work has a great impact on the understood fair reward and on indirect reward. It confirms the assumptions proposed by the author regarding the practical applicability of the expectations theory model.

The needs have always been closely related to social status as confirmed by studies performed by foreign scientists and the author alike. During the study, the author inquired into whether by making purchases people are satisfying their needs without confirming their status in the society or whether they satisfy their needs and confirm their status in the society. Out of the "Net" generation respondents, 65 % believe that people are buying to satisfy their needs and to confirm their status. The majority of the said respondent group believe that food products are bought only to satisfy their basic needs. However, 64 % of them believe that by buying clothing, both their needs are satisfied along with their social status. A similar situation is observed when making important decisions.

To adopt managerial decisions in entrepreneurship and, in particular, in retail, it is important to find out what are the buyers' differences in perception and behaviour during decision-making stage and during the purchasing stage. With the aim to find out how the value of goods is changing (the consumer perception on the expected value of goods) in the pre-purchase and purchase stages, a survey was created. The study was carried out in two categories of goods - household appliances, and footwear and clothing. These categories of goods were chosen, taking into account the classification of goods, correspondence of goods with the satisfaction of client needs, distribution of the woman's and man's role in the

decision-making concerning purchases of products, and the consumption structure corresponding to the consumer portrait in Latvia.

In order to perform the study, a set of factors affecting the pre-purchase stage and purchase stage was selected, equivalent criteria were proposed for both groups of goods, according to which the respondents have to assess the impact of the said factors on the value of goods consumption during the pre-purchase and purchase process (at the shop), and these criteria are: advertising (marketing measures), price, brand, person's income, person's free assets, national affiliation, culture, employment guarantee, family and marital status, social status, affiliation with a particular social group and surrounding environment stimuli. The respondents were invited to assess the impact of criteria on the stages of purchasing process.

The study was performed in October 2011; 185 respondents participated in the survey. There were 42.70 % men and 57.30 % women. Income level for 40.54 % was up to 300 Ls, 44.86 % – 300–500 Ls, and 14.59 % – above 500 Ls.

Statistical processing of the obtained data was performed in SPSS environment, using the statistical data processing programme SPSS 19.0.

From the summarised results, the author concludes that in forming the value of household appliances consumption, the price, brand, person's income, person's available free assets, employment guarantee, family and marital status play an important role. The choice is least affected by national affiliation. Upon analysing the value of footwear and clothing consumption, it must be concluded that it is formed of marketing measures, price, brand, income, a person's free assets, social status, affiliation with a particular social group and stimuli of the surrounding environment. It is demonstrated by the overall number of answers expressed as a percentage.

Upon performing an analysis of the obtained parameters, it must be concluded that when purchasing footwear and clothing, the consumption value is affected by more criteria than when purchasing household appliances (in the case of household appliances, the social status and affiliation with a particular social group become important as well).

The summarised survey results in the age groups show that the value of consumption of goods differs significantly during the pre-purchase and post-purchase stage. The average indicators in the purchasing process have increased for all generations, and the greatest difference between the average values (1.16) is observed for the age group of 31–45 and for the age group of 46–60 (0.9). It could be explained with the fact that consumers during these age stages are purchasing household appliances more actively along with other goods for improving the housing and, if during the pre-purchase stage the consumer has developed an opinion about the goods owing to various marketing activities, then upon arriving at the shop, advertising and other marketing measures affect this audience much stronger than outside the store. It means that retailers must pay more attention to setting up trading areas, to placement of goods, setting up advertising at points of sale, using promotional measures at the shop, and to salesperson training.

Upon summarising all study results, the author concludes that the shop arrangements, advertising of the goods at the point of sale, and the salesperson's behaviour (situation factors have been classified in the paper) have a great impact during the purchasing process. It must be noted that the salesperson's behaviours in particular consumer age groups can have a decisive importance for making the decision on a purchase. Taking into account the impact of these factors, consumer behaviour in retail, when purchasing various goods and services, can be modelled.

