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The Kano model: identification of handbook attributes to learn in practice

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Abstract

Purpose – Statistics shows terrifying tendencies in people' unwillingness to develop themselves by reading books. The situation is even more serious if we look at companies and their employees. People want to be specialists, but in fact reading culture in companies is rare. Many actions which are undertaken to reverse this trend may lead to sales increase of books by collecting them instead of reading them, if the quality of handbooks will not be improved. To enhance people to read, it is essential to offer them a product that would really satisfy their needs. The study presented in the paper contributes to the knowledge about some general practitioners requirements for handbooks on methods, in particular these used in quality and management. It shows also the usefulness of Kano's model application in the new area. A case study was conducted with the application of Kano's model to identify potential readers' expectations of a handbook for practitioners in problem-solving methods. The research was based on sample size equal to 376 different people: managers, specialists, operators, directors, students and professors in Poland. As a result, a book on problem solving method called "5 why" was created to verify if the model really works.

Design/methodology/approach – It shows the usefulness of Kano's model application in the new area of education.

Findings – Potential readers' expectations of a handbook for practitioners in problem solving methods were identified. The research was based on sample size equal to 376 different people: managers, specialists, operators, directors, students and professors in Poland.

Social implications – By taking into consideration expectations from customers, authors of books and educational services may improve their works. Both sides would make profits form this: customers – better product, authors – bigger and satisfied audience.

Originality/value – From many previous researches, it is known that the Kano's model is a useful, practical tool for industries; however, studies show that it is also well applicable in providing education service. As a result of the research, a book on problem-solving method called "5 why" was created to prove if the model really works in practice.

Keywords Total quality management, Customer satisfaction, Employee development, Kano's model, 5 why

Paper type Case study

Introduction

According to the statistical research conducted by UNESCO, nearly 17 per cent of the world's adult population is illiterate, and two-thirds of them are women[1]. The biggest concentration of the problem is in the poorest regions of the world. However, in the developed countries, people began to spend most of their free time on pleasures such as

watching television, listening to music or surfing the internet and forgetting about reading possibilities. This is a common tendency in the world. According to OECD definition, a person is functionally illiterate, when is disable to engage in all those activities, in which literacy is required for effective functioning of his/her group and community and also for enabling him/her to continue to use reading, writing and calculation for his own and the community's development[2]. Thus, resigning from reading can directly lead to the increase of problem also in the regions, where it is not visible.

Simultaneously, it is assumed that all the progress in today's world, brought by new ideas, is dependent on the innovations, which they bring. However, it is necessary to know and understand things invented in the past to propose an innovation for better future. The greatest source of knowledge is libraries full of books, in which many problems are described together with solutions. Thus, without reading, there is no progress. Similarly, but on a different scale, this rule exists also in the employees' communities in companies dealing with repeating activities on inventing problems' solutions, when reading culture is not present enough. There is a kind of similarity of the behaviour of companies' community as regards the situation of the people's literacy abilities. Official modern quality policies always state the product's quality and customer satisfaction as the highest priority. However, the quality of work and processes should be considered with the same importance as finished goods. They are related. When observing big organizations, it is noticeable that mistakes are repeated also by specialists in problem-solving methods. On the other hand, there are plenty of publications on quality issues and problem-solving methods offered in the market, so they may be achievable by an average employee. For all this potential, the same problems still remain because of insufficient interest on them and not taking into consideration what have been previously achieved. The fundamental question laying in the ground of the beginning of the research idea was "Why people don't want to read books which are available on the market?"

Many organizations alarm that this trend in reading will bring a catastrophe by creating people who are functional illiterates. Governments and organizations, who are conscious about the issue in the developed countries, try to promote reading as a part of their citizens' lifestyle. However, there is a risk that many marketing actions aimed at making reading fashionable may result in a situation that the sales of books will increase, but such books will not be actually read.

Some past researches conducted by the National Library in Poland show that the percentage of adults, who read at least one book in 2014, was only 41.7 per cent (Koryœ et al., 2015). This percentage includes all kind of books, also e-books. Although these data concern situation in Poland, it also states an essential question about the situation in other countries, which is currently unknown. Hence, the authors focused on the potential readers' requirements for handbooks in Poland, and this paper is valuable also as a beginning of a comparative analysis between working societies' behaviours.

