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# Managing Customer Touchpoints and Customer Satisfaction in B2B Mass Customization: A Case Study

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## Abstract

*Most businesses agree that high customer satisfaction is important. Many are aware that it is a prerequisite for success, but few measure and monitor it in a structured way, thus failing to improve it. The aim of this article is to develop a customer touchpoint management tool that allows small and medium-sized, B2B mass customization companies to measure, monitor, and improve customer satisfaction. This case study identifies 48 customer touchpoints – classified in human, product, service, communication, spatial, and electronic interaction – in a three-step approach: Employees and existing customers were involved in identifying customer touchpoints, weighting them in terms of their general importance, and assessing some specific customer touchpoint's importance for customer satisfaction. The results presented in this article suggest that not all existing customer touchpoints are perceived to be important or relevant, and that employees and customers largely agree regarding which customer touchpoints are most important. Customer touchpoints classified as human interaction were found to be most important and have the highest importance for customer satisfaction.*

**Key words:** *Customer Touchpoints, Customer Satisfaction, Mass Customization, Printing Industry*

## 1. CUSTOMER TOUCHPOINTS PLAY A KEY ROLE FOR CUSTOMER SATISFACTION

Honeywell CEO, David M. Cote said that “With every customer contact and whenever we represent Honeywell, we have the opportunity either to strengthen the Honeywell brand or to cause it to lose some of its luster and prestige” [1]. These interactions of customers with a company are called customer touchpoints, which are many critical moments on the customer's journey from awareness to purchase and after [2]. A customer touchpoint can be literally everything that transfers some type of information from the supplier to the client or vice versa. It includes visiting the company's website or social media page, talking to a sales representative by phone or personally, sending an email or letter, watching a TV ad, and even seeing the company logo on the delivery van. The quality of these customer-company interactions affects, for example, how the company or brand is perceived, the customer's willingness to buy, and customer satisfaction.

Achieving and maintaining a high level of customer satisfaction is one of the most important goals of a company [3]. This is because customer dissatisfaction is the major reason why customers leave a company [4] and because it generates negative word-of-mouth [5]. In contrast, customer satisfaction generates positive word-

of-mouth, brings in new customers, and increases revenue [3] and profits [6]. Customer satisfaction has, in fact, a strong positive impact on willingness to pay [7] and it leads to an increase in firm value that is added to the impact of earnings [8]. It is therefore no surprise that even top managers from world market leaders such as Haier believe that customer satisfaction is the key to success [9].

With this article, we aim to develop a customer touchpoint management tool (i.e., a tool that facilitates the coordination of all corporate efforts to optimise customer experience in all relevant customer touchpoints in a way that customer satisfaction is increased) for small and medium-sized, B2B mass customization companies. We experiment the tool by conducting a case study in an Italian printing house that mainly serves business customers, offering highly customized products and solutions. To this end, we:

- Identify all customer touchpoints.
- Determine the importance of these customer touchpoints from both an internal (employees) and external (customers) perspective.
- Assess the importance of specific customer touchpoints for customer satisfaction.

## 2. REVIEW OF THE LITERATURE AND RESEARCH QUESTIONS

Every company gets in touch with customers in different ways at different touchpoints [10]. While the term “touchpoint” has been used for a long time in practice, it is relatively new to academic literature [11]. Touchpoints are defined as distinct points in the experience of contacts between the company and the customer [12], including cognitive, emotional, behavioural, sensorial, and social components [13, 14]. Some researchers argue (e.g. [15]) that other terms may be synonyms for touchpoint, including “contact point” [16] and “moment of truth” [17, 18].

Each customer touchpoint can lead to positive or negative customer experiences. Generally, each single interaction between the customer and the company can be a determinant and lead to an overall positive or negative customer experience [19]. A longer-than-expected waiting time, a single unfriendly employee, or a slowly loading website can lead to an unsatisfied customer, even though all the rest may have been perfect [20]. From a business perspective, customer experience is “encompassing every aspect of a company’s offering – the quality of customer care, of course, but also advertising, packaging, product and service features, ease of use, and reliability. It is the internal and subjective response customers have to any direct or indirect contact with a company” [21].

Customers and companies now interact through a multitude of channels and media, which makes customer journeys even more complex [13, 2]. For example, a customer may initially get in touch with the company through its website, then send an email, get a call back from the company, meet with a consultant at the production site, and after one week post a question on the company’s Facebook page. Companies that manage to improve these interactions at all touchpoints across the entire customer journey have a competitive advantage and can best enhance relationships with customers [22].

