

# Chapter 6

## Practical Investigation

### 6.1 Preface

SMEs are ‘the motor’ of the economies in Germany and Europe. [Chapter 2](#) provided various definitions of SMEs and informed about the competitive factors and difficulties that SMEs are facing today. [Chapter 3](#) dealt with the SMEs’ difficulties concerning loss of knowledge on the one hand and knowledge management on the other. It clearly showed their need for differentiation and knowledge management. [Chapters 4](#) and [5](#) investigated the quality of knowledge exchange – in a company and between a company and its customers.

This chapter outlines the theoretical approaches on which the practical part is based. In addition, it presents the results of the investigation. Since the main focus of this book is on knowledge management and customer relationship management in SMEs, NEWCO International GmbH was chosen as a typical example and introduced in [Sect. 2.4](#). Its knowledge management, including knowledge transfer and exchange, will be investigated with the help of a questionnaire. In order to validate the hypothesis, the demand, quantity and quality of knowledge and data will be examined. Furthermore, the correlation between NEWCO’s customer relationship and its knowledge management will be explored.

The terms ‘question’ and ‘statement’ are used with the same meanings in [Chaps. 6](#) and [7](#).

## 6.2 Research Methodology

This case study sets out to evaluate the impact of knowledge in a company. For this purpose, it is necessary to make knowledge measurable.<sup>1</sup> This will be done by a questionnaire (Part A) and by interviews (Part B). The objective of the case study is to transfer the theoretical approaches into a practical investigation.

Part A contains structured, closed-ended questions and will be used to assess the value of knowledge within a company, in combination with a customer relationship management tool.

NEWCO International GmbH is already aware of the importance of knowledge. For this reason, the company implemented a knowledge database years ago. According to the SIS Model (Sensitization – Improvement – Sharing), NEWCO has completed the first level and is currently active on the ‘Improvement’ level (see [Sect. 1.5](#)). Based on this status quo, the questions for the investigation were created. In addition, also questions were generated that refer to level 3 ‘Sharing’ in order to evaluate NEWCO’s ability to use knowledge for their customers.

Part B is based on employee interviews and will investigate to what extent knowledge management can help the ‘human capital’. In order to achieve meaningful results, experts from the administrative and the operational area were interviewed. The employees L. Follam (Finance and Controlling) and K. Rudolf (Business Planning and Administration, Business Development) work in the administrative area. R. Bogatschna (Customer Service), P. Gallay (Sales Representative) and A. Lammert (Marketing and Sales) work in the operational area.

## 6.3 Research Design

The questionnaire (Part A) was submitted to the test persons in German, because the company to be examined is located in Germany. The complete German and English versions can be found in [Tables 9.1](#) and [9.2](#). The research questions reflect what

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<sup>1</sup>Cf. Bradburn, N. M., Sudman, S., Wansink, B. (2004), p. 179.

the author wants to specifically understand and investigate by doing his study. To follow the nature of qualitative research, it was necessary to ask well-grounded, feasible (i.e. answerable) research questions that are worth answering.<sup>2</sup>

The questionnaire was submitted by e-mail to 47 employees. The company to be examined is divided into two fields of activity: an administrative area and an operational area. In order to keep these areas apart, every employee was asked to tick the relevant area on top of the questionnaire. For response measurement a valuation system according to the Likert scale was used (Table 6.1).

**Table 6.1** Valuation system<sup>3</sup>

No.	Statement	Does not apply	Applies less	Applies rather	Applies fully
1.	...	1	2	3	4

Unlike the Likert scale, this case study does not use a five-point scale so as to avoid central tendency responses. The answers are scored on a scale from 1 to 4, starting with 1 (Does not apply) for the lowest and finishing with 4 (Applies fully) for the highest value.<sup>4</sup> If, for example, an employee ‘rather’ agrees with a statement, the tick is made in the corresponding field and scores three points. This system helps to value each answer.

The interview starts with an analysis of the visualized survey results, broken down into categories (Knowledge and Customer Relationship) and sub-categories (Availability and Dependence). After that, a critical discussion of the results achieved per area and per question (Part A) takes place. This is followed by a recommendation on how the existing knowledge tool (in this case a CRM tool) can be optimized so that relevant data is available in an organized form despite today’s information explosion.<sup>5</sup> The questions of the interview are detailed in Table 9.3.

In order to verify the hypothesis, i.e. evaluate the link between knowledge sharing and customer relationship, these two

<sup>2</sup>Cf. Maxwell, J. A. (2005), p. 65.

<sup>3</sup>Own creation according to the Likert scale.

<sup>4</sup>Cf. Brace, I. (2008), p. 73.

<sup>5</sup>Cf. Dalkir, K. (2005), p. 40.

constitute the main category. In a sub-category, the availability of and dependence on knowledge are examined in further detail.

After having explained the valuation system, the next section will now deal with the interpretation of each statement.