The employees who want to develop themselves must read books. However, we also see that many people state that they want to develop; thus, a contradiction arises here due to the lack of reading habit. The assumption of the paper is that the books which are available today in the market may do not truly fit to the current potential customers' needs. Similar to other markets, readers' needs also change in time. Thus, at first, it is necessary to define current needs of readers. Hence, an attempt to determine the

attributes of a quality handbook is described to specify the correct approach in writing books which are also practical. The paper examines application of the Kano model to define the attributes.

The inferences from the research may bring a change to the writing style of books addressed to white and blue collar workers. This can influence their willingness to treat a book as a source of useful knowledge, and further may encourage such workers to learn and develop. Finally, a trial was also conducted to verify these inferences by writing a handbook on a problem-solving method, namely, "5-Whys".

The Kano model overview in the context of Voice of Customer analysis

Any product's success depends on how it is perceived by customers. The problem of products' adjustment according to customers' needs was a subject of many researches (Griffin *et al.*, 1996; Kahn *et al.*, 2005; Mohr *et al.*, 2009). After defining target customers for our business, the next step is to determine their requirements, which may differ from obligatory to optional. There are two possibilities of matching product attributes to the needs: creating the appropriate needs of customers, so they can be satisfied by our product, or another way to achieve this target is to give the voice to the customers and then response to their needs. For the second approach, group of methods called Voice of Customer (VoC) analysis was developed. Griffin and Hauser (1993) defined VoC as:

> The voice of the customer is a hierarchical set of "customer needs" where each need (or set of needs) has assigned to it a priority which indicates its importance to the customer.

The above definition includes a very big set containing all the things that can be interpreted as a need. Moreover, a customer is a person who is potentially interested in an offer of a product that possesses typical traits for this type of product. While needs are by definition infinite, in the Kano model context, a slightly different definition of VoC can be proposed:

> VoC – attributes of product or service which appearing or disappearing influence the decision on buying it by a person to whom a certain product is offered.

In other words, existence of these attributes in a product significantly change the probability of selling and using it.

Gathering the message from our customers means listening to their voice (Bharadwaj *et al.*, 2012). But listening also means drawing inferences from what was said. Companies from different branches focus on understanding customers' needs as deeply as possible by investigating VoC. Many examples of case studies show usefulness of the approach during design phase of a new, innovative product (Cooper and Dreher, 2010; Gaskin *et al.*, 2010). Also, in service quality analysis, VoC methods are not unfamiliar. Davis *et al.* (2001) analysed electronic communication, Bejou (2012) studied public schools relationship to students' parents, Schwarz (2004) analysed electronic retailing company, and Jasrai (2014) investigated telecom service influence on customers' satisfaction.

A method of customers' needs identification, which can be put in the category of VoC analysis, is a model originally designed by Kano *et al.* (1984). The idea of Kano's approach is to classify the product receiver's needs into different sets. The following graph presents the model assumptions (Figure 1).
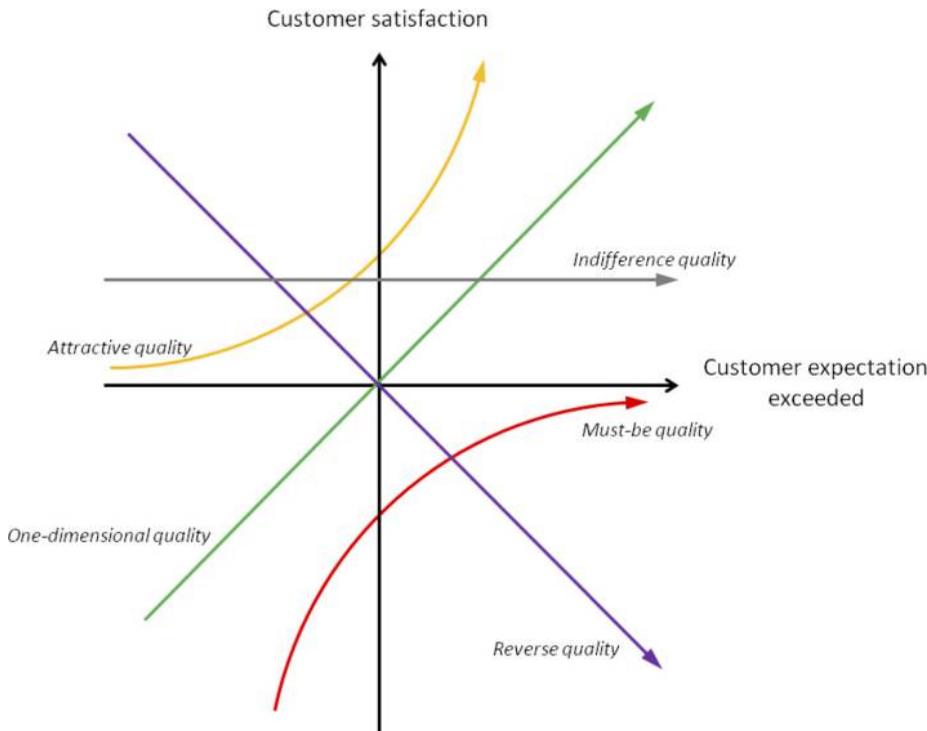
Figure 1.
The Kano model
assumptions