According to the model of demand chain management, understanding the customer situation and need leads to better co-operation, which results in superior demand chain efficiency and customer satisfaction [23]. More recent evidence highlights that the nature of the product impacts the perceived importance of each touchpoint [13]. This implies that it is necessary to assess customer-company interactions in diverse settings and for different products. For example, a customer touchpoint management tool that has been shown to work in B2C may not be necessarily appropriate in B2B as well. The same may be true for companies offering mass produced versus mass customized products [24]. For mass customization (MC) companies; i.e., companies with a business model that combines the ability to provide products with enough variety and customization that nearly every customer finds exactly what he wants with the ability to avoid substantial trade-offs in cost, delivery, and quality [25, 26, 27, 28, 29], one key to successfully managing customer touchpoints and subsequently to increase customer satisfaction is to ensure that the customer is equipped to handle the

variety [30]. To maximise customer satisfaction, companies must therefore make sure to control the way attribute-based and alternative-based information is presented and the way consumer input is provided [30], which are both activities that lead to several customer touchpoints. For example, a customer reads information on the website, chats with an employee through social media, and/or talks to a technical staff member over the phone before he provides his input through an online sales configurator, by email or personally to a sales representative.

Since the beginning of MC in the 1990s, companies have been shifting the focus from manufacturing to customer interaction [31]. A more visionary definition of MC highlights the importance of this company-customer interaction, stating that MC “is a strategy that creates value by some form of company-customer interaction at the design stage of the operations level to create customized products, following a hybrid strategy combining cost leadership and differentiation” [32, 33]. The ease of interaction as well as the interaction quality may therefore be a determinant to implement a successful MC strategy. In fact, MC generally requires a close interaction between the supplier and the customer [34]. Successful MC companies establish systems that facilitate this interaction, obtaining specific information needed to translate individual customer needs into concrete product specifications [35]. This results in a close company-customer interaction or system of co-creation [36], adding value for both the MC company and the customer [36, 37, 38].

Although MC is becoming increasingly popular in consumer markets, it was originally implemented in B2B [39] where it still plays an important role for many businesses [40]. Depending on whether high-level MC or low-level MC is offered, customer-company interaction takes place earlier (i.e., at the design or fabrication stage) or later (i.e., at the assembly or distribution stage) [41]. Generally, B2B companies are more likely to offer pure customization, i.e., customized design, fabrication, assembly, and distribution [33, 42]. This results in a higher degree of customization but also in more complexity for both the supplier and the customer. In order to satisfy customers, B2B companies must be equipped to manage this complexity in addition to a variety of customer touchpoints that may be specific for MC companies, for example providing information about the customer’s specific preferences and needs.

Several studies demonstrate that the two main drivers of customer satisfaction are product/service quality and interaction quality [43]. To achieve high customer satisfaction, it is therefore necessary but not sufficient to deliver high quality MC products. Companies are also required to create and manage customer touchpoints in a way that meets customer’s expectations. The full customer journey determines customer satisfaction [2], but understanding which customer touchpoints are perceived to be most relevant and finding to what extent they are important for customer satisfaction seems to be the key to develop a successful customer touchpoint management tool.

Customer touchpoint management is a relatively young marketing tool that aims to find, assess, and control customer touchpoints by gathering feedback from customers [44]. Some of the main goals of customer touchpoint management are enhancing customer experience, increasing customer satisfaction, and generating positive word-of-mouth (WOM) [20]. This leads to the following three research questions (RQs):

RQ<sub>1</sub>: Which are the customer touchpoints in a small-sized B2B mass customization company relevant for optimising customer experience?

RQ<sub>2</sub>: Which customer touchpoints in a small-sized B2B mass customization company are most relevant for customer satisfaction?

RQ<sub>3</sub>: What are the main reasons why satisfied customers would recommend the company through word-of-mouth?

### 3. METHODOLOGY

To answer the three RQs presented in the previous section, a case study has been performed, following a three-step approach (see Figure 1). First, employees of the investigated company identified all customer touchpoints. Second, the importance of the identified customer touchpoints was determined from both an internal and an external perspective. Third, a customer satisfaction survey regarding the most important customer touchpoints was carried out. All steps, including data collection, were carried out between January and February 2017.

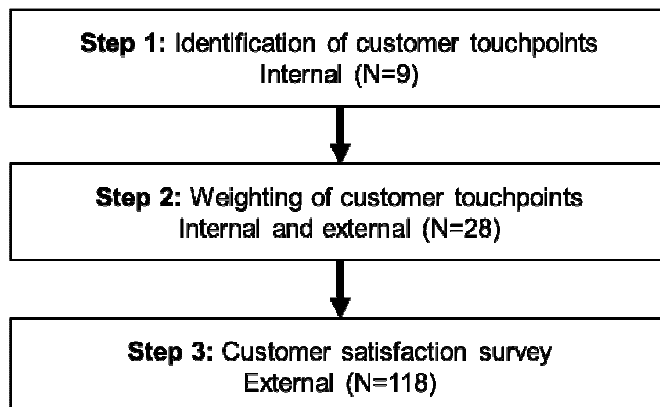


Figure 1. Steps of the experiment

This case study includes responses from both employees and business customers of a small-sized Italian printing house based in South Tyrol, a bilingual (German-Italian) region in Northern Italy. The company has nine full-time employees and a yearly sales volume of about one million EUR. More than 94 % of the company's clients are business customers who generate more than 95 % of the company's revenues. The company offers customized products and solutions in terms of quality, material, delivery, project management, and customer service at prices and lead times that are competitive with larger, mass production printing houses. More than 99.5 % of the business

volume may be considered MC. One co-author of this study is an employee of the company.