## 6.4 Theoretical Approaches of the Case Study

This section provides an explanation of each questionnaire statement. To fully understand the meaning of each statement, the table also indicates the category and sub-category. This helps to allocate each statement to the relevant column.<sup>6</sup> The purpose resp. the intention of each statement is indicated. The consecutive numbering helps distinguish between the responses.<sup>7</sup> A short explanation of the intention of each question is given in [Table 9.4](#).

The questionnaire consists of 16 questions/statements. The first eight of them measure the category *Knowledge* and the first four refer to the sub-category *Availability*. The next four refer to the general availability of knowledge, with each question becoming more specific. Two questions refer to the provision of knowledge by the company and the remaining two ones deal with the provision of knowledge by the employees ([Table 6.2](#)).

**Table 6.2** Category knowledge – focus on availability<sup>8</sup>

No.	Statement	Category	Sub-category
1.	All relevant documents which I need to do my job properly are provided by the company.	Knowledge	Availability
2.	I receive additional tips from co-workers to carry out my tasks.	Knowledge	Availability
3.	The knowledge required for my field of work is sufficiently made available by the company.	Knowledge	Availability
4.	I make my own knowledge – acquired on the job – available to the company without being asked.	Knowledge	Availability

<sup>6</sup>Cf. Oppenheim, A. N. (2001), p. 270.

<sup>7</sup>Cf. Brace, I., op cit., p. 138.

<sup>8</sup>Own creation.

The *1st question* determines to what extent an employee receives basic information from the company. The focus is on the necessary general knowledge provided by the organization for each position in the company. This means (i) the transfer of collective into individual knowledge (see Sect. 3.2.3),<sup>9</sup> (ii) the transfer of explicit into tacit knowledge (as described in the ‘combination mode’ of epistemology in the SECI Model in Sect. 3.2.1)<sup>10</sup> and (iii) the provision of theoretical knowledge (Sect. 3.2.2).<sup>11</sup> These answers show the scope of data as described in step 2 of the 5-step approach (Customer Data Life Spiral – 5-Step CDLS, see Sect. 1.5). In addition, this question serves as a test mechanism for question 3 to determine the plausibility of the answers. This is necessary to make conscious decisions concerning the received information.<sup>12</sup>

The intention of the *2nd question* is to find out whether and to what extent employees help each other. The receipt of necessary additional information from co-workers is the core of this question and relates to the exchange of tacit knowledge. This means the transfer of tacit into tacit knowledge, also called ‘Socialization’ in the SECI Model by Nonaka/Takeuchi (Sect. 3.3.1).<sup>13</sup> Also theoretical knowledge is transferred into practical/application knowledge that is based on personal experience (Sect. 3.2.2).<sup>14</sup> The receiver gets information – requested or unrequested – from cooperative co-workers. This refers to the motivation of sender and receiver as described in Szulanski’s ‘Internal Stickiness of Knowledge Transfer’ in Sect. 4.4.<sup>15</sup>

The *3rd question* is meant to clarify if there is access to requested knowledge on demand. The question is also linked to the authorization concept for getting access to relevant data.

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<sup>9</sup>Cf. Probst, G., Raub, S., Romhardt, K. (2006), p. 22.

<sup>10</sup>Cf. Lehner, F. (2006), p. 40; Nonaka, I., Takeuchi, H. (1995), p. 71.

<sup>11</sup>Cf. Heckert, U. (2002), p. 21.

<sup>12</sup>Cf. Willis, G. B. (2005), p. 37.

<sup>13</sup>Cf. Vollmar, G. (2007), p. 57.

<sup>14</sup>Cf. Heckert, U., op cit., p. 21.

<sup>15</sup>Cf. Szulanski, G. (1996), p. 53.

The result discloses the availability of internal knowledge (in-company tools) as well as external knowledge obtained via the internet (Sect. 3.2.1).<sup>16</sup> The question therefore deals with collective and also explicit knowledge (Sects. 3.2.3 and Sect. 3.2.4).<sup>17</sup> The result also provides information on whether relevant knowledge is shared (see step 4 of the ‘Pyramid of Knowledge Management Awareness’ (PKMA)). In addition, question 3 serves as a test for question 1 to determine the plausibility of the responses.<sup>18</sup>

The result of *question 4* reveals in which way a person’s knowledge is made available for others so they can benefit from this personal knowledge as well. This refers to steps 3 and 7 of the Customer Relationship Improvement Cycle (CRI-C) (see Sect. 1.5). Contrary to number 2, this question focuses on the provision of knowledge by a single person to the whole organization. This can be compared with the ‘Externalization’ process by Nonaka/Takeuchi – conversion of tacit into explicit knowledge (Sect. 3.3.1).<sup>19</sup> The sender provides knowledge unrequested despite the barriers to knowledge exchange that were specified in Sect. 4.4.<sup>20</sup> It can be an indication of a dynamic knowledge exchange without rigid top-down structure.