The use of the Kano model results with attributes division into five main categories:

(1) (*M*) must-be: An attribute which is unnoticeable by a customer when is fulfilled, but has strong negative effect on customer satisfaction when is not fulfilled.

(2) (*O*) one-dimensional: An attribute causes dissatisfaction of customer when does not meet expectations, but has a positive effect on satisfaction when exceeds them.

(3) (*A*) attractive: An attribute which can be called "bonus" – pleases a customer when is present, but has no negative effect when is not fulfilled.

(4) (*I*) indifferent: An attribute has neither positive nor negative effect on customer satisfaction.

(5) (*R*) reverse: An attribute which has to be avoided when customer is to be satisfied.

The interpretation of these categories of attributes are widely studied in the literature (Shahin and Zairi, 2009). The importance of each attribute is determined by the order of which they ought to be fulfilled. First, basic needs of customers have to be met, which means taking care of obligatory attributes. Naturally, none of the customers will be delighted because of satisfying their basic needs; however, a good news is that their dissatisfaction should be avoided. In the second step, one-dimensional characteristics would be considered. The minimum level of fulfilment of these attributes must be at

least equal to the level which does not influence negatively customers' perceiving of the product. As these requirements are met, it is possible then to build an optimal strategy of customer satisfaction. By taking into consideration the costs of one-dimensional and attractive attributes, companies may optimize their offers on the route to customers' delight. Some of the indifferent characteristics might be also analysed. Statistically, looking at the importance level of the factors also needs seeing possibilities of changing the indifferent attributes into some delighters. Sometimes, it can be possible that what is indifferent in one time, in the future, it might become a standard because of some new possibilities. Another fact is that the importance of attributes perceived in a certain way by customers has a change tendency. Although it does not happen immediately, there are changes – mostly – between neighbouring categories. From this point of view, some regular refreshments of researches seem to be necessary.

If many quality attributes are being analysed, some more detailed discrimination of their importance might be valuable. Also, subdivisions of the above classical categories can be found in literature. Some example of differing the subsets of attributes categories was proposed by Yang (2005). He obtained nine categories by differentiating the importance of the basic ones after taking into consideration their influence strength on customers' delight. Such detailed groups, however, could be practical if there are many attributes under analysis. Yang (2011) tried to show a study on pragmatic methodology to define a "delight drivers" with a case study on international certification service companies in Taiwan.

The method proposed by Kano is not new anymore, but when applied properly, it might bring surprising and interesting effects. Recently, many inspiring researches conducted with respect to product designs and which showed the usefulness of the model in defining critical attributes were published. A classic example of the Kano model usage can be seen in the research conducted to explore customers' needs attributes for digital television applications by Ko *et al.* (2012). The Kano model-based hybrid approach for aesthetical design of a car profile was presented by Yadav *et al.* (2013). Finally, an innovative approach for better understanding of professors' expectations for students' schoolwork in business education in the USA was proposed by Emery and Tian (2002).

