The assessment of business customers’ satisfaction in the B2B market on the example of a metallurgical company

ABSTRACT

The guarantee of a company’s success in the business to business (B2B) market is the acquisition of customers satisfied with the purchased products or services and loyal to the company. The metallurgical industry is a specialised sector with a narrow group of buyers. In order to ensure mutual relations in the B2B market, numerous activities are carried out to strengthen the ties between business partners. One of such activities is the assessment of customer satisfaction, which gives the company an opportunity to learn about the needs, preferences, and expectations of its customers. The aim of the study was to assess the satisfaction of business customers with the cooperation with a chosen company in the metallurgical industry, a world leader among solutions in the metal heat treatment sector.

The CAWI (Computer-Assisted Web Interview) technique was used to achieve the aim of the work, in which proprietary research instruments were used. To assess the loyalty of the company’s business partners, the Net Promoter Score (NPS) was used. The study was carried out at the turn of 2021/2022 in two stages of cooperation between the company and its business partners. The first verification was carried out after signing the final protocol and the second after the end of the warranty period.
The study was global. 104 companies from various industries and operating on international markets participated in the survey. The results of the conducted research showed a high rating of customer satisfaction with the cooperation with the company. This is evidenced by both the high values obtained of the NPS index (51.7% for tests made after the device was launched, 55.6% for tests carried out after its warranty period), and high ratings of customer satisfaction with the products and services offered by the company. The results of the study also allowed the authors to identify areas of the company’s activity for further improvement.

**Keywords:** customer satisfaction, customer loyalty, Net Promoter Score, B2B market, metallurgical industry

**JEL Classification:** D2, M3, O3

### Introduction

Satisfying the centralised needs of consumers is a key to the success of an enterprise. Companies in the business to business (B2B) market particularly need to nurture relationships with their partners. The objects of exchange in the B2B market are products and services which do not always reach their customers as in the consumer market, but most often in this case customers participate in the production of other products and services [Kotler, Wong, Saunders, Armstrong, 2004]. Learning about the specifics of customers’ behaviour in the institutional market helps to improve interactions, which are an essential issue for companies to strengthen their position in the B2B market. Becoming more familiar with the fundamentals of how to satisfy effectively consumers’ aspirations and goals of partners provides companies with an opportunity of anticipating the direction and nature of changes in customers’ needs better.

While managing a company aiming for long-term success, it is important to build multidimensional relationships with business partners. Winning satisfied and, later on, loyal customers gives the company an advantage over competitors and leads to market success. Attention to their satisfaction should have a decisive influence on the direction of the company’s marketing strategy in the B2B market [Schulz, 2007]. The mere acquisition and conclusion of a transaction does not guarantee the level of customer satisfaction expected by the company. The basis for achieving the strategic goal are relations with contractors achieved through mutual trust, loyalty, and reliability of business partners. The basis of this behaviour is to know and understand the changing attitudes of customers’ expectations and preferences over time. The needs of the customer in the institutional market must be met in a comprehensive manner, from their material nature, through the sociological one, to the emotional one. Only in this way does the satisfied customer become the result of the company’s actions. By binding themselves to the company for years, they become an investment that is a source of long-term benefits. Focusing only on gaining new customers is very limited by the size of the market, so it is necessary to turn the existing ones into loyal partners of the company [Rudawska, 2005].
Learning about the specific behaviour of customers helps to improve the mutual relationship, which is a fundamental issue for cooperation in the B2B market. What is also crucial is becoming more familiar with the basics of how to satisfy effectively customers’ aspirations and fulfil the current objectives of the partners, as well as envisaging directions for further cooperation. As a result of delivering products that meet their expectations, the purchase of goods is repeated and groups of loyal customers are formed [Hill, Alexander, 2003]. Loyalty refers to the willingness of the contractor to take an appropriate action in relation to strengthening the mutual relationship. Through a regularly strengthened partnership, the customer remains a partner of the company, even if competitors offer better prices for individual transactions. In the B2B market, the level of satisfaction depends not only on the purchased goods, but also on many other elements which build the mutual relationship between the customer and the enterprise, such as the market offer, delivery conditions, marketing communication tools, price formation methods, customer service standards, and complaint handling rules. Loyalty has a very complex structure and is difficult to identify. It is the result of customer satisfaction and is linked to the long-term success of the enterprise. As the satisfaction of business partners increases, their loyalty increases as well. However, if there is a lack of customer satisfaction, it results in the abandonment of repeat purchases, a change of supplier, the generation of negative opinions which are followed by difficulties in selling products in the market, and an increase in the sales intensification budget. Such actions lead to low profitability for the company. However, it should be noted that a satisfied customer does not determine loyalty but fosters it. It is a necessary factor for its occurrence, but not a sufficient one. Similarly, a lack of satisfaction does not necessarily foster a decline in loyalty [Staszyńska, 1998]. Studies indicate that consumers who perceive their level of satisfaction as high are more likely to make the decision to remain a loyal customer of a particular company [Gounaris, Stathakopoulos, 2001]. The higher their satisfaction is, the more likely they are to stay with a particular business partner [Dahlgard, Kristesem, Kanji, 2000]. Therefore, the customer-company relationship is of great importance in the functioning of the company and its further development. This relationship should be systematically analysed and improved by adapting appropriate ways of studying it, measuring it and, most importantly, adjusting the factors that determine its sustainability [Styś A.S., Styś S., 2007].