The printing industry has largely adopted MC, using highly sophisticated integrated systems to achieve economies of scale even if many orders are relatively small. The majority of companies in the printing industry fall under small and medium-sized enterprises (SME) [45], as the company in this case study.

Over the past decade, the market structure changed and is now being dominated by online printers such as the Dutch company Vistaprint (about 1.7 billion EUR revenue in 2016) and the German company Flyeralarm (about 330 million EUR revenue in 2016). These companies offer online sales configurators, also referred to as mass-customization toolkits [46], which are software applications designed to support customers in customizing the product according to their individual needs and preferences [47, 26]. These environments are characterized by minimal or no human interaction. However, many business customers require and demand personal interaction with suppliers, for example, because it results in improved communication and problem-solving [48]. Researchers argue that, especially in B2B, "as high-tech as the world becomes, the need for human interaction is still a crucial element to all business" [49]. Traditional printers such as the company assessed in this case study may therefore be able to offer consulting and sales talks, which are not offered by its online competitors. In fact, expert-oriented management is one of the main characteristics of the printing industry [50]. Although it is impossible for traditional printers to achieve price leadership, many are offering at least the same degree of customization, usually with a similar degree of automation but with higher flexibility in manufacturing and delivery, additional services including human interaction, and comparable prices.

To be able to compete in an increasingly competitive and globalized market such as the printing industry, these SMEs must make sure to understand their business customers and to guarantee high customer satisfaction.

Customer satisfaction, which is the dominant customer feedback metric, is used by both researchers and practitioners [51, 13] and has been shown to increase loyalty, keeping customers from switching to a competitor [52].

#### 3.1 Step 1: Identification of Customer Touchpoints

As part of the first step, all employees (N=9) were asked to attend a meeting to identify all customer touch points, including human, product, service, communication, spatial, and electronic interaction (based on [10]).

They were told what a customer touchpoint is and how to identify them using customer journey mapping [53]. Independently from each other, every employee had to imagine being a customer of the company and to note each customer touchpoint he may encounter on a typical customer journey.

### 3.2 Step 2: Weighting of Customer Touchpoints

In step 2, all customer touchpoints that were identified in step 1 were summarized and a questionnaire was prepared. We took a conservative approach: even if a customer touchpoint was just mentioned by one single employee, it was included in the second step. It did not make a difference whether a customer touchpoint was mentioned once or more than once in step 1.

The questionnaire used in this step included 48 customer touchpoints, which had to be weighted based on their perceived relative importance on customer satisfaction/dissatisfaction. To avoid anchor effects, 16 different versions of the questionnaire were developed, with a random sequence of the 48 single items.

The survey participants were asked to select the 10 most important customer touchpoints and to distribute 25 points depending on how important each one was perceived. The importance weights were therefore derived directly by applying a constant-sum-scale approach [54], which is a common practice in research about customer satisfaction (e.g. [55]). At least one point had to be allocated to each of the 10 selected customer touchpoints, which means each respondent had another 15 points to express each customer touchpoint's importance, resulting in a maximum of 16 points allocable to one item by each individual survey participant. For example, one respondent may allocate 9x1 point and 1x16 points, while another may allocate 4x1, 3x2, 1x3, and 2x6 points, both adding up to 25 points allocated to 10 customer touchpoints.

The survey participants (N=28) were both employees (N=9) and customers (N=19). A total of 50 customers were selected randomly from both the customer data base that includes 3,002 entries and from customers visiting the production site. 23 customers agreed to participate in this step. However, four questionnaires had to be excluded from the analysis, e.g. because the participant selected less or more customer touchpoints than requested, resulting in a customer response rate of 46 %.

### 3.3 Step 3: Customer Satisfaction Survey

Finally, an online-based questionnaire was developed to measure customer satisfaction as well as the relative importance attributed to the 10 most important customer touchpoints identified in step 2. In addition, we included five random customer touchpoints that were considered to be less important or not important at all to further validate the results of step 2; i.e., the importance attributed to each customer touchpoint. We decided to limit the number of customer touchpoints as shorter questionnaires are easier to fill in and usually result in higher response rates [56]. While for some customer touchpoints we used single item scales, others were measured using multiple items of product and service attributes that are important for customer satisfaction, such as cordiality of staff [57] and price-performance ratio.

Based on Vogt and Johnson [58], we used 5-point Likert-type scales with the following values to evaluate each item to measure customer satisfaction: very poor (1), poor (2), fair (3), good (4), very good (5). In addition, the importance of each item had to be indicated using a 4-point scale ranging from very unimportant (--), unimportant (-), important (+) to very important (++), which we translated for data analysis to 0 %, 33 %, 67 %, and 100 %, respectively. All questions included an open-ended question that gave the respondents the chance to further elaborate on the respective set of questions.