However, a book is not only an ordinary product but also brings a kind of service to our client, especially quality handbooks must support in case of quality management troubles. Some typical examples of the model application in analysing good service attributes can be seen in the research on Web-community service quality by Kuo (2004). Chen and Kuo (2011) analysed the problem of e-learning service quality in the context of enhancing its users' satisfaction. Chen and Lee (2006) evaluated student's dormitory service quality, Chang *et al.* (2012) tried to identify brand elements which lead tourists to form a brand impression of a destination. Lin (2011) applied the Kano model to explore customer perceptions of bed and breakfast service in Taiwan.

These works clearly show the ability of defining quality attributes also in services analyses with the usage of the model. Some deeper analyses on quality attribute and their influence on customers satisfaction were done by Ting (2012), who stated that attractive attributes can have also effects, which are opposite to what is expected.

A possible weak point of the above works is that their authors do not take into consideration attributes that could be included into the reversed type group. However, such outcomes could determine what kind of attributes should be avoided, changed or

improved in the product or service. The example of such a result is presented in the research.

After determining the barometer of customer delights, the integration of the Kano model into quality function deployment (QFD) is possible for consideration. Future researches on similar topics can incorporate the Kano model with a QFD to investigate the demands, their significance and to prioritize the item. Matzler and Hinterhuber (1998) tried to manage product development projects more systematically because of integrating the Kano model into QFD. Shen (2010) used the approach to figure out the priorities when improving library service quality by implementing key technologies.

Research methodology

The study was conducted with the application of the Kano model to identify potential readers' expectations on quality issues and problem-solving methods. Because of the assumption that books lack the needs of potential readers, it is essential to determine these needs. But there is one more implicit assumption – it is known who is the potential reader, although it is frequently not obvious. This should be clarified prior to further actions. If we consider quality books for non-academic receivers, then in the set of customers, we should include companies; employees, such as quality engineers, managers, constructors, production engineers, directors, servicemen, operators; students interested in the topic; and scientists as professional researchers who could confront practice with the theory. Because of the fact of the financial constraints on the research, the investigated area was restricted to Poland. Chen *et al.* (2010) proposed creativity-based Kano model (C-Kano model), which integrates the creativity techniques to not only discover customer needs but also create attractive quality elements.

The description of how the research described in the paper was conducted can be presented in five major steps:

(1) collecting the quality attributes from the introductory sample from the target customers;

(2) selecting the attributes and designing the questionnaire;

(3) collecting responses;

(4) analysing the results; and

(5) verifying the inferences.

Thus, the first step is to receive responses on what are the quality attributes of the product, which we are going to offer. The main value of this point is that our customers will characterize the product on their own. This cunning movement delegates the biggest responsibility in the research to the group of people who we want to delight. Hence, if we want to satisfy them, we should listen to what they try to tell us in the current state. The size of the introductory sample was 30 persons, including several managers and directors from different companies, quality and production engineers, operators, students and academic scientists. The sample was as representative as it was practically achievable. A kind of brainstorm was simulated to answer the question: "What does mean a good quality book and what its traits should be?". Finally, from the initial sample, 35 different attributes were generated, from which 15 were selected for the questionnaire. The selection process was based on grouping the attributes, which were similar, and eliminating those which were repeated. In present case study, the

questionnaire was created according to the main rules in the Kano model by asking positive and negative questions. To simplify and make the form fast to fill, questions were put horizontally with a positive question on the left side and a negative on the right side. In all, 15 most common attributes were selected (Table I), so the single questionnaire was two pages long.

The responses collection is a part of work, on which a researcher may also have a significant effect, especially if the respondents are personally unknown. The total number of distributed questionnaires was 1,000. The number of valid responses was 376. Such a low rate of replies (37.6 per cent) is a result of fully anonymous research. The questionnaires were distributed electronically to more than 300 different companies, libraries and universities in Poland. The common profile of companies targeted in the analysis was as follows:

- medium to big companies (more than 30 employees);
- customer oriented policy;
- production sector;
- products quality treated as priority; and
- private ownership (without state shareholders).