The next four questions also belong to the category *Knowledge*, but the focus is now on the sub-category *Dependence*. This group of statements starts with a general question concerning the dependence on knowledge, followed by a more specific dependence question. Question 7 refers to the ‘freedom in the daily work’ and this section of statements will be closed by evaluating the dependence on expert knowledge (Table 6.3).

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<sup>16</sup>Cf. Heckert, U., op cit., p. 20.

<sup>17</sup>Cf. Probst, G., Raub, S., Romhardt, K., op cit., p. 22; Schreyoegg, G., Geiger, D. (2003), p. 14.

<sup>18</sup>Cf. Willis, G. B., op cit., p. 37.

<sup>19</sup>Cf. Nonaka, I., Takeuchi, H., op cit., p. 71.

<sup>20</sup>Cf. Lehner, F., op cit., p. 52.

**Table 6.3** Category knowledge – focus on dependence<sup>21</sup>

No.	Statement	Category	Sub-category
5.	I depend on external knowledge to do my job successfully.	Knowledge	Dependence
6.	In my daily work I rely to a great extent on additional information from co-workers.	Knowledge	Dependence
7.	I independently make decisions within my area of responsibility.	Knowledge	Dependence
8.	Expert knowledge provided within the company (data sheets, technical literature, in-company presentations, product lists) is an essential part of my daily work.	Knowledge	Dependence

The purpose of *question 5* is to determine if the existing knowledge within the company is sufficient for doing one's daily work. The respondent's answer reveals if the internally provided knowledge is complete, whether there is a lack of internal knowledge and whether there is a demand for external knowledge (see [Sect. 3.2.1](#)).<sup>22</sup> Also the dependence on external knowledge gained from other parties is exposed. This corresponds to step 3 in the 5-step approach 'Customer Data Life Spiral' (see [Sect. 1.5](#)).

*Question 6* enquires about the dependence on additional information, i.e. knowledge acquired from co-workers. This refers to what Nonaka/Takeuchi call 'Socialization': the transformation of tacit knowledge into tacit knowledge ([Sect. 3.3.1](#)).<sup>23</sup> Also question 2 dealt with the transformation of this type of knowledge (tacit). In this section, however, the dependence on tacit knowledge is explored, not its availability. The result of question 6 indicates that such knowledge exists, but is not made available within the company. There is a need for understanding additional information. This refers to the 'Initiation Stage' in the Best Practice Transfer Model by Szulanski as shown in [Sect. 4.3](#).<sup>24</sup>

<sup>21</sup>Own creation.

<sup>22</sup>Cf. Heckert, U., op cit., p. 20; Voelker, R., Sauer S., Simon, M. (2007), p. 52.

<sup>23</sup>Cf. Nonaka, I., Takeuchi, H. (1997), p. 84.

<sup>24</sup>Cf. Szulanski, G., op cit., p. 52.

This underlines the importance of knowledge availability and exchange as described in steps 3 and 4 of the continuous process for an improved customer relationship (CRI-C).

*Question 7* is aimed at the employees' independence in their daily work which is closely connected to the decision-making process. It reveals in which way explicit knowledge is transformed into tacit knowledge and if it is used. Statement 7 reflects the 'Internalization' dimension in the SECI model. It can also be compared with the concept of 'Autonomy' on the ontological side (Sect. 3.3.1).<sup>25</sup> By using the existing knowledge, it is put into action (Sect. 3.3.2).<sup>26</sup> The result indicates to what extent decisions can be made based on the provided knowledge. It needs to be considered that knowledge must be sufficiently provided (quantity) and be good enough (quality). If the recipient's expectations are met, the 'right' decisions can be taken<sup>27</sup> and the individual knowledge is extended.

*Question 8* enquires if the existing expert knowledge in the company is sufficient to comply with the hierarchic structures and rules. Also the dependence on this expert knowledge is examined. Expert knowledge is generated by the persons in charge of providing relevant knowledge. Knowledge that is supplied by a department is used by another one to generate new knowledge. This refers to the 'Combination' dimension in the SECI model: transformation of existing explicit into new explicit knowledge (Sect. 3.3.1).<sup>28</sup> It can also be compared to the concept of knowledge presentation – making knowledge accessible – by Reinmann-Rothmeier (Sect. 3.3.2).<sup>29</sup>

The focus of the next eight questions is on the category *Customer Relationship* where the following four questions relate to the sub-category *Availability* of customer data. The statements start by measuring the general availability of customer data and

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<sup>25</sup>Cf. Eschenbach, S., Geyer, B. (2004), p. 98; Nonaka, I., Takeuchi, H., op cit., p. 71.

<sup>26</sup>Cf. Reinmann-Rothmeier, G. (2001), p. 18.

<sup>27</sup>Cf. McGrath, F., Remenyi, D. (2003), p. 91.

<sup>28</sup>Cf. Nonaka, I., Takeuchi, H., op cit., p. 84.

<sup>29</sup>Cf. Reinmann-Rothmeier, G., op cit., p. 18.