An exception from this approach is the question about WOM, where we first asked if the customer would recommend the company (yes/no). In the case of a positive response, he could choose from a list of seven options (adapted from [59]), indicating why he would recommend the company. If he chose no, he was asked to indicate the reasons why he would not recommend the company. Questions about complaints were only shown to customers who indicated that they actually filed a complaint, i.e., the survey respondent was redirected to the subsequent set of questions if he did not file any complaint with the company in the past. The questions about delivery were customized; i.e., customers who collect the products themselves received a different set of questions than customers who use a delivery service. The presentation of the question categories followed – as far as possible – the customer journey of a typical customer.

The online survey was tested for comprehension, functionality, and duration in a pre-test with eight respondents. Some minor errors were identified and eliminated. The duration of about 5-10 minutes was perceived to be short and acceptable.

For the participation in the survey, we invited all business customers, which generated an annual turnover of more than 500 EUR in at least one of the three solar years from 2014 to 2016. We identified 328 customers fulfilling this condition; 156 with a turnover of 500-1,000 EUR and 172 with a turnover of more than 1,000 EUR.

Before the invitation to the online survey was sent out by email, all customers with a turnover exceeding 1,000 EUR were informed by phone. After one week, a reminder was sent by email. Participants who started filling in the questionnaire could come back at any time and complete the remaining questions.

After two weeks, 121 customers participated and the survey was concluded. Three incomplete questionnaires were excluded, resulting in 118 responses and a response rate of 36.9 %. More information about the participants of the survey are provided in Table 1. The relatively high number of CEOs participating in the study may be explained by the fact that many of the company's clients are SMEs.

**Table 1.** Information about the survey participants (N=118)

<b>Age</b>	Range	21-77 years
	Average	44 years
<b>Gender</b>	Male	48 %
	Female	52 %
<b>Position</b>	CEO or equivalent	47 %
	Senior management	13 %
	Other	40 %
<b>Power to take decisions</b>	Full	60 %
	Partial	36 %
	None	4 %
<b>Average work experience</b>	In current position	15 years
	Total	23 years
<b>Industry</b>	Commerce	19 %
	Tourism	18 %
	Handicraft	17 %
	Non-profit	17 %
	Freelancer	8 %
	Advertising	5 %
	Manufacturing	5 %
Other	11 %	
<b>Annual turnover</b>	≤ 1,000 EUR	58 %
	> 1,000 EUR	42 %

## 4. RESULTS

The results presented in this section include, first, all the customer touchpoints that were identified in the internal analysis by employees, second, a list of the most important customer touchpoints as perceived by employees and customers which are the core of the customer touchpoint management tool (RQ<sub>1</sub>), third, the customer touchpoint's relative importance for customer satisfaction (RQ<sub>2</sub>), and fourth, reasons why satisfied customers would recommend the company through WOM (RQ<sub>3</sub>).

### 4.1 Customer Touchpoints (Step 1)

The employees of the printing house identified 48 customer touchpoints (see Table 2), which includes human, product, service, communication, spatial, and electronic interaction, as suggested by Dhebar [10]. Note that the customer touchpoints "consulting" and "sales talk" have been categorized as both human and service, and "company tour" has been categorized as both human and spatial interaction. Table 2 includes numerical codes from (01) to (48) which are used from here either in combination with or instead of the respective customer touchpoint, e.g. "company tour (01)" or simply "(01)".

The internal analysis shows that the biggest number of customer touchpoints is electronic, e.g. email (34), the company's website (48), and third-party websites including social media. Human interaction, e.g. taking or making a phone call (06, 07), and communication, e.g. advertising (22), also include a big variety of different customer touchpoints. However, the pure number of customer touchpoints is not very meaningful. For example, the figure of 15 electronic interactions could be easily increased by adding a vast variety of social

media pages and applications such as business networks, photo sharing, video sharing, etc.

**Table 2.** Customer touchpoints identified in the internal analysis by employees in alphabetical order (N=9)

<b>Human</b>	(01) company tour ( <i>also spatial</i> ), (02) complaints, (03) consulting ( <i>also service</i> ), (04) courses attended by employees, (05) fairs, (06) phone calls incoming, (07) phone calls outgoing, (08) private surroundings of employees, (09) professional surroundings of employees, (10) project meetings, (11) sales talk ( <i>also service</i> ), (12) word-of-mouth (WOM)
<b>Product</b>	(13) delivery slip, (14) letterpress, (15) logo on products, (16) packaging, (17) products
<b>Service</b>	(18) billing, (03) consulting ( <i>also human</i> ), (19) cost estimate, (20) delivery, (21) press proof, (11) sales talk ( <i>also human</i> )
<b>Communication</b>	(22) advertising, (23) booklet, (24) branded garment, (25) business cards, (26) Christmas cards, (27) partner agencies, (28) press, (29) promotions, (30) sponsoring, (31) yellow pages
<b>Spatial</b>	(01) company tour ( <i>also human</i> ), (32) logo on storefront, (33) shop window
<b>Electronic interaction</b>	(34) email, (35) Facebook page, (36) Facebook recommendations, (37) Facebook Messenger, (38) fax, (39) Google AdWords search, (40) Google organic search, (41) Google recommendations, (42) Google+ page, (43) looptown recommendations, (44) online magazine, (45) online register, (46) tender portal, (47) company website contact form, (48) company website