The respondents were not informed in details about the full background of the research. The priority, however, was to receive humble opinions. A common cluster of the companies' market selected for analysis was defined to maximize the chances for representativeness of the sample.

The fourth part is the analysis of the attributes based on the received responses. The basic assessment of the quality attributes of the considered books is done with the application of the Kano model. Contrary to many other researchers, in this paper, an *explicit* assumption of properly defined attributes is that it is not so obvious to satisfy the customer. Because of the fact that responses spread over different categories, also the

ID	Attribute
A01	Written in very precise, scientific language
A02	Included practical application examples of theories
A03	Clear and easy-to-read graphics (e.g. fonts, graphs, tables, etc.)
A04	Less than 100 pages long
A05	Included references to other publications on this topic
A06	High-quality paper
A07	Included many real examples of application
A08	Recommended by famous and influential people (e.g. professor, CEO, etc.)
A09	Clear structure of a book (text divided into chapters, table of contents, etc.)
A10	Readers can apply examples from a book in their every-day work
A11	Included examples from other areas than the reader's work interests
A12	Price less than 30 PLN*
A13	Text includes many anecdotes
A14	An author is a well-known person in the market
A15	Brief summary/description included on the back cover

Notes: *Average currency rate of USD/PLN in 2014 = 3.15 and EUR/PLN = 4.18

Table I.
Kano categories for a handbook quality

customer satisfaction indices (CSI), were investigated apart from the Kano model. Two equations (1) and (2) for the "Better" (BCSI) and the "Worst" (WCSI) values (Berger *et al.*, 1993) describe the impact on the customer satisfaction when a trait of the product is fulfilled or not:

$$CSI_B^* = \frac{A + O}{A + O + M + I} \tag{1}$$

$$CSI_W^* = -\frac{O + M}{A + O + M + I} \tag{2}$$

Each letter in the equations corresponds to the number of responses, which classified the attribute to a certain category of O, M, A, I and R. The highest absolute values of the indices, the strongest impact on the customers' satisfaction has the concerned attribute.

The above interpretations are true on a condition that the attributes are more or less desired by the customer. If a feature's presence has a reverse effect on satisfaction, then another additional equation should be considered as below:

$$CSI_R = \frac{R}{A + O + M + I + R} \tag{3}$$

The CSIW value measures the customer dissatisfaction caused by presence of an attribute. Similar to the first index, CSIR value ranges from 0 to 1. When it reaches 1, the element decreases the user satisfaction, but if it is close to 0, then there is no reverse effect of an element. Thus, it is a completely opposite measure to the coefficients presented in equations (1) and (2). The CSIR brings the information on how big is the market risk if the attribute is totally fulfilled. People's demands are different; thus, if it is possible that someone will become dissatisfied by an element, it is only a matter of time to observe such a case. This index measures its influence and tells if the assumed direction on product development is appropriate and should be maintained or revised.

Continuing the consequences of appearing responses of reverse satisfaction effects, CSIB and CSIW coefficients ought to be modified by adding in the denominator the number of respondents who recognized the element as negatively affecting their satisfaction when it is present. Thus, the coefficients in the research were estimated according to equations (4) and (5):

$$CSI_B = \frac{A + O}{A + O + M + I + R}, \tag{4}$$

$$CSI_W = -\frac{O + M}{A + O + M + I + R}. \tag{5}$$

As a result of the analysis, a book on problem-solving method called "5-whys" was written to verify the inferences from the model. The feedback was confronted with the analysis outcomes.

Research results

Analysis of the two-way quality model

From the responses given by the customers, the influence of each attributes was assessed according to the Kano evaluation table (Table II). To encourage the respondents to fill in the questionnaires by shortening them, some of the fields enabling to describe the respondent were omitted (e.g. age, gender, membership etc.).