**Table 6.4** Category customer relationship – focus on availability<sup>30</sup>

No.	Statement	Category	Sub-category
9.	I have access to relevant customer data within the company.	Customer relationship	Availability
10.	The existing CRM tool provides me with the required information for my daily work.	Customer relationship	Availability
11.	The existing CRM tool provides me with additional information beyond my daily work.	Customer relationship	Availability
12.	I make all customer information compiled by me available to other staff members.	Customer relationship	Availability

become more specific in questions 10 and 11 which refer especially to the existing in-house CRM tool. The last question of this section refers to the provision of customer data by employees (Table 6.4).

*Question 9* deals with the general availability of customer data and its accessibility in the company (see the step ‘Availability of Data’ in the 5-Step CDLS). The dimensions ‘Combination’ and ‘Internalization’ of the SECI Model reflect this statement: provision of explicit knowledge to generate tacit resp. new explicit knowledge (Sect. 3.3.1).<sup>31</sup> In addition, this question serves as a test mechanism for question 15 to determine the plausibility of the answers.<sup>32</sup>

*Question 10* enquires about the special availability of customer data in the existing CRM tool. It also clarifies whether the necessary customer data exists. According to the ‘Water Analogy’, knowledge is ‘frozen’ and therefore visible and accessible (see Sect. 3.3.2).<sup>33</sup> The result may indicate that further filing systems for customer data storage are used in the company, thus creating redundancies.<sup>34</sup> This question examines whether the existing

<sup>30</sup>Own creation.

<sup>31</sup>Cf. Nonaka, I., Takeuchi, H., op cit., p. 84.

<sup>32</sup>Cf. Willis, G. B., op cit., p. 37.

<sup>33</sup>Cf. North, K. (2005), p. 177; Reinmann-Rothmeier, G. (n.d.), p. 18.

<sup>34</sup>Cf. Dyche, J., Levy, E. (2006), p. 153.

CRM tool resp. its structure shows any deficits. It also provides information about the need for data maintenance resp. the need for additional applications (see ‘Prioritization’ in the 5-Step CDLS).

The *11th question* determines if there is additional data available within the existing CRM tool. This means the existence of further data, beyond the pure customer data, to offer individualized and personalized service to the customer. It is examined whether additional information is available that helps the employee to assess the customer in a better way. If there is a lack of such information, the company misses the chance to improve its customer relationship.<sup>35</sup>

*Question 12* reveals to what extent employees’ own customer knowledge is made available to others so that they can benefit from this personal knowledge as well. Knowledge must be updated and complemented (steps 6 and 7 in the CRI-C). The focus is on the provision of individual customer knowledge to the organization as a whole and eventually to each and every staff member. This can be compared to the ‘Externalization’ process already mentioned in Question 4.<sup>36</sup> Through knowledge communication the knowledge is in motion and thus allowed to grow as described in ‘Knowledge Communication’ by Reinmann-Rothmeier (Sect. 3.3.2).<sup>37</sup> This is especially important for companies whose tasks are structured by products. It may therefore happen that more than one department does business with the same customer.<sup>38</sup>

The last four statements refer to the category *Customer Relationship* and the sub-category *Dependence* on knowledge data. The questions proceed from evaluating the general dependence on customer data, followed by the influence of customer relationships on the employees’ daily work. Question 15 explores the necessity of being successful whereas the final question

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<sup>35</sup>Cf. Reynolds, J. (2002), p. 37.

<sup>36</sup>Cf. Nonaka, I., Takeuchi, H., op cit., p. 71.

<sup>37</sup>Cf. Reinmann-Rothmeier, G., op cit., p. 24.

<sup>38</sup>Cf. Kotler, P., Armstrong, G. (2005), p. 529.

**Table 6.5** Category customer relationship – focus on dependence<sup>39</sup>

No.	Statement	Category	Sub-category
13.	In my daily work, I rely to a great extent on customer data.	Customer relationship	Dependence
14.	Customer relationships influence the prioritization of my tasks.	Customer relationship	Dependence
15.	The success of my daily work depends to a great extent on the customer data provided within the company.	Customer relationship	Dependence
16.	I depend on the existing CRM tool for the proper execution of my tasks.	Customer relationship	Dependence

determines the staff's dependence on the existing CRM tool (Table 6.5).

*Question 13* examines the general dependence on customer data and also the influence of this data on the decision-making process. If there is a clear need, the data has to be provided as collective knowledge as defined by Probst et al. (Sect. 3.2.3).<sup>40</sup> If the Sales Department is structured by products and not by customers, it is important to consider all four modes of tacit and explicit knowledge as described in the SECI Model by Nonaka/Takeuchi (see Sect. 3.3.1).<sup>41</sup> According to the theoretical approach of the 'Munich Knowledge Management Model' by Reinmann-Rothmeier, the three steps of presentation, communication and generation of knowledge need to be focused on when a high degree of dependence has been identified (Sect. 3.3.2).<sup>42</sup>

*Question 14* focuses on the personal relationship between employee and customer. It is evaluated if some customers get preferential treatment due to a good relationship (soft facts).<sup>43</sup> The result can also indicate that all customers are treated equally.