Consulting (03) is a core service of the company, as it is the main channel for product configuration. It essentially involves a company representative explaining the customization options to the client. Other customer touchpoints related to product configuration are phone calls (06, 07), project meetings (10), which are progress meetings with existing customers, and email (34). Sales talks (11) are generally not about product customization but pricing and other details such as terms of delivery. Letterpress (15) is a traditional technique of relief printing. It was mentioned by several employees and included as a customer touchpoint because the use of this technique is a unique capability that is not offered by any regional competitor. Existing and potential customers therefore recognize products produced or customized with letterpress printing and associate it with this specific company, which often leads to further interaction and new customers.

### 4.2 Relevant Customer Touchpoints (Step 2)

While it is certainly important to be aware of all the customer touchpoints of a company, knowing which ones are perceived to be most relevant is key to successful customer touchpoint management. Table 3 summarizes the results of the internal and external evaluation. As described in the methods section, each

respondent had to allocate 25 points to what he considered the 10 most important customer touchpoints. More points equal a higher relative importance.

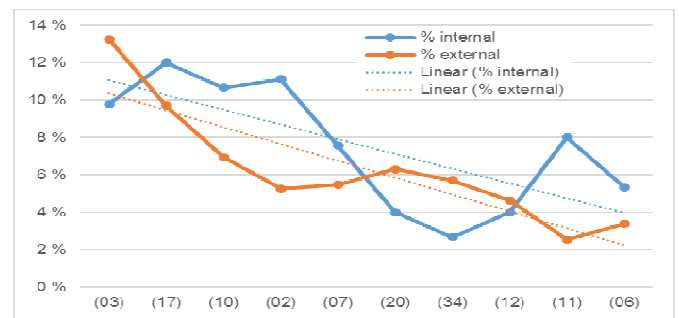
**Table 3.** Weighting of customer touchpoints by employees (internal) and customers (external), ordered by combined perceived importance (N=28). Letters (H, P, Se, C, Sp, E) indicate customer touchpoint categories

Customer touchpoint	Internal (N=9)		External (N=19)		Combined (N=28)	
	pts.	%	pts.	%	pts.	%
H, Se: (03)	22	9.8	63	13.3	85	12.1
P: (17)	27	12.0	46	9.7	73	10.4
H: (10)	24	10.7	33	6.9	57	8.1
H: (02)	25	11.1	25	5.3	50	7.1
H: (07)	17	7.6	26	5.5	43	6.1
Se: (20)	9	4.0	30	6.3	39	5.6
E: (34)	6	2.7	27	5.7	33	4.7
H: (12)	9	4.0	22	4.6	31	4.4
H, Se: (11)	18	8.0	12	2.5	30	4.3
H: (06)	12	5.3	16	3.4	28	4.0
Se: (19)	5	2.2	23	4.8	28	4.0
P: (14)	10	4.4	17	3.6	27	3.9
Se: (21)	2	0.9	23	4.8	25	3.6
E: (48)	7	3.1	18	3.8	25	3.6
H: (08)	-	-	16	3.4	16	2.3
C: (30)	3	1.3	13	2.7	16	2.3
H: (09)	-	-	14	2.9	14	2.0
P: (15)	7	3.1	6	1.3	13	1.9
H, Sp: (01)	-	-	12	2.5	12	1.7
E: (35)	7	3.1	5	1.1	12	1.7
H: (04)	-	-	8	1.7	8	1.1
P: (16)	3	1.3	4	0.8	7	1.0
C: (22)	2	0.9	2	0.4	4	0.6
C: (27)	1	0.4	3	0.6	4	0.6
E: (41)	3	1.3	1	0.2	4	0.6
P: (13)	-	-	3	0.6	3	0.4
C: (29)	2	0.9	1	0.2	3	0.4
Se: (18)	-	-	2	0.4	2	0.3
Sp: (32)	-	-	2	0.4	2	0.3
E: (44)	2	0.9	-	-	2	0.3
C: (25)	-	-	1	0.2	1	0.1
C: (26)	-	-	1	0.2	1	0.1
C: (28)	1	0.4	-	-	1	0.1
E: (47)	1	0.4	-	-	1	0.1
H: (05)	-	-	-	-	-	-
C: (23)	-	-	-	-	-	-
C: (24)	-	-	-	-	-	-
C: (31)	-	-	-	-	-	-
Sp: (33)	-	-	-	-	-	-
E: (36)	-	-	-	-	-	-
E: (37)	-	-	-	-	-	-
E: (38)	-	-	-	-	-	-
E: (39)	-	-	-	-	-	-
E: (40)	-	-	-	-	-	-
E: (42)	-	-	-	-	-	-
E: (43)	-	-	-	-	-	-
E: (45)	-	-	-	-	-	-
E: (46)	-	-	-	-	-	-
<b>Total</b>	225 points		475 points		700 points	