The result of assessing an element according to the above categories depends on how the customers answered two-way questions. For example, if the assessment of the attribute resulted from the increased customer satisfaction (answer "I like it"), it means that the attribute was present, and in case of the decreased satisfaction (answer "I dislike it"), it was missing, then such an attribute is assumed to be one-dimensional (O). On the other hand, if the customer perceives that the attribute is necessary (basic necessary) and, moreover, if it is not present, then such customer is disappointed (dislike), and the attribute is must-be (M). This is a method for attribute importance classification. In the next step, the most common (dominating) category for each attribute is to be chosen to define the type of the attribute. Because the variable is not quantitative but attributive, the category is selected based on a dominant.

A well-designed research should result in attributes classified to different categories. The worst case would be if every attribute was assessed in one category, which could be probably an outcome of bad questionnaire or wrong choice of respondents. If the same group of people generates the quality attributes for questionnaire construction and then they answer these questions, it is hard to assume that they will classify them differently than obligatory. From the below table, we may notice that attributes are classified very differently. The results for all quality elements of books assessed by the customers are summarized in Table III.

For each element, it is roughly visible how it affects customer satisfaction (Figure 2). For example, the first attribute A01 (Handbook written in very precise, scientific language) is perceived as an attribute which provides the reader with the reversed satisfaction when such attribute is present – 178 responses. During responses collection, a number of contradictory replies were monitored. If the number would grow too fast, it can be a result of improperly constructed questions in the questionnaire. The set of contradictory answers are nowhere dominating, which means that from a logical point of view, further interpretations can be conducted. From the above table, the Kano graph was drawn to visualize the influence of each attribute on the satisfaction. All the

| ID	Like	Basic necessary	Dysfunctional Neutral	Can live with	Dislike
Functional					
Like	Q	A	A	A	O
Basic necessary	R	I	I	I	M
Neutral	R	I	I	I	M
Can live with	R	I	I	I	M
Dislike	R	R	R	R	Q

Table II.
Kano evaluation table

Source: Chen and Kuo (2011)

Attribute ID*	Attractive	One-dimensional	Must-be	Indifference	Reverse	Contradiction
A01	55	8	8	119	**178**	8
A02	68	**161**	108	37	1	1
A03	86	**134**	114	39	1	2
A04	64	25	7	**227**	17	36
A05	122	46	45	**123**	32	8
A06	126	37	13	**197**	0	3
A07	**147**	127	63	32	2	5
A08	121	26	11	**209**	6	3
A09	54	139	**142**	36	0	5
A10	**149**	138	73	13	1	2
A11	**182**	37	8	126	11	12
A12	**191**	34	14	106	5	26
A13	**171**	14	2	159	27	3
A14	112	1	1	**250**	1	11
A15	**137**	88	64	83	1	3

Note: *Table I contains the full names for quality attributes

Table III.
Responses summary from all the Kano questionnaires
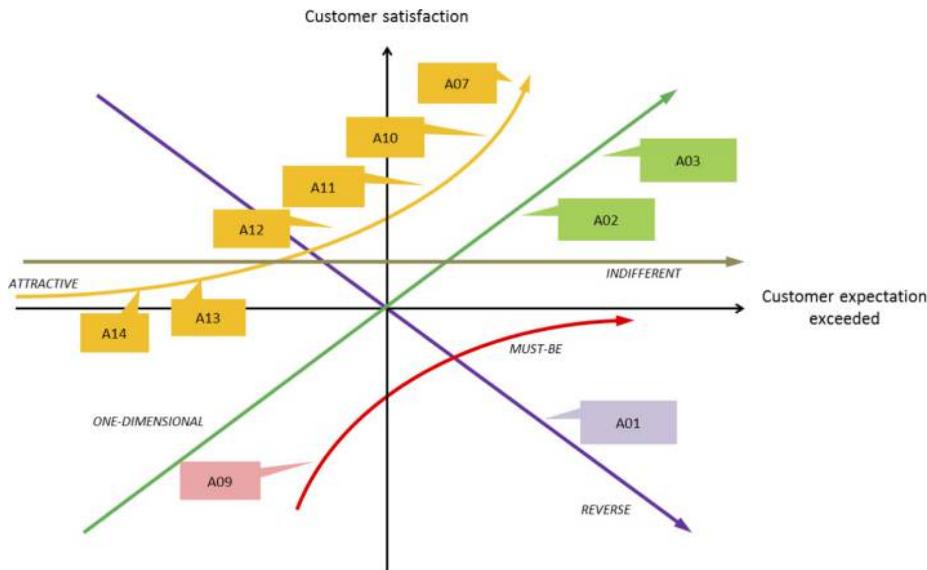
Figure 2.
Attributes of a quality handbook

considered attributes which have some effect on the customer satisfaction are presented in Figure 2.