Customer satisfaction surveys are becoming increasingly popular in today’s companies. They are the basis for improving their products and services. In order to measure customers’ satisfaction, it is necessary to know their needs, preferences, expectations and market behaviours. In analysing customers’ loyalty, companies have a range of methods and techniques to use, which usually verify it at the level of a single relationship with the buyer. Complex and holistic measurement is time-consuming and expensive. Enterprises are looking for methods to measure loyalty of their customers that are simple and quick. They are helpful in obtaining information not only on whether the consumer will purchase the product again and whether the partner is satisfied with the relationship, but also on whether it will recommend the company to others [Dolye, 2003].
The steel production and processing industry is one of the most important branches of the Polish processing sector. The Polish metallurgical sector has significant resources, a well-developed infrastructure, a high level of innovation and industry knowledge, which are determinants of its development. In 2020, Poland was ranked fifth in the world and first in the European Union being one of the largest importers of semi-finished and finished steel products. According to a Eurostat report, the sector employed more than 72,000 people in 2020. The dominant majority is privately owned, forming large companies, most of which are based in the Silesian Voivodeship. The Covid-19 pandemic period significantly slowed the sector's growth, but the first quarter of 2021 again showed an intensification of its gains, indicating further predictions for its growth over the coming years [Kruk, 2022]. Experts from EMIS (ISI Emerging Markets Group) have observed an increase in demand for steel by the metals sector. This has increased to such an extent that European producers have struggled to meet it. At the end of 2021, the Polish Economic Institute estimated that after the pandemic the Polish economy would consume more steel than before it – double the national supply. In addition to increasing productivity, the metals industry is focusing on reducing its environmental footprint, including improving its electrical efficiency. The copper and aluminium segment is expected to grow strongly in the coming years. The demand for these commodities is driven, among other things, by the implementation of global infrastructure projects, as well as by the development of clean energy, the demand for cars, electrical appliances, and renewable energy devices. Among the numerous growth opportunities for the metals sector, there are also numerous challenges, which are related, among others, to greenhouse gas emission costs and electricity prices [Jarzyna, 2019].

The metals industry is a specialised sector with a narrow customer base. Therefore, gaining satisfied and loyal consumers gives companies an advantage over their competitors, leading them to market success. The study of consumers’ attitudes becomes extremely important for this industry, as they are very aware of their needs and have strictly defined expectations. Therefore, the aim of the study was to assess the satisfaction of the B2B customers of a world leader among solutions in the metal heat treatment sector.