The performed study practically proved the developed Expectations Model and the performed factor classification.

4. CONSUMER BEHAVIOUR WITHIN THE CONTEXT OF MAKING ENTREPRENEURIAL DECISIONS

The global economic crisis has proven that changes of the financial situation in the world directly affect consumption. Statistical data show that 98 % of sectors and companies working in them were affected by the economic crisis. As a result, many companies went bankrupt, many increased the operating efficiency or re-structured the operations. Hence, the following assumption was proven true: each company is potentially interested in determining the goods, which the consumer is ready to purchase, for which goods the consumer is ready to spend money at his or her disposal.

The author believes that it is possible to perform certain work in modelling consumer behaviour and that based on information and telecommunications technologies, consumer behaviour can be modelled and forecasted ever more precisely. In the promotion paper, the author has developed a mathematical model for evaluating consumer behaviour.

The mathematical model is based on the assumption that two groups exist – people and goods. Each group is characterised by a range of parameters. Furthermore, if these parameters are fixed within a short time period, they can be measured. For instance, by investing funds in advertising goods (further in the model the parameter is referred to as b_1), it can be determined how such investments will affect the consumption of certain goods or group of goods.

The **mathematical model** of consumer behaviour shows that the consumer, when buying certain goods α_x , with the set of parameters characterising the particular goods (all or a part of parameters) satisfies his or her needs. In other words, the purchasing process can be described as a function of parameters describing the person and the goods, namely, $f(\alpha; \beta)$.

Therefore, the characteristic value can be estimated for all goods to show its value or price that the consumer is ready to pay or does pay for the goods (see equation 4.1).

$$P = f(\alpha, \beta), \quad (4.1.)$$

where: P – the price of goods (price of goods or the x value of the specific goods in the specific segment);

α – buyer vector with the typical parameters;

β – vector of goods with its typical parameters.

Knowing these parameters, the impact of various variable factors on the consumption volume can be modelled and a decision can be made on whether, for example, the advertising costs must be increased or not. This type of modelling allows managers to take justified and well-considered decisions.

In order to express any of the variables, the function must be derived by parameter. The variable parameters of derivation are parameters describing the person and goods, which can be modelled as continuous parameters.

In order to facilitate the mathematical modelling process, it can be assumed that the aforementioned function is linear. Therefore, a matrix can be developed with parameters characterising goods or services, and this matrix can be denoted with M (see equation 4.2).

$$\alpha M \beta = \sum_{i=1}^n \sum_{j=1}^m a_i C_{ij} b_j \quad (4.2)$$

where: M – the matrix characterising product parameters corresponding to the buyer α ;

α – the buyer with characteristic parameters;

β – the goods with characteristic parameters;
 i – the number of buyers;
 j – the amount of goods;
 C_{ij} – parameters of reciprocal interaction of parameters characterising the buyer and goods;
 $1-n$ – parameters characterising the person, the number of which ranges from 1 to n ;
 $1-m$ – parameters characterising goods, the number of which ranges from 1 to m .

When modelling consumer behaviour, it must be assumed that a company's investments to increase the value of parameters of goods (for instance, in advertising) increase the value of a certain parameter x of particular goods in the eyes of a buyer by $x+1$. In order to estimate the profitability of such investments (profitability gained by a company from investments in the particular parameter), derivation must be implemented taking into account the said parameter (see equation 4.3).

$$I = \frac{\partial}{\partial b_k} \sum_i \sum_j a_i C_{ij} b_j = \sum_i a_i C_{ki}, \quad (4.3)$$

where: I – company's profitability of the particular investment into a parameter of goods;
 b_k – the parameter of goods to be analysed;
 i – the number of buyers;
 j – the amount of goods;
 C_{ki} – indicator of interaction of the parameter k characterising the buyer and the goods.