Figure 2 presents four groups of attributes (without attributes affecting the customer). The indifferent ones sometimes can be seen in marketing actions for book promotions (e.g. recommendations). In fact, it can be a waste of money because the respondents used to state that it is not important for them. The categories with

Attribute ID*	First attribute	Second	CSI_B	CSI_W	CSI_R
A01	R	I	0.17	−0.04	0.48
A02	O	M	0.61	−0.72	0.00
A03	O	M	0.59	−0.66	0.00
A04	I	A	0.26	−0.09	0.05
A05	I	A	0.46	−0.25	0.09
A06	I	A	0.44	−0.13	0.00
A07	A	O	0.74	−0.51	0.01
A08	I	A	0.39	−0.10	0.02
A09	M	O	0.52	−0.76	0.00
A10	A	O	0.77	−0.56	0.00
A11	A	I	0.60	−0.12	0.03
A12	A	I	0.64	−0.14	0.01
A13	A	I	0.50	−0.04	0.07
A14	I	A	0.31	−0.01	0.00
A15	A	O	0.60	−0.41	0.00

Table IV.
Summary of the
Kano questionnaires
results

Note: *Table I contains the full names for quality attributes
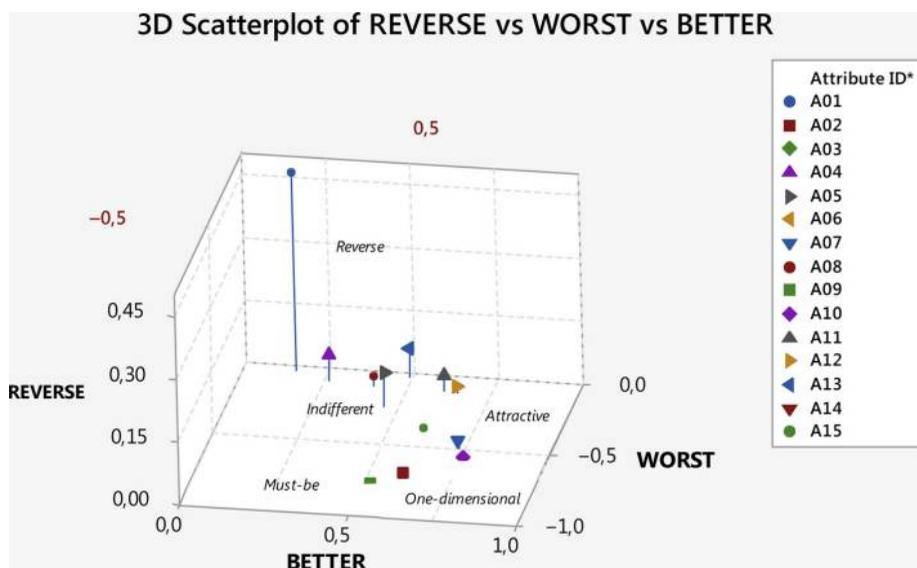
Figure 3.
Influence of the
attributes fulfilment
on the customer
satisfaction

dominating number of responses are further interpreted together with the estimated
customer satisfaction coefficients (Table IV and Figure 3).

Only one attribute may be considered as a must-be – "clear structure of a book";
however, it is also likely to be perceived as one-dimensional. The good news is that
only this one characteristic is unnoticeable by the customer when it is present but
creates dissatisfaction when is missed. In the category of one-dimensional
attributes, two characteristics are included: practical examples and clear graphical
side of a book. The graphics and visual part of a product are frequently important,