Methodology

The subject of the research was a Polish company in the B2B segment, a world leader in the metallurgical and heat treatment industry, supplying industrial furnaces for metal processing (in the article it will be referred to as the Company). The Company has been an active participant in markets for almost a century. It is present in 70 countries with subsidiaries in Poland, China, the USA, India, Russia, and Germany. The Company is part of the Group of 9 companies, with the leading one located in Poland. Thanks to the Group’s solutions, the following products are manufactured: aircraft and car steering components, surgical instruments, or coins. The Group’s technologically advanced furnaces are supplied to leading industries worldwide.
of the Company’s activities includes standard and dedicated solutions covering the supply of equipment with technology and accompanying devices, assembly and start-up, maintenance service, technical and technological training, tests and research in industrial and laboratory conditions, analyses and simulations. The Company’s specialisation are end-to-end solutions (covering all stages of the implementation process, from the creation of the equipment design to its installation and commissioning at the partner’s site) for five manufactured furnace types (product segments) for heat treatment in vacuum, heat treatment in aluminium, heat treatment in atmospheres, brazing heat exchangers, and vacuum metallurgy. The improvement of mutual relations in the B2B market and growing importance of the opinions of business partners became the rationale for conducting the research. In order to achieve the main objective, specific research objectives were defined: 1) to assess customer loyalty to the Company, 2) to assess customer satisfaction with the products and services offered by the Company, 3) to identify areas of the Company’s required improvement.

The CAWI (Computer-Assisted Web Interview) technique using a proprietary survey instrument was used to achieve the research objectives. The survey was conducted in 2021 and 2022 at two stages of the collaboration between the Company and its business partners: 1) a survey after the signing of the final protocol, i.e., after the device (technology) was assembled and commissioned at the customer site; 2) a survey after the end of the device warranty period, which lasted, depending on the contract signed, 12 or 24 months. The survey questionnaires were prepared in an electronic form and contained 15 questions each. A link to the questionnaire was sent to the contractors by email.

The Net Promoter Score (NPS) was used to assess the loyalty of the Company’s business partners. In recent years, it has gained particular popularity in the area of measuring customer loyalty, becoming an alternative to traditional customer satisfaction surveys. It is an empirical measure which allows for the development of an analytical model to assess the loyalty level [Reichheld, 2003]. Through its use, it has become possible to better understand consumer satisfaction at a macrolevel [Jouve, Martin, Guerin, 2012].