<sup>39</sup>Own creation.

<sup>40</sup>Cf. Probst, G., Raub, S., Romhardt, K., op cit., p. 22.

<sup>41</sup>Cf. Kotler, P., Armstrong, G., op cit., p. 529; Nonaka, I. (1992), p. 96; Nonaka, I., Takeuchi, H., op cit., p. 71.

<sup>42</sup>Cf. North, K., op cit., p. 176; Reinmann-Rothmeier, G., op cit., p. 15.

<sup>43</sup>Cf. Ranchhod, A. (2004), p. 34.

Not only hard facts or rational facts, but also interpersonal relationship can influence the employee's tasks.<sup>44</sup> The results also stress the importance of a close customer relationship and the need for the CRI-Cycle.

*Question 15* determines the general necessity and significance of knowledge about the customer. The result shows the impact that this knowledge has on the employee's daily work. It is an indication of the quantity and quality of the provided customer data and the importance of the use resp. implementation of the 5-Step Customer Data Life Spiral. The results also indicate the benefits that can be achieved.<sup>45</sup> In addition, this question serves as a test for question 9 to determine the plausibility of the responses.<sup>46</sup>

The *16th and last question* checks the staff's special dependence on the existing CRM tool in their daily work. It examines whether the existing tool provides customer data in sufficient quantity and quality.<sup>47</sup> It also checks if the employee needs to have access to this tool (authorization concept).<sup>48</sup>

The 16 questions above all consider the theoretical approaches described earlier in this study. These include (i) the dimensions of the 'Knowledge Spiral on Epistemological Level' by Nonaka/Takeuchi, (ii) the ontological dimension and thus (iii) indirectly the *Ba* concept. Also stages from (iv) the 'Best Practice Transfer Model' as well as (v) barriers to knowledge exchange described by Szulanski and (vi) the 'Water Analogy of Knowledge' by Reinmann-Rothmeier have been taken into account.

After having explained the intentions of the questionnaire statements, the next section will now be dedicated to presenting the results of the survey.

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<sup>44</sup>Cf. Baker, M. J., Hart, S. (2008), p. 38.

<sup>45</sup>Cf. Mangia, L. (2004), p. 788.

<sup>46</sup>Cf. Willis, G. B., op cit., p. 37.

<sup>47</sup>Cf. Mangia, L., op cit., p. 788.

<sup>48</sup>Cf. Bhargava, B., Zhong, Y. (2002), p. 94.

## 6.5 Results of the Survey

This section only shows the results of the survey, followed by an analysis of diagrams. The importance of the responses will be elucidated in the next section.

The questionnaire was provided to 47 employees of the target company. 14 of them work in the administrative area whereas 33 work in the operational area. A total of 11 questionnaires were returned from the administrative area. This corresponds to a response rate of 78.57%.<sup>49</sup> The detailed answers of the respondents from the administrative area can be found in [Table 9.5](#). They are based on the above-mentioned Likert Scale (see Sect. 6.3). 27 questionnaires were returned from the operational area, corresponding to a response rate of 81.82%.<sup>50</sup> The detailed answers of the respondents from the operational area can be found in [Table 9.6](#). All returned questionnaires are valid, i.e. each statement was marked only once.

As already mentioned in the previous section, a test mechanism was used for checking the plausibility of the answers.<sup>51</sup> The following results were achieved:

In the *Knowledge* sector, question 1 (Q1) and question 3 (Q3) are aimed at a similar interpretation and therefore used as test questions. The plausibility check was done by calculating the amount of deviation. All questionnaire statements with a deviation of  $\geq 2$  have been considered. For example, the response of questionnaire A1 for question 1 is valued with 4 points (applies fully), whereas question 3 is valued with 2 points (applies less). The difference between both statements is  $\geq 2$ . In the category *Knowledge* there is a deviation of 18.18% in the administrative area. The operational area shows a deviation of 3.70%.<sup>52</sup> In the customer relationship category, question 9 (Q9) and question 15 (Q15) tend to elicit comparable answers and are therefore used as test questions for this sector. While the administration area shows

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<sup>49</sup>11 responses/14 questionnaires = 78.57 %

<sup>50</sup>27 responses/33 questionnaires = 81.82 %

<sup>51</sup>Cf. Willis, G. B., op cit., p. 37.

<sup>52</sup>Cf. [Table 9.7](#).

