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Soumit Sain
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Customer Knowledge Management

Leveraging Soft Skills to Improve Customer Focus

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Thank you!

Cologne, Germany — Soumit Sain
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Book Notes

Customer Knowledge Management (CKM) has been a much discussed issue for almost a decade now. Although managers and corporations are fully aware of the high value of CKM, they have so far focused their activities rather on the hard and less on the soft skills required for dealing with the knowledge from, for and about customers. Hence, there is good reason to assume that certain customer knowledge is not deemed important enough, not properly processed or not received by the companies in the first place. This is where soft skills come into play—both on a personal and on an organizational level. The objective of this book is therefore the identification of soft skills required in the CKM process and the analysis of their nature and importance.

In this age of fast-moving market developments, requirements and fierce competition, customer focus has become a major factor of success or failure for companies. For this reason, also the aspect of customer orientation will be treated. The results of the survey, conducted with approx. 300 respondents, allow detailed empirical research aimed at making a contribution towards a better customer focus. The participants were asked about their opinions concerning personal soft skills (responsiveness to customers, intelligence, motivation, competence), organizational soft skills (knowledge culture, customer learning, organizational learning, customer involvement) and brain gain/drain. The results show that the degree of soft skill development deviates considerably with respect to different company characteristics (industry, business, size, etc.). It is also noticeable that personal soft skills seem to be developed more strongly than organizational soft skills. Furthermore, it is alarming that companies still fail to implement effective strategies against knowledge loss and the resulting impact on their business.

This book not only provides an extensive insight into individual and organizational soft skills, but also shows their importance for practical customer knowledge management by linking these soft skills to customer focus.

List of Abbreviations

BI	Business Intelligence
CEM	Customer Experience Management
CFM	Customer Focus Management
CK	Customer Knowledge
CKO	Chief Knowledge Officer
CKP	Customer Knowledge Process
CR	Customer Relationship
CRM	Customer Relationship Management
DIK	Data-Information-Knowledge
DIKW	Data-Information-Knowledge-Wisdom
DV	Dependent Variable
ENG	English
EQ	Emotional Intelligence
GER	German
H	Hypothesis
i4cp	Institute for Corporate Productivity
IQ	Intelligence Quotient
IT	Information Technology
IV	Independent Variable
IWKIDM	Intelligence-Wisdom-Knowledge-Information-Data-Measurement
KM	Knowledge Management
KMS	Knowledge Management Systems
KPI	Key Performance Indicator
KRM	Knowledge Risk Management
KSF	Key Success Factor
KVC	Knowledge Value Chain
MAX	Maximum
MIN	Minimum
MM	Materials Management
MQ	Moral Intelligence

n. p.	No page
R&D	Research & Development
ROI	Return on Investment
VIF	Variance Inflation Factor
w.r.t.	With reference to

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Knowledge Management Today

1

1.1 Motives of Customer-Based Knowledge Management

Customer Relationship Management (CRM) has been a much-discussed issue for many years now. If customers and customer relations are effectively managed, it can finally enhance the company's profitability.[1] "However, CRM for corporate clients is not just related to 'hard' factors".[2] CRM is a very complex topic.[3] Apart from 'hard factors' like databases, managing customer relationships also requires 'soft factors' like relationship development. A successful relationship development can establish loyalty among customers, especially with a high customer lifetime value.[4] The customer value for the company can be measured, among others, in terms of customer satisfaction and competitive edge.[5] Creating customer satisfaction requires a shift from market to customer orientation, which means increasing the focus on the customer.[6]

In today's business environment, customer service is a major aspect in customers' buying decisions. It is mainly the range and quality of services that distinguishes one company from another. Offering added value requires the identification of customer needs and taking a customer-focused approach.[7] A study on customer orientation, conducted in 2011 by Homburg et al., confirmed the strong impact the customer focus of a company has on the attitudes of customers towards the company.[8] Thus, customer focus is a key element of company success[9] and has

[1] Cf. Fan and Ku (2010), p. 203; Parida and Baksi (2011), p. 67.

[2] Labus and Stone (2010), p. 156.

[3] Cf. Battor and Battor (2010), p. 845; Hillebrand et al. (2011), p. 593.

[4] Cf. Castro and Pitta (2012), p. 127.

[5] Cf. Güngör and Bilgin (2011), p. 82; Ijewere and Odia (2012), p. 8.

[6] Cf. Ernst et al. (2011), p. 290; Lukas et al. (2013), p. 6.

[7] Cf. Lukas et al. (2013), p. 1.

[8] Cf. Homburg et al. (2011), p. 55.

[9] Cf. Brockman et al. (2012), p. 429.

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been identified by a study of the Institute for Corporate Productivity as the most important challenge for the future.[10] Consequently, companies are facing the following core question:

▶ How can a company improve its customer focus?

A primary goal of CRM is to learn more about its customer, which enables a company to understand the customers' needs and hence deliver customized products and services.[11] This learning process involves the use of knowledge.[12] The accumulation and application of knowledge for relations with customers is a critical driver for customer-oriented processes and ultimately for business outcomes.[13] Knowledge management (KM) and CRM can provide enormous benefits when integrated into the company's processes.[14] When combining KM and CRM with each other, they constitute the management of customer knowledge.[15]

With the help of customer knowledge (CK), a greater value for customers can be generated. The effective management of customer knowledge is a prerequisite for offering appropriate solutions. Customer knowledge has been identified as a significant influencing factor for business success and goal achievement.[16] The integration of customer knowledge management (CKM) requires the exchange of knowledge from, for and about the customer.[17] But in order to overcome and avoid obstacles to customer interaction, soft skills are required.[18] Companies therefore need to know about the impact of soft skills on CKM and should ask themselves the following question:

▶ What are the effects of soft skills on customer knowledge management?