Within the survey, each customer answered a basic question with 11 levels: “How likely is that you will recommend a product/service/Company to a friend”?

```
certainly not  0 1 2 3 4 5 6 7 8 9 10  certainly yes
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Based on the obtained data, the customers were divided into 3 groups:
- detractors – customers who answered between 0 and 6;
- passives – customers who answered between 7 and 8;
- promotors – customers who answered between 9 and 10.

The Net Promoter Score (NPS) is determined as below:

\[
NPS (%) = \% \text{ Promotors} - \% \text{ Detractors}
\]
The determined NPS value can be negative or positive and is between –100 and +100. An indicator of +100 means a situation in which each respondent promotes an evaluation object and is willing to recommend it. An indicator of –100 indicates that each respondent is a critic who does not recommend the object. Positive NPS values are considered a good score and a value above 50 is considered an excellent score. Due to its simplicity, the indicator has gained great popularity in various industries around the world [Spoczyński, 2018].

In order to assess consumer satisfaction with the products and services offered by the Company, as well as to identify areas which require improvement, customers were asked more questions in the survey questionnaires. Customers gave their opinions on a four-point Likert scale: a score of 1 meant dissatisfaction or disagreement, a score of 4 meant satisfaction or full agreement with the question asked.

The survey was global in nature. A total number of 104 companies, from various industries, operating in international markets participated in the survey. In the analyses conducted, customers were grouped according to the technology they purchased: aluminium heat treatment furnaces (7 companies), heat exchanger brazing furnaces (18 companies), vacuum and atmosphere heat treatment furnaces (63 companies), vacuum metallurgy furnaces (2 companies), thermal technology furnaces (14 companies). Analysis of variance (ANOVA) was performed to compare the statistically significant differences of the results obtained. To verify the significance of differences between mean values, the Tukey test (α = 0.05) and the chi-square test (p<0.05) were applied using the Statistica 13.0 computer programme.

Results

The research results obtained were analysed in three areas:

- evaluation of customer loyalty to the Company;
- assessment of customer satisfaction with the products and services offered by the Company;
- identification of the areas in the Company that require improvement.

Assessment of customer loyalty to the Company

All the customers in the post-launch and post-warranty surveys were asked the question: “Do you recommend the Company”? The evaluation of the question involved answering it on a scale from 0 to 10. On the basis of the responses, the NPS index was calculated and expressed as a percentage. The results of the calculated NPS are presented in Table 1.

According to the NPS method, respondents who gave a score between 0 and 6 are critics, they are dissatisfied with the Company’s services and products, they are disappointed, they are inclined to leave, they are a source of anti-recommendation and they are negative towards the Company. Customers rating between 7 and 8 are called passive customers, i.e. those who
are indifferent, disloyal, and ready to give up on the Company. The last group of customers are those who give the highest rating of 9 or 10. These are the so-called promoters, i.e. the enthusiasts of the Company, eager to buy its products. As can be seen from the calculations, the positive Net Promoter Score for the ‘after launch’ stage was 51.7%, while for the ‘after warranty period’ stage it equalled 55.6%. These results show a very good evaluation of the Company by its partners. The positive and highly significant NPS indicator results observed for the post-launch and post-warranty stages mean that the majority of customers would recommend the Company. No significant differences were found between the level of the NPS indicator and the technology purchased by the partner. Presumably, a factor of high switching costs for partners may have influenced the outcome of the loyalty score towards the Company. Stove-buying customers tend to stay with the vendor in a longer relationship due to the bond created, the high cost of purchasing the cooker, the lead time, and the effort put into the whole process by the two parties working together. Other research shows that customers remain loyal to the same supplier for a longer period of time, when switching costs are high or when there are no other more attractive alternatives [García Acebrón, Vázquez Casielles, Iglesias Argüelles, 2010]. The Company holds leadership positions in its field. The knowledge of the narrow market for industrial cookers and the awareness of high switching costs may increase interest in maintaining a consumer relationship with the Company and becoming a loyal customer [Sahagun, Vasquez-Parraga, 2014].

Table 1. NPS indicator for the Company in post-launch and post-warranty period for the device

<table>
<thead>
<tr>
<th>Specification</th>
<th>NPS %</th>
<th>% detractors</th>
<th>% passives</th>
<th>% promoters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-launch period</td>
<td>51.7</td>
<td>5.2</td>
<td>38.0</td>
<td>56.9</td>
</tr>
<tr>
<td>Post-warranty period</td>