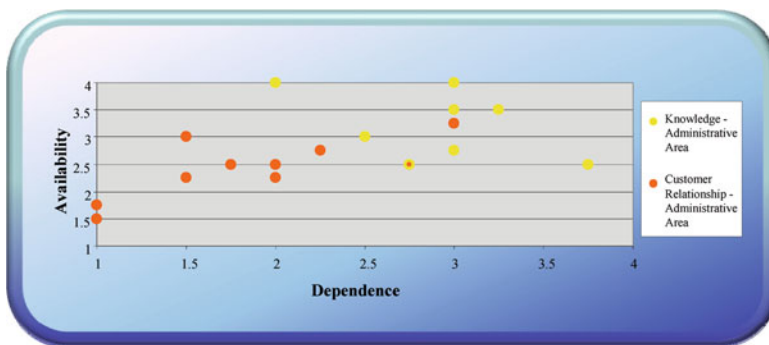
4 statements (36.36%) with a deviation of  $\geq 2$ , the operational area does not show any difference.<sup>53</sup> All deviations were found in different questionnaire statements and therefore do not need further consideration.

### 6.5.1 Knowledge and Customer Relationship – Administrative Area

The following graphs visualize the results of the survey. Each point represents the average of answers scored by 1 respondent per category (Knowledge and Customer Relationship) and sub-category (Availability and Dependence). The graph below focuses on the administrative area. Detailed results are listed in [Table 9.9](#).

The X-axis indicates the degree of dependence whereas the Y-axis shows the availability. Each axis starts with figure 1 (does not apply) and ends with 4 (applies fully). The axes as well as the scale have been used in the next 4 diagrams (Fig. 6.1).

The graph *Knowledge and Customer Relationship* reveals strong differences with respect to the availability of and the dependence on knowledge. Basically, however, there is a nearly identical proportion between the availability and the dependence



**Fig. 6.1** Results: Knowledge and Customer Relationship – Administrative Area<sup>54</sup>

<sup>53</sup>Cf. [Table 9.8](#).

<sup>54</sup>Cf. [Table 9.9](#).

for both areas. This analysis clearly shows that there is a different demand for general knowledge and for customer knowledge.<sup>55</sup> General knowledge is more important than customer knowledge,<sup>56</sup> i.e. data from, for or about the customer.

When taking a first glance at the area of *Knowledge*, it becomes obvious that knowledge is available and that there is a high dependence on it. This can be assessed as positive even if there are some low-value votes. But when taking a closer look, it shows that the administrative area receives more knowledge than it needs. As a result, this area feels sufficiently informed.<sup>57</sup>

By contrast to the results of the Knowledge category, the availability of Customer Data resp. the *Customer Relationship* is relatively low. In addition, there is only a low dependence on this data. 2 respondents obviously have no contact to customers. Although the availability of customer data is relatively low, it is better than needed. The results are widely spread but cumulate in the lower midfield.<sup>58</sup>

### ***6.5.2 Knowledge and Customer Relationship – Operational Area***

The results of the survey for the operational area are visualized in the following graph. Detailed results are listed in [Table 9.10](#) (Fig. 6.2).

At first glance, there is no striking difference between *Knowledge* and *Customer Relationship*. Instead, there are many overlaps. The availabilities and dependencies nearly coincide. The importance of these examined fields is relatively high. The diagram also shows that nobody is independent of Knowledge or Customer Knowledge. By contrast to the administrative area, the

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<sup>55</sup>Cf. Gallay, P. (2009), interview; Rudolf, K. (2009), interview.

<sup>56</sup>Cf. Follam, L. (2009), interview.

<sup>57</sup>Cf. Follam, L., op cit.; Gallay, P., op cit.; Lammert, A. (2009), interview; Rudolf, K., op cit.

<sup>58</sup>Cf. Bogatschna, R. (2009), interview; Gallay, P., op cit.; Rudolf, K., op cit.

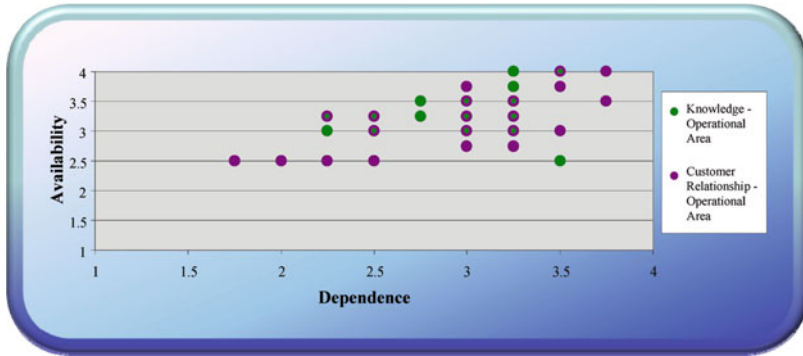


Fig. 6.2 Results: Knowledge and Customer Relationship – Operational Area<sup>59</sup>

majority of points cluster around the upper midfield which can be seen as a positive result.<sup>60</sup>

The availability of and dependence on *Knowledge* is high and is regarded as sufficient by the majority of respondents. The results are primarily positive.<sup>61</sup>

The *Customer Relationship* results in the operational area are more widely spread than those scored for *Knowledge*. There are enormous differences with respect to the level of dependence. This is either due to the fact that the business is not primarily customer-focused or that the business cannot be forecast. Probably, 4 respondents tried to give neutral answers while other respondents gave more distinct comments.<sup>62</sup>

### 6.5.3 Knowledge – Administrative Area vs. Operational Area

The following diagram compares the Knowledge-related results between the administrative and the operational area (Fig. 6.3).