The **mathematical model** developed by the author can be used also to perform in-depth studies of consumer habits or purchasing habits, for instance, a company can gather information about consumer income, the level of culture, etc. By the use of collected information, a matrix of interaction of parameters can be developed, i.e., to conclude, how an advertising of a specific product or brand by a particular company is affecting persons with small income. When performing derivations according to a specific set of parameters, conclusions can be drawn on how beneficial it is for a company to invest in advertising, in improving the salesperson's performance, the choice of a company's location and other parameters.

Since a great volume of data is necessary for modelling, then each company, which plans to perform modelling, must be able to ensure all the necessary information about clients and their consumption habits. That, for its part, means that a company must perform regular market and consumer opinion studies.

Upon summarising the aforementioned information, it must be concluded that the model developed by the author is useful in entrepreneurship to analyse a company's return on investments, to determine the perspective and less perspective fields of investments, to plan advertising communications, etc.

All models developed in the promotion work can be used each separately, thus increasing the company's operating effectiveness in trade. However, the author believes that the greatest overall effectiveness can be achieved if retail companies used advantages offered by all developed models.

In order to demonstrate, how the developed models can be effectively used, the author suggests choosing the following approach (see Fig. 4.1):

- To perform sector analysis by using the author's developed model for assessing the parameters affecting consumer behaviour. By using this model, it can be determined, which of these factors dominate in decision-making and how, as the investments change, consumer behaviour changes (i.e. sales volume will increase).