The customer touchpoint that was rated the highest in terms of relative importance is consulting (03), which is classified as both human interaction and service. 12.1 % of all available points were attributed to

consulting. Considering that the respondents had to choose 10 customer touchpoints and allocate at least 1 point to each of those, the percentage of available points allocated to consulting equals 19.0 %. While it was ranked first by customers, it is ranked fourth in the internal analysis. The second most important customer touchpoint is the product itself (17), which received 10.4 % of all and 16.3 % of the allocable points.

Figure 2 shows the relative importance of the top10 customer touchpoints as perceived by employees and customers. It is shown that both groups of respondents agree in principle, but that the internal weighting of the top10 items is higher on average. Four of the top5 customer touchpoints are human interaction, including consulting (03), project meetings (10), complaints (02), and outgoing phone calls (07). Outgoing phone calls are cold calls, follow ups, and calls to thank the customer for their business.



**Figure 2.** Relative importance of the top10 customer touchpoints in % as perceived by employees (internal) and customers (external) (N=28)

Overall, human interaction appears to be the most important, with a total of 53.4 % of all points allocated to 11 customer touchpoints. The second most important category is service, with 29.9 % of all points. It is important to note that two highly relevant touchpoints – consulting (03) and sales talk (11), which account together for 16.4 % – are included in both human and service interaction. The category with third most points allocated is product, accounting for 13.4 %, followed by electronic interaction with 11.0 %, communication with 4.3 %, and spatial with 2.0 %. Spatial interaction includes company tours (01), which accounts for 1.7 % and is also classified as human interaction.

Nine out of 15 electronic interaction customer touchpoints did not receive a single point in neither the internal nor the external analysis. Another three received four or less points, and only two made it into the top15: Email (34) and the company website (35). Likewise, both employees and customers do not attribute a high degree of importance to communication efforts. In fact, not a single customer touchpoint from this category is found in the top15. The highest ranked communication item is sponsoring (30) on the 16<sup>th</sup> position.

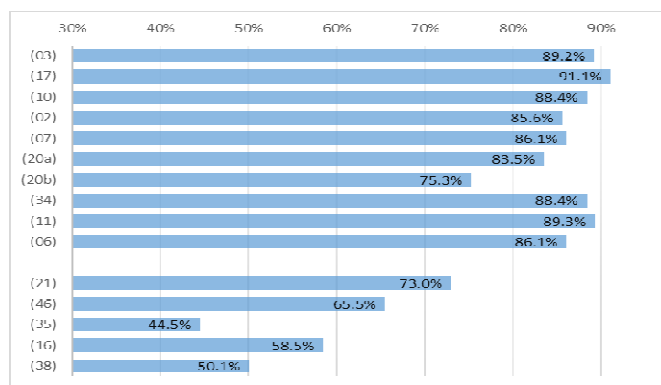
The result is a customer touchpoint management tool that includes the 10 most important customer touchpoints. For the final step of the analysis, these top10 customer touchpoints identified in step 2 (see Table 3) will be considered.

### 4.3 Importance of Most Relevant Customer Touchpoints for Customer Satisfaction (Step 3)

In this section, we present the results of the customer satisfaction survey amongst 118 business customers who were asked to indicate the relative importance of 15 customer touchpoints on customer satisfaction. As described in the methods section, five less important or unimportant customer touchpoints were added to the survey in addition to the 10 most important ones identified in step 2 (see Table 3).

An exception is the customer touchpoint WOM (12), which was not measured in terms of relative importance on customer satisfaction, but regarding which factors lead to positive or negative WOM. Although the goal was to assess both positive and negative WOM, negative WOM could not be evaluated as 100 % of survey respondents indicated that they would recommend the company.

As shown in Figure 3, each one of the top10 customer touchpoints is considered to be highly influential on customer satisfaction, with values of 85.6 % to 91.1 %, with the exception of delivery (20). The importance for customer satisfaction of this customer touchpoint was rated with 83.5 % from customers who use a delivery service (20a), and 75.3 % by those who collect the products themselves at the production facility (20b). The additional customer touchpoints included in the survey, i.e. press proof (21), the company website (48), the Facebook page (35), packaging (16), and fax (38) were given significantly less importance, with values ranging from 44.5 % to 73.0 %. These percentage values were calculated by attributing a value of 0 %, 33 %, 67 %, or 100 % to the responses of 118 survey participants who indicated the importance of the specific customer touchpoint on a 4-point scale.