also while choosing a book. When looking at more scientific or problem solving issues, we can see that it also plays an important role for potential readers. Thus, when writing and expecting success of a book, this side has to be considered every time. The answers for the quantity of practical examples clearly show that people seek for books, from which they could implement some solutions in their job, not just theoretical ones. This inference also confirms the unproved opinion till this moment that readers want to be assured that writers have also some deep practical experience in applying the theory, which is written. This might motivate some more practitioners to share the knowledge. People were consequently answering that the higher the level of implementation of these attributes, the more they appreciate it. Especially, real examples are very welcomed with some background explanatory stories (A7, A13 attractors). Also, three more attributes are considered as attractors (A12, A14, A15). The last two could be expected to appear as attractors, which means that this is indeed an advantage, but not a requirement for the customer. However, similar conclusion can be drawn for the price attribute. It might be interpreted that people consciously answered that they may pay more for a product, which really fulfils their expectations. These characteristics can be found as potentially best for the marketing actions on the product together with one-dimensional ones.

In the group of crucial factors, there is the one with reverse effect. The intention of the question was to verify the opinion that handbooks are often written in a form, which is scientifically advanced that is not understandable enough for the so-called "ordinary readers". From the results, we can state that the opinion is common in the whole considered society. The language has to be adapted to the perception abilities of the users. Thus, if a book is addressed to wide audience (like engineers, operators, managers, coordinators, etc.), then it has to be seen as believable. That is why, a trustworthy language should also go together with real examples which are one-dimensional.

To bring these inferences into practice, a handbook on "5-Whys" problem-solving method was created. The aim of this paper was to verify the outcomes and to offer a different kind of publication, which could be positively noticed by the so-called ordinary employees. "5-Whys. Handbook" is the first handbook for world-famous problem solving technique popularized by the founder of Toyota Industries CO. Ltd. Sakichi Toyoda. The method of solving problems by using a series of questions "why?" is the basis of all production and services management methods, as Lean Management, Six Sigma, Deming's Total Quality Management, Toyota Production System, Total Production Maintenance and S & OP. The book is also probably the first position based on research using the Kano model. This model allowed for the separation of the basic characteristics, which the readers expect from a good handbook.

The book was addressed to anyone who wanted to continuously improve processes, people or themselves. The keynote when writing the handbook was to encourage not only executives and middle-level employees but also most of all employees directly supporting processes – because without them, no improvements are possible. In all, 90 per cent of the first 100 feedbacks received from the readers were positive with mentioning, in particular, the style of the book. This is a kind of proof that the model works.

Finally, it has to be remembered that quality handbooks are not just an ordinary products like industrial ones. They are more like service providers for employees willing to learn. Also, they are often offered to academic students and companies, which are not rich enough to hire professional consultants.

Discussion and conclusions

This paper shows the usefulness of the Kano model to define quality attributes of quality handbooks for non-academic readers representing global point of view on the considered problem (no differentiation between groups) with the example on local data. The empirical study provides some direct suggestions for writers to create books, which are intended to be read by employees and encourage them to learn. It can be expected that more practical, and therefore more attractive books for employees, can positively influence staff development in an organization, its growth and enhance implementation of real innovations owing to elimination of repeatable historical errors. Naturally, it has to be mentioned that the results are not static. Other tools and techniques helping to improve workplace learning in an organization may influence how each attribute is viewed. The paper studied another method of customers' requirements identification – the Kano model. Referring to the VoC described in the beginning of the paper, the model works successfully for VoC definition.

The modified better and worse customer satisfaction coefficients were estimated to identify the key elements, which can maximize the reader satisfaction and prioritize value of each attributes.

Compared to the most of similar works on practical implementation of the Kano model, this research was done one step forward. Parallel to the analysis, a handbook on problem-solving method "5-Whys" ( ) was under creation. In the book, the authors included most of the outcomes from the research. After finishing the book, a feedback from customers was collected. The market reaction on the book was very enthusiastic. The readers appreciated in particular the simple language, understandable by an ordinary employee and a big set of real good and bad examples from many fields.

From many previous researches, it is known that the model is a useful and practical tool for industries; however, studies show that it is also well applicable in providing education service.

Notes

1. www.unesco.org/new/en/education/themes/education-building-blocks/literacy/resources/statistics (accessed 2 August 2015).

2. https://stats.oecd.org/glossary/detail.asp?ID=1536 (accessed 2 August 2015).

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Further reading

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