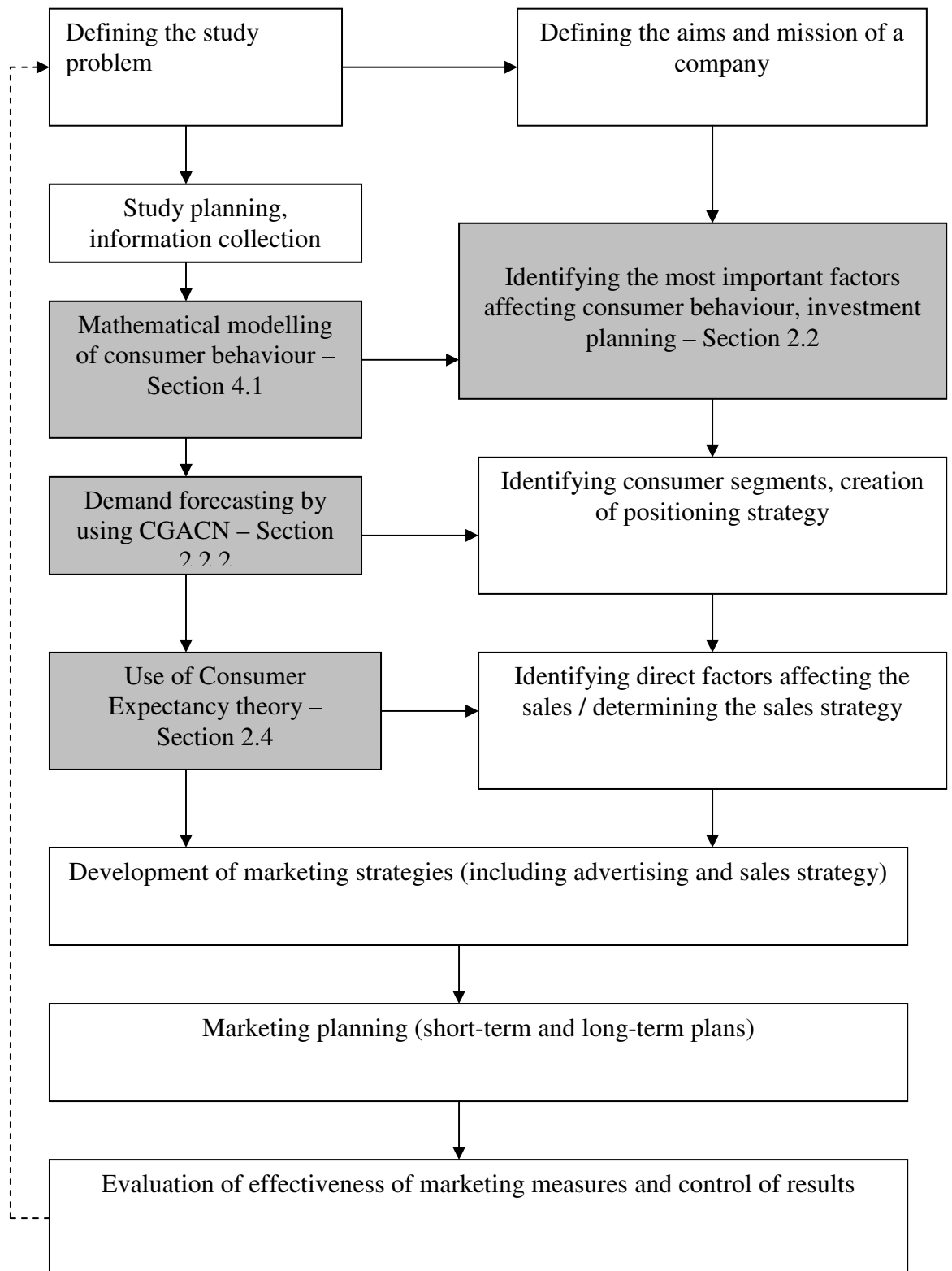


Fig. 4.1. The decision-making model in entrepreneurship, based on practical applicability of consumer behaviour models developed by the author [author's created figure, novelty]

- Afterwards, the author suggests performing an analysis of the company's assortment, using CGACN. In compliance with CGACN, the needs corresponding to each segment, age group, and group of goods can be determined, and this information can be used when positioning the goods or services in the consumer market or when performing other activity directed at strengthening or increasing demand.
- The third step, as suggested by the author, is using the model of consumer expectations theory and based on consumer expectations, the understood fair reward and insignificant rewards, to develop direct impact factors, including improving the salespersons' performance at the shop and paying increased attention to the arrangement of the commercial premises.

In accordance with the author's proposed approach, after obtaining and summarising modelling information, the company's marketing strategy must be defined and marketing measures must be planned.

After the marketing measures, it is recommended to determine effectiveness of measures and therewith – also the effectiveness of the use of models.

As one of the important components in implementing any marketing campaign is client servicing at the point of sales, the author recommends paying particular attention to this stage.

The use of models prepared by the author in sales, entrepreneurship, and other sectors of economy provide an opportunity to reasonably plan investments for the relevant time period, to avoid mistakes, and to improve the overall economic effectiveness of the company's operations and usefulness of resource utilisation.

The use of models simultaneously ensures an increase in the trading volume and minimisation of a company's costs.

FINDINGS AND RECOMMENDATIONS

The following *findings* have been obtained during the development of the promotion paper:

- 1) The studies of consumer behaviour have been relevant throughout centuries, and nowadays, they have become much more complex, however the need for them increases. Relatively, consumer behaviour studies can be divided into two parts – consumer behaviour studies in the real market and in the virtual market. It must be noted that as the opportunities ensured by information technologies are increasing, more studies are conducted, and they are more elaborate, which, for their part, provide broader information on the study object. Therefore, the companies have access to precise information, which can be used to ensure sustainable and economically justified development;
- 2) Consumer behaviour studies vary between two levels – the macro-level (society) and micro-level (an individual). These levels can be referred to various fields of science, therefore, it can be considered that the studies in consumer behaviour field have a multi-dimensional character, and no clear lines can be drawn between the fields of activity. In order to ensure justified decision-making in entrepreneurship, consumer behaviour studies must be performed on micro- and macro- levels.
- 3) The summarised consumer behaviour definitions are all directed at the purchasing process or at describing the psychological route of a consumer to making the purchase. Relatively little attention in the definitions is paid to the consumer's individuality and individual characteristics. Each individual has a differing consumption experience, the available resources and manners of their use. As entrepreneurship environment changes, it is expected that ever more studies in the future will be dedicated to studies of the individual characteristics and psychologically emotional condition of consumers, which can significantly complicate the chances of consumer behaviour modelling for the needs of entrepreneurial decision-making;
- 4) In order to analyse consumer behaviours more precisely, several authors known worldwide have conducted studies on factors affecting consumer behaviour, have grouped, analysed, and evaluated them, etc. One of the key indicators, which are important in any consumer behaviour study, is the consumer's demographic profile or portrait. The study results prove that it is important for each entrepreneur, when taking managerial decisions for operations in the chosen territory, is aware of the following consumer indicators: age, gender, occupation, education, marital status, income, living conditions, and life expectancy. The author has developed a Latvian consumer portrait, which can be used in modelling consumer behaviour;
- 5) Both genders have taken over the consumption traditions of the other gender; no longer strict division of the woman's and man's role, which was typical for 60-ties and 70-ties of the 20th century. Differences between generations have become very explicit, which is fostered by development of technologies, the speed of information circulation, changes in consumer behaviour, growing mobility of people, among many other factors. Thus, new approaches to the analysis and modelling of consumer behaviour must be created and developed;
- 6) Since 1991, the natural growth in population of Latvia has been negative, and in future it will lead to severe consequences in all fields of national economy. The tax burden per one economically active consumer in Latvia may increase

considerably, because there will be six retirees per one working person. When modelling future consumer behaviour and when planning the sales process, these aspects must be taken into account. The considerable concentration of population in cities fosters formation of specific consumption and demand;

- 7) The results of author's performed study prove that consumers are characterised with a more expressed individuality, by paying more attention to originality and authenticity of items, therefore, the consumers attribute greater importance to brands, by getting more engaged in creating goods and services, they can clearly formulate their expectations and possible restrictions, and they often think "outside the box" or untraditionally;
- 8) In the modelling of consumer behaviour, mainly logical models are used, which are prepared using information about the market and about processes taking place on the market. The most frequent information sources are researches and various statistical data about the market (field research). As consumer behaviour is affected by a range of various factors, then oftentimes, correlation relationship is used, thus making the modelling process very mathematically resource-demanding, therefore it is recommended to identify the most important factors and to perform mathematical modelling based on reciprocal correlation of various factors;
- 9) A. Maslow's hierarchy of needs in the modern-day management has been supplemented, adapted for the changes of the era, and it is interpreted differently. Studies show that all consumer goods can be placed into the Maslow's pyramid of needs and to use this theory for analysing and forecasting that theory. It is a rather great challenge to perform classification of goods in accordance with the consumer needs, however development of such classification can be justified with the need to measure supply and demand in a particular market. For this purpose, mathematical models for evaluating demand can be developed in order to ensure modelling with one, two, or more variables;
- 10) Consumer behaviour is affected by the following factors: social, personal, economic, cultural, situational, psychological, as well as micro-environment and individual factors. The impact of these factors on the consumer is not homogeneous and these factors can be grouped according to the intensity of impact on the process of making a decision on a purchase and according to their use in entrepreneurship. Micro-environment factors can be divided into three groups – direct effect, indirect effect, and situation factors. Apart from the mentioned factors, also individual characteristics exist, which affect the buyer behaviour motivation, and personal and psychological factors, which in each situation are the most important ones in making a decision. Study results, the developed models, and the performed surveys prove that factors and motives feature a different level of impact on the purchasing process. Upon grouping and classifying factors affecting consumer behaviour, it is possible to model consumer behaviour and manage resources more effectively in entrepreneurship, as well as to forecast the consumption of certain goods and groups of goods.
- 11) Consumer behaviour depends directly on their motivation to act. In scientific and practical literature, a lot of theory and practical advice can be found. Scientific literature extensively describes the so-called expectations theory, which could be precisely interpreted as theory of results of motivation expectations. This theory is mainly used in organisations psychology and mostly it applies to motivating the labour force. The study results show that the model of expectations theory can be referred also to consumers and it can be used in planning the operations

of retail companies. Based on theoretical and practical studies, the author has developed a consumer expectations model and with studies has proven its practical applicability in entrepreneurship in making managerial decisions;