The importance of skills for customer contacts is confirmed by a study done by Rao (2010).[19] The study underlines that the training of skills may result in higher sales performance.[20] Although it is widely known that 'soft' issues prevail in B2B, the impact of soft facts has never been fully explored.[21] Furthermore, it has been

[10] Cf. Morrison (2012), p. 5.
[11] Cf. Battor and Battor (2010), p. 842; Mandic (2011), p. 347.
[12] Cf. Nag and Gioia (2012), p. 451; Shieh (2011), p. 791.
[13] Cf. Fernekees (2011), p. 2; Mithas et al. (2011), p. 238; Wilde (2011), p. 1.
[14] Cf. Fernekees (2011), p. 2; Jacobs (2011), p. 10; Pavicic et al. (2011), p. 206.
[15] Cf. Shieh (2011), p. 791.
[16] Cf. Lin et al. (2012), p. 43; Ye et al. (2012), p. 821.
[17] Cf. Bueren et al. (2005), p. 579; Pavicic et al. (2011), p. 204; Wilde (2011), p. 5.
[18] Cf. Robles (2012), p. 458.
[19] Cf. Rao (2010), p. 68.
[20] Cf. i4cp (2009c), p. 1; Rao (2010), p. 68.
[21] Cf. Labus and Stone (2010), p. 156.

claimed that such skills are valuable for sales people and that the lack of these skills may result in different levels of success in nurturing customer relationships.[22]

A study by Barnes et al. in 2013 regarding customer delight confirms the impact of psychological aspects on customer behavior.[23] Interpersonal skills, also called people skills, are highlighted as key factors in customer relations[24] and are indispensable attributes in today's workplace.[25] Apart from interpersonal skills, organizational skills play a vital role—not only in the performance with customers,[26] but also for the learning and innovation processes,[27] for instance in the use of customer knowledge. Interpersonal skills and organizational skills are essential prerequisites for business performance.[28]

Another investigation on soft skills by i4cp in 2010 identified desirable competencies required for doing business. These qualities are:

- 1st Knowledge of the business (61 %)
- 2nd Execution of strategy (60 %)
- 3rd Relationship-building skills (52 %)
- 4th Customer knowledge (48 %)
- 5th Strategy development (47 %)[29]

Despite these unambiguous results, the link between soft skills, customer knowledge and customer relationship (customer focus) has not been investigated so far. The authors therefore set out to close this gap. In a first step, they identified the most important soft skills that influence CKM; in a second step, they examined to what extent (inter)personal and organizational skills influence CKM for improving a company's customer focus.

1.2 Potential Impact of Soft Skills on Customers Mindset

Knowledge exchange takes place in each and every organization.[30] In this process, the customers' needs often play a major role. To meet these needs, knowledge from, for and about the customer needs to be exchanged.[31] The effective management of

[22] Cf. Borg and Johnston (2013), p. 39.

[23] Cf. Barnes et al. (2013), p. 101.

[24] Cf. Barnes et al. (2013), p. 101; Barnes et al. (2011), p. 359.

[25] Cf. DeKay (2012), p. 449; i4cp (2009a), p. 15; Robles (2012), p. 453.

[26] Cf. Pranic and Roehl (2012), p. 246; Robles (2012), p. 453.

[27] Cf. Ellonen et al. (2011), p. 459; Kim and Atuahene-Gima (2010), p. 519.

[28] Cf. Robles (2012), p. 453.

[29] Cf. i4cp (2009b), p. 29.

[30] Cf. Mueller (2012), p. 436; Wilkesmann and Wilkesmann (2011), p. 96.

[31] Cf. Mithas et al. (2012), p. 208; Pavicic et al. (2011), p. 204; Shieh (2011), p. 799, Wilde (2011), p. 47.

knowledge requires hard and soft skills.[32] This book focuses exclusively on soft skills—hard skills will not be considered.

The management of customer knowledge has recently attracted considerable research attention.[33] However, there is little to no empirical validation of soft skills within a customer knowledge management process. Although the literature published about managing customer knowledge has shown that customer knowledge is essential in offering tailored and personalized products and services,[34] it has not empirically linked soft skills to customer focus.

This book argues that a possible reason for the weak support of soft skills within customer knowledge management is the fact that previous research focused separately on KM or CRM for a long time, while CKM has only been in the spotlight for a few years.

The purpose of this book is to determine those soft skills that are critical to improving the customer focus within customer knowledge management. This book is also meant to make a contribution to a better customer focus under consideration of 'soft' (inter)personal and organizational skills. Finally, this book undertakes to help establish a better understanding of the importance of individual and entrepreneurial skills in practical business life. By linking specific soft skills to specific company characteristics and by establishing a connection between certain demographic data and customer focus, the book will provide valuable insights into the soft skills required in various business sectors.

This book sets out to evaluate the impact of soft skills on the enhancement of customer focus within customer knowledge management. For this purpose, it has been subdivided into a theoretical part and an empirical study.

So far, no study is available that particularly deals with the impact of soft skills on CKM. However, there are a number of investigations that address at least part of the soft skills required in the fields of KM and CKM. The theoretical part of this book will have a closer look at these publications. The practical part will show to what extent soft skills can influence a company's customer focus. This will be complemented by an analysis of business characteristics in relation to customer focus, based on the authors' survey results.

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[32] Cf. Malecki (2010), p. 1037.

[33] Cf. Chakravorti (2011), p. 123; Navarro et al