**Figure 3.** Importance of customer touchpoints for customer satisfaction, as attributed by survey respondents (N=118)

The customer touchpoint products (17), which was measured in terms of product quality and price–performance ratio, was found to have the highest importance for customer satisfaction. The company's Facebook page (35) is considered to be least important. Table 4 finally refers to WOM (12) and shows why customer would recommend the company. Survey respondents could select multiple options and/or add additional reasons. The first seven items in Table 4

were given options, while speed and flexibility were specified by four different respondents.

**Table 4.** Reasons why satisfied customers would recommend the company through WOM (N=118)

	Mentions	%
<b>Friendliness</b>	99	83.9
<b>Product quality</b>	94	79.7
<b>Reliability</b>	91	77.1
<b>Trust</b>	82	69.5
<b>Price–performance ratio</b>	58	49.2
<b>Warmth</b>	46	39.0
<b>Expectation exceeded</b>	10	8.5
<b>Speed</b>	2	1.7
<b>Flexibility</b>	2	1.7
<b>Other</b>	4	3.4

## 5. DISCUSSION

We followed a three-step approach (see Figure 1) to develop (steps 1 and 2) and experiment (step 3) a customer touchpoint management tool in a small-sized B2B mass customization company. Step 1 was to identify customer touchpoints. In step 2 all customer touchpoints were weighted in terms of their relative perceived importance to find the most important ones. In step 3 the individual customer touchpoint's importance for customer satisfaction was assessed. The findings presented in the previous section lead to a number of interesting and relevant implications for both research and practice.

### 5.1 Implications for Research

Products were found to be the second most important customer touchpoint and have the highest importance for customer satisfaction. This substantiates previous findings in the literature, which showed that – besides interaction quality – product quality is the main driver of customer satisfaction [43]. Except for products, all customer touchpoints in the top5 and seven of the top10 are human interactions, which supports the postulated need for human interaction in B2B [49].

As shown in Table 3 and Figure 2, the internal and external analysis regarding the perceived importance of customer touchpoints is relatively consistent. As discussed, the company's employees were asked to imagine the typical customer journey; i.e., they had to put themselves in the shoes of their customers and to first identify and then weigh the respective customer touchpoints. As only two of the top10 customer touchpoints would vary if the internal and external analysis would be considered separately, our findings suggest that an internal analysis only or an external analysis only rather than both an internal and external analysis may be sufficient to identify the most important customer touchpoints. This can be relevant if researchers face time or budget restrictions, or lack access to one or the other group.

In step 2, employees and customers were asked to attribute the relative importance of each customer

touchpoint. The results of the customer satisfaction survey (step 3), i.e., the relative importance of specific customer touchpoints on customer satisfaction, clearly reflect the ranking of step 2. Interestingly, this indicates that the importance attributed to customer touchpoints correlates with the importance for customer satisfaction. In other words, when employees and/or customers are asked about the importance of a customer touchpoint, they may imply its importance for customer satisfaction, which reinforces the results of studies underlining the general importance of customer satisfaction (e.g. [6]).

## 5.2 Implications for Practice

Every customer touchpoint can play a determinant role when it comes to customer satisfaction or dissatisfaction. However, businesses are limited in terms of human and capital resources, and therefore have to set strategic priorities and allocate their budget to some activities. A customer touchpoint analysis can help in identifying the most relevant customer touchpoints and give valuable insights that help to take strategic decisions. With this knowledge, the management can systematically focus their efforts on improving interaction quality, information quality, and other factors such as response speed, if applicable. The more important and/or the higher the importance for customer satisfaction of a specific customer touchpoint, the more time, effort, and financial resources should be invested in improving it.

The customer touchpoints identified in step 1 and weighted in step 2 allowed to develop a management tool that helps in measuring, monitoring, and improving key customer touchpoints over time. In the future, the company can regularly repeat step 3; i.e., conducting the customer satisfaction survey, to assess if implemented changes led to an increase or decrease in customer satisfaction.

Using our three-step approach, it is also possible to identify less important customer touchpoints. The company assessed in this case study offers 15 customer touchpoints classified as electronic interaction, including different social media channels (see Table 2). However, they appear to be rather unimportant. Besides email (34), only the company website (47) and the Facebook page (35) seem to be relevant. In step 3, the latter was rated to have the lowest importance for customer satisfaction, which leads to the question of whether companies should offer a wide range of electronic interaction or focus on a limited number of tools and social media. Companies should critically review the range of this type of customer touchpoints, considering time and money spent to maintain each channel. It is better not to be present on a specific platform rather than not being active, which means to provide up-to-date content and not just responding to user comments [60].

With an average value of 91.1 %, products (11) have been shown to be the most important customer touchpoint that determines customer satisfaction. In addition, almost 80% of customers recommend the company through WOM if they are satisfied with the product quality. However, positive WOM can also be

generated with actions that are not related to the company's products, such as being friendly, reliable, and trustworthy.

## 5.3 Limitations and Future Research

Developing a customer touchpoint management tool and assessing the current situation is just the first step of customer touchpoint management [44]. Further steps include the optimisation of the tool to continuously improve customer experiences [44], which has not been done in this case study.

Another downside regarding our methodology is that we included exclusively existing customers. The needs and preferences of potential new clients were not considered. This does not limit the validity of our results, but needs to be taken into consideration, e.g. when the results are used by start-ups or by established businesses that want to win new customers.

With regard to reasons why satisfied customers are using WOM to recommend a company (see Table 4), the responses may be biased by the specification of seven items. Assuming, for example, speed and flexibility were given as additional options, it can be assumed that more than just a few customers would have chosen them. Therefore, these results may be helpful to assess the relative importance of the seven predetermined options, but not as an exhaustive list of factors influencing WOM.

Previous findings highlight that the nature of the product impacts the perceived importance of customer touchpoints [13]. Thus, the findings from this study may not be applicable to SME from other industries. Future research should replicate this research and extend it to a variety of other industries to find differences and similarities, which may be applied to a wider range of B2B MC companies.

Although this study assesses a company that can clearly be defined to use a MC strategy, we did not assess some features that are considered to be typical, e.g. online product configurators. Although this may limit the contribution of this case study to MC literature, it is justified as long as the company operates in this specific way, i.e., offering mass customized products but no online product configurator.

We also found that all customers participating in the customer satisfaction survey would recommend the company. Even though all companies work towards the goal of having as many satisfied customers as possible, this situation does not reflect the average business landscape. We do not believe our results are influenced by any self-selection bias; i.e., that satisfied customers agreed to participate in the survey while dissatisfied customers did not, because previous studies showed that both highly satisfied and highly dissatisfied customers are equally likely to respond to customer satisfaction surveys [61]. However, the fact that only satisfied customers participated in the survey may limit the generalizability of the results. Further research with less satisfied and dissatisfied customers should be carried out to find possible differences regarding the impact of specific customer touchpoints on customer satisfaction as indicated by satisfied versus dissatisfied customers.



And last, our findings indicate that electronic interaction is not very important nor very relevant for customer satisfaction. This could be because email (34) has been defined as a single customer touchpoint, although it may include several distinct customer touchpoints such as advertisements, promotions, and offerings. In addition, the importance of electronic interaction may heavily depend on corporate use of these tools and channels. As social interaction has been shown to be relevant for MC [62], future research may include additional measures such as the corporate social media use [63] to assess the relationship between the degree the company actually uses social media and the perceived importance and/or the impact on customer satisfaction. This is to say that if a business posts more often on their Facebook page, uploads videos regularly on their YouTube channel, and shares images on Instagram on a daily basis, these customer touchpoints may also be considered more important.

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## Upravljanje tačkama dodira sa korisnicima i zadovoljstvo korisnika u B2B kastomizovanoj industrijskoj proizvodnji: Studija slučaja

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Primljen (16.03.2017.); Recenziran (20.06.2017.); Prihvaćen (02.08.2017.)

### Apstrakt

Većina kompanija se slaže da je visoko zadovoljstvo korisnika veoma važno. Mnogi su svesni da zadovoljstvo korisnika predstavlja preduslov za uspeh, ali samo mali broj kompanija ga meri i prati na strukturiran način, zbog čega ne uspevaju da ga unaprede. Cilj ovog rada je da razvije upravljački alat koji omogućava malim i srednjim B2B preduzećima koja se bave kastomizovanom proizvodnjom da prilikom dodira sa korisnicima mere, prate i unaprede njihovo zadovoljstvo. Ova studija identifikuje 48 tačaka dodira sa korisnicima koje su podeljene u sledeće grupe: međuljudska interakcija, interakcija kroz proizvode, usluge i komunikaciju, kao i prostorna i elektronska interakcija. Istraživanje je zasnovano na pristupu koji sadrži 3 faze: zaposleni i postojeći korisnici su bili uključeni u proces identifikacije tačaka dodira sa korisnicima, zatim su ih merili u smislu njihovog značaja i na kraju su procenjivali važnost određenih tačaka dodira sa korisnicima za njihovo zadovoljstvo. Rezultati ukazuju da nisu sve identifikovane tačke dodira sa korisnicima važne, kao i to da se zaposleni i korisnici u velikoj meri slažu oko onih tačaka dodira koje zaista jesu najvažnije. Utvrđeno je da su tačke dodira sa korisnicima koje su svrstane u grupu međuljudskih interakcija najvažnije i da imaju najveći uticaj na zadovoljstvo korisnika.

**Ključne reči:** tačke dodira sa korisnicima, zadovoljstvo korisnika, kastomizovana industrijska proizvodnja, grafička industrija