- 12) Analysis and modelling of consumer behaviour is an important instrument of retail companies, which helps adopting justified decisions and developing in an economically balanced way. The developed consumer behaviour models: mathematical model of consumer behaviour, consumer expectations theory, and the decision-making model for a retail company, and their practical approbation prove that consumer behaviour modelling ensures well-grounded decision-making in entrepreneurship.
- 13) A marketing planning model for a retail company has been developed in the promotion paper; upon combining qualitative and quantitative methods of consumer behaviour analysis, it helps adopting well-grounded decisions in entrepreneurship, which are related to investment planning and to determining the return.

On the grounds of results and findings of the study performed within the framework of the promotion paper, the author proposes the following recommendations:

- 1) Based on the analysis of definitions performed within the promotion paper and on the author's studies described in Part 2 and 3 of the paper, the author proposes defining consumer behaviour as follows: ***Consumer behaviour is the behaviour of an individual person, which is stimulated by the impact of various factors and which is directly dependent on personal characteristics, psychologically-emotional condition, prior experience of the person, on resources at the person's disposal, and on the properties and price of the goods (service);***
- 2) It is recommended that entrepreneurs, who deal with selling goods or services in the market of Latvia, divide the consumer's decision-making process into subgroups according to the consumer's choice (decision-making): habitual decision-making (impulsive decision-making, routine decision-making), restricted decision-making, and expanded decision-making. Based on such division of the decision-making process, the companies can make a well-grounded choice for the development and action strategies;
- 3) Latvian and foreign scientists must pay particular attention to consumer behaviour modelling and forecasting in the changing market conditions, because according to the studies performed within the promotion paper, it is clear that the existing consumer behaviour theories can be supplemented with new theories and models. Companies, which will employ consumer expectations theory, can affect the consumer more precisely on an emotional level, which in the modern-day dynamic economic environment appears to be of particular value for consumers, all the while maintaining rational approach to business development;
- 4) Economic operators in the circumstances of Latvia should employ *the consumer expectations theory* more than the traditional theories. By the use of *the consumer expectations theory*, upon going through all model stages, in case of positive or negative results, the consumer compares gains with the expected result defined in advance. Afterwards, the results and expectations are compared, which proves the author's proposed thesis suggesting the option to apply the expectations theory to making a decision on a purchase. When using the consumer expectations model, a person's behaviour can be analysed. Entrepreneurs can plan how and by the use of which factors of influence and to what extent the consumer's decision on making a purchase can be affected.

- 5) To make in-depth studies of consumer habits or purchasing habits and to make economically reasonable decisions, it is recommended that entrepreneurs working in the retail sector use mathematical modelling of consumer behaviour. By preparing the matrix of interaction among parameters, i.e. by determining how people having different income levels are affected by a product advertisement or brand of the specific company, it can be determined, how profitable it is for a company to make investments in advertising, in improving the salespersons' performance, in choosing the company's location, and other parameters. The author suggests using the developed model in entrepreneurship to analyse the return on investments, to determine the perspective and less perspective spheres of investments;
- 6) For making decisions at a retail company and for long-term strategic development planning, the author suggests using the entire set of models described and developed in the promotion paper, which would ensure logical and well-grounded decision-making within the specific territory. Timely and well-grounded use of the developed models would ensure sustainable development of companies in Latvia.

Upon summarising the work results, it must be concluded that the theses for defence proposed in the introduction of the paper are valid.