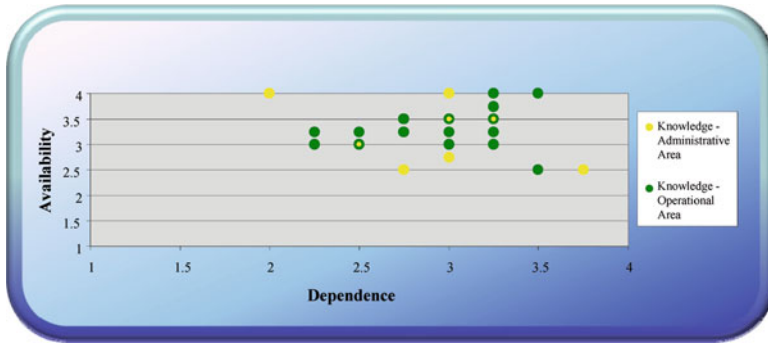
<sup>59</sup>Cf. Table 9.10.

<sup>60</sup>Cf. Bogatschna, R., op cit.; Gallay, P., op cit.; Rudolf, K., op cit., interview.

<sup>61</sup>Cf. Bogatschna, R., op cit.; Follam, L. (2009), interview; Rudolf, K., op cit.

<sup>62</sup>Cf. Bogatschna, R., op cit.; Gallay, P., op cit.; Rudolf, K., op cit.





**Fig. 6.3** Comparison: Knowledge – Administrative Area vs. Operational Area<sup>63</sup>

In *both areas* the ratio is nearly equal. The level of dependence and the availability of General Knowledge are therefore comparable. It can also be stated that knowledge in both areas is of high relevance and considered to be indispensable. There is a strong dependence on and a well-balanced availability of knowledge.<sup>64</sup>

The *administrative area* shows a few extreme values. There are 2 outlier respondents. One of them has a high dependence on knowledge, but availability is only low for him. The other respondent has a low dependence whereas the availability of knowledge is high. It is also remarkable that 2 respondents in the administrative area rate the availability of knowledge as very high (maximum achievable points are 4) whereas 2 other respondents indicate the lowest level of availability (achieved points are 2.5).<sup>65</sup>

Availability and dependence in the *operational area* are well-balanced. 3 respondents show a nearly perfect proportion of availability and dependence. Apparently, the operational area benefits more from the provided knowledge.<sup>66</sup>

<sup>63</sup>Cf. Tables 9.9 and 9.10, category Knowledge.

<sup>64</sup>Cf. Gallay, P., op cit.; Lammert, A., op cit.

<sup>65</sup>Cf. Follam, L. (2009), interview; Lammert, A., op cit.

<sup>66</sup>Cf. Bogatschna, R., op cit.; Gallay, P., op cit.

### 6.5.4 *Customer Relationship – Administrative Area vs. Operational Area*

The next diagram compares the survey results between the administrative and operational area with respect to Customer Relationship.

The results of *both areas* are widely spread. The dissimilarity between these areas is distinct, but that was to be expected. The results of the administrative area vary between ‘does not apply’ and ‘applies rather’ while the operational area tends to have a better rating covering the range from ‘applies less’ to ‘applies fully’.<sup>67</sup>

Customer Relationships are only of low importance in the *administrative area* and therefore do not play a pivotal role in daily business. The responses cover a wide range. A few employees are independent of customer data whereas other colleagues show a higher degree of dependence. All in all, it can be stated that there are fewer points of contact with customers than in the operational area. This area is rarely provided with customer data, but on the other hand this is not urgently needed (with a few exceptions).<sup>68</sup>

The *operational area* is provided with a high information volume, but this is indispensable for doing the business. It is conspicuous that the higher the dependence, the higher the availability of customer data. Hence, there is a balanced relationship between them, despite the 4 outliers mentioned in Sect. 6.5.2.<sup>69</sup>

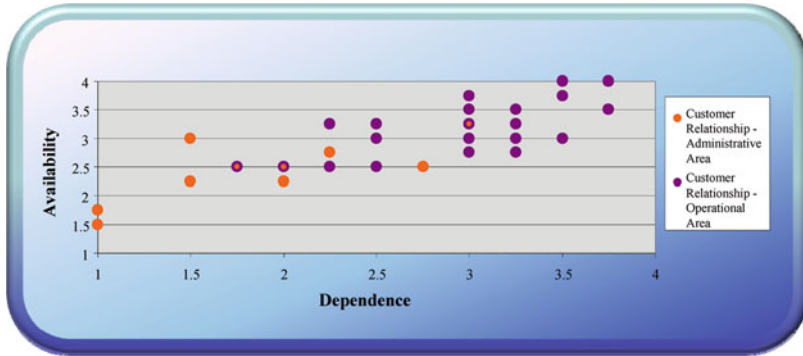
Compared to the operational area, the administrative area has fewer interfaces with the outside world as the necessary data is provided internally. Due to the enormous differences with respect to the availability of and dependence on customer data (see Fig. 6.4), it is necessary to *weight* the categories Knowledge and Customer Relationship differently for the administrative and

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<sup>67</sup>Cf. Lammert, A., op cit.; Rudolf, K., op cit.