<td>55.6</td>
<td>6.6</td>
<td>31.1</td>
<td>62.2</td>
</tr>
</tbody>
</table>

Source: own study.

The NPS indicator, as a measure of the cooperation between the partner and the Company, facilitates an easy operational comparison of products and services provided by entrepreneurs in different industries in different markets [Krol, de Boer, Delnoij, Rademakers, 2014; Mandal, 2014]. Satisfaction can be easily tracked and monitored with the NPS indicator. It can also serve as a tool for an intra-enterprise bonus system [Nowatorska-Romaniak, 2011]. The NPS indicator has not been used by the Company so far, but it can be used as an alternative indicator of customer satisfaction.

The precision of the NPS indicator in measuring loyalty assurance and predicting company growth remains debatable. Reichheld [2003] showed a strong correlation between the NPS indicator and the company’s revenue growth rate, presenting the possibility of predicting it. The correlation of a positive relationship between the NPS indicator and a company’s past, present, and future revenue was confirmed by the results of Aguinis and Burgi-Tian’s [2021] study of the B2B market in the primary products sector in New Zealand.
Assessment of customer satisfaction with the products and services offered by the Company

Table 2 summarises the results of the survey regarding the evaluation of customer satisfaction of the products and services offered by the Company after the launch.

Table 2. Customer satisfaction results of the products and services offered by the Company and services after commissioning

<table>
<thead>
<tr>
<th>Specification</th>
<th>Overall assessment 1</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall, how would you rate your recent experience with the Company?</td>
<td>3.54</td>
<td>0.65</td>
</tr>
<tr>
<td>I received support throughout the entire sales process</td>
<td>3.70</td>
<td>0.56</td>
</tr>
<tr>
<td>Equipment delivery was completed on time</td>
<td>3.44</td>
<td>0.79</td>
</tr>
<tr>
<td>The equipment installation process went smoothly</td>
<td>3.39</td>
<td>0.74</td>
</tr>
<tr>
<td>I am satisfied with the quality of the delivered device/service</td>
<td>3.43</td>
<td>0.81</td>
</tr>
<tr>
<td>The equipment manual is clear and easy to use</td>
<td>3.40</td>
<td>0.87</td>
</tr>
<tr>
<td>I was kept informed on a regular basis</td>
<td>3.58</td>
<td>0.74</td>
</tr>
<tr>
<td>How would you rate the effectiveness of the Company’s ability to solve a reported issue?</td>
<td>3.51</td>
<td>0.70</td>
</tr>
<tr>
<td>Listening to the customer</td>
<td>3.50</td>
<td>0.65</td>
</tr>
<tr>
<td>Understanding customer needs</td>
<td>3.52</td>
<td>0.70</td>
</tr>
<tr>
<td>Treating the customer like a partner</td>
<td>3.62</td>
<td>0.63</td>
</tr>
<tr>
<td>Responding quickly to customer requests</td>
<td>3.34</td>
<td>0.86</td>
</tr>
</tbody>
</table>

Explanations:
1 mean value, scale: 1–4, where a score of 1 meant dissatisfaction or disagreement, a score of 4 meant satisfaction or full agreement with the question or statement asked
Source: own study.

For the results obtained, the average score of the questions and statements given by the customers was calculated together with the standard deviation. Similar high average results were observed, oscillating between a score of 3.30 and 3.70. The highest score with an average of 3.70 and the lowest standard deviation of 0.56 was obtained for the customers’ opinions on their compliance with receiving support from the Company throughout the sales process. This means that the Company takes care of its customers’ needs and maintains a good relationship throughout the cooperation. The lowest level of standard deviation means that the evaluation results are clustered close to the mean. This means that customers give similar ratings, their opinions are close to each other. The lowest score with a mean of 3.34 was given to the evaluation of the statement about the speed of responding to consumer requests with one of the highest standard deviation values of 0.86. One of the highest standard deviations says that the responses are highly varied and dispersed around the mean. When analysing the results according to the technology purchased by the partners, the results ranged between 3.30 and 3.80. The differences found were not statistically significant.

Table 3 summarises the results of the survey regarding the evaluation of customer satisfaction with the products and services offered by the Company after the guarantee period.
Table 3. Customer satisfaction results of the products and services offered by the Company and services after the guarantee period

<table>
<thead>
<tr>
<th>Specification</th>
<th>Overall assessment(^1)</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall, how would you rate your recent experience with the Company?</td>
<td>3.47</td>
<td>0.62</td>
</tr>
<tr>
<td>Obligations arising from the warranty were carried out correctly</td>
<td>3.49</td>
<td>0.68</td>
</tr>
<tr>
<td>Responses to service requests were immediate</td>
<td>3.31</td>
<td>0.89</td>
</tr>
<tr>
<td>Complaints were addressed smoothly</td>
<td>3.44</td>
<td>0.76</td>
</tr>
<tr>
<td>I am satisfied with the quality of the service activities</td>
<td>3.53</td>
<td>0.65</td>
</tr>
<tr>
<td>I rate positively employee behaviour (attitude, communications skills, technical skills)</td>
<td>3.65</td>
<td>0.56</td>
</tr>
<tr>
<td>I can always count on the Company’s support</td>
<td>3.48</td>
<td>0.74</td>
</tr>
<tr>
<td>How would you rate the effectiveness of the Company’s ability to solve a reported issue?</td>
<td>3.43</td>
<td>0.71</td>
</tr>
<tr>
<td>Listening to the customer</td>
<td>3.60</td>
<td>0.64</td>
</tr>
<tr>
<td>Understanding customer needs</td>
<td>3.46</td>
<td>0.74</td>
</tr>
<tr>
<td>Treating the customer like a partner</td>
<td>3.54</td>
<td>0.71</td>
</tr>
<tr>
<td>Responding quickly to customer’s requests</td>
<td>3.40</td>
<td>0.76</td>
</tr>
</tbody>
</table>

Explanations:
\(^1\) mean value, scale: 1–4, where a score of 1 meant dissatisfaction or disagreement, a score of 4 meant satisfaction or full agreement with the question or statement asked.

Source: own study.

Similar averages oscillating between the values of 3.30 and 3.65 were observed. The highest average rating of the customers was the behaviour of the employees, including their technical and communication skills at 3.65 with the lowest standard deviation at 0.56. This means that the Company takes care of proper technical and interpersonal skills of its employees. The lowest average rating was given to the statement of speed of the service response. Taking into account the type of technology purchased, significant differences were found between the responses of the partners using vacuum and atmosphere heat treatment furnaces (group A) and the other partners (group B).

Identification of the areas of the Company which require improvement

The surveys identified the areas of the Company which require or do not require improvement for the post-launch and post-warranty surveys, respectively. The results of the post-launch surveys (Figure 1) indicated that the highest percentage of customers (25.0%), identified the area of progress reporting as an area which requires improvement.

This means that one in four consumers is not satisfied with reporting on the progress of the project. The area most frequently marked as not needing improvement with a score of 44.0% was staff behaviour, their attitude towards the consumer and the work, technical and communication skills, and general communication with a score of 42.0%. It was noted that for all the areas in the post-launch surveys, a positive score predominates. For the post-warranty surveys of the appliance (Figure 2), it was observed that the largest percentage of customers (25.0%) rated the reliability of the equipment as an area in need of improvement.
This area has a relatively low positive rating (26.0%) compared to the other positively rated areas. This indicates that consumers have problems using the equipment. The intuitiveness of the control system (33.0%) and the reliability of the operating instructions in daily use (31.0%) were rated as the areas highest in need of improvement. For post-warranty surveys, a predominance of positive ratings was also observed in the areas evaluated.
Summary

The success of a company in the B2B market is guaranteed by gaining loyal customers who are satisfied with the products and services they purchase. The B2B metal industry is a specialised sector with a narrow range of buyers. In order to take care of mutual relationships, numerous activities are carried out to strengthen the cooperation between the Company and its business partners.

The results of the conducted research indicated a high evaluation of customer satisfaction in the analysed company. This is evidenced both by the high values obtained for the NPS indicator (51.7% for the surveys conducted after the launch of the device, 55.6% for the surveys conducted after the device warranty period) and the high customer satisfaction ratings. The positive Net Promoter Score obtained indicates that high customer satisfaction has been achieved, which means that the majority of customers will recommend the analysed company. The detailed customer satisfaction scores in the post-launch and post-warranty appliance surveys also received high ratings between 3.30 and 3.70 on a four-point scale. The highest rated aspect after commissioning of the appliance concerned support throughout the sales period, while the highest rated element after the warranty period was the behaviour of the employees in this skillset. The lowest rated aspect, regardless of the stage of the survey conducted, was related to a statement regarding the speed of response to customer requests.

Post-launch survey results indicated that the area of progress reporting was the area most frequently rated as needing improvement. The areas rated positively by customers and not needing improvement were the areas of employee behaviour and general communication. For the post-warranty survey, the area of equipment reliability stands out from the other areas. It was the area most frequently marked as requiring improvement. The area most frequently marked as positive for the post-warranty survey was the intuitiveness of the control system and the reliability of the operating instructions in daily use.

The results obtained provided important information in the field of customer satisfaction in the surveyed company. The collected data indicated a high evaluation of customer satisfaction. However, in order to obtain more reliable and systematic information, regular surveys should be carried out over a planned period in order to compare the results against each other making it possible to monitor effectively and reliably the evaluation of customer loyalty and satisfaction.
References