<sup>68</sup>Cf. Follam, L. (2009), interview; Gallay, P., op cit.; Lammert, A., op cit.

<sup>69</sup>Cf. Bogatschna, R., op cit.; Follam, L. (2009), interview.



**Fig. 6.4** Comparison: Customer Relationship – Administrative Area vs. Operational Area<sup>70</sup>

the operational area.<sup>71</sup> The weighting will be explained in more detail in Sect. 7.3 and 7.5.

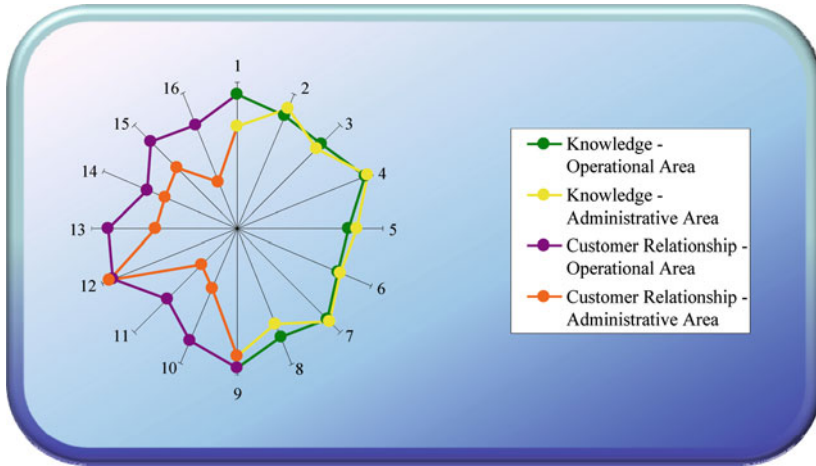
### 6.5.5 Knowledge and Customer Relationship – Administrative Area vs. Operational Area

The following spider graph visualizes the average of the results per question, separated into the administrative and operational area. The central point of the diagram stands for figure 1 (doesn't apply) while the outer marks stand for figure 4 (applies fully). For a better demonstration of the results, no scale has been used. The detailed figures are listed in Table 9.11 (Fig. 6.5).

With respect to *Knowledge*, the results of the administrative and the operational area are almost identical (exception: questions 1 and 8). There is a balanced proportion of availability (questions 1 and 4) and dependence (questions 5 and 8). The results

<sup>70</sup>Cf. Tables 9.9 and 9.10, category Knowledge.

<sup>71</sup>Cf. Bogatschna, R., op cit.



**Fig. 6.5** Comparison: Knowledge and Customer Relationship – Administrative Area vs. Operational Area<sup>72</sup>

of questions 4 and 7 are high and should be treated in more detail. At first glance, the amount of knowledge supplied is extensive.<sup>73</sup>

The results scored for *Customer Relationship* cover a large range. Few answers are identical (questions 9 and 12) between both areas; most answers are dissimilar. The provision of customer information definitely needs to be improved, especially for the administrative area. The trends identified for both areas correspond more or less. If the customer relationship declines on operational level, the relationship to the customer shows the same development on administrative level – and vice versa. The degree of variation is stronger in the administrative area and there is a larger distance to the customer.<sup>74</sup> This difference makes a treatment of weighted results necessary as mentioned in Sect. 6.5.4.<sup>75</sup>

<sup>72</sup>Cf. Table 9.11, average results per question.

<sup>73</sup>Cf. Gallay, P., op cit.; Lammert, A., op cit.

<sup>74</sup>Cf. Bogatschna, R., op cit.; Follam, L. (2009), interview; Lammert, A., op cit.; Rudolf, K., op cit.

<sup>75</sup>Cf. Bogatschna, R., op cit.

## 6.6 Summary

Being the first of the two key chapters of this book, [Chap. 6](#) deals with the practical implementation of the theoretical approaches (see [Chaps. 1, 2, 3, 4, and 5](#)). It was examined how knowledge and customer relationship management are handled in the daily business of a company. Also the link between the availability of and dependence on knowledge and customer relationship was explored. For this purpose, a survey was carried out based on a questionnaire.

The survey results have shown a similar availability of and dependence on knowledge within the administrative and operational area of NEWCO International. Much more distinct was the difference with respect to the customer relationship. The investigation has also revealed that the transfer of expert knowledge and customer knowledge partly takes place. But the responses have also shown that there are still some weaknesses that should be eliminated. This can be done by following the recommendations given by the interviewees – both for the organization and for the employees (see next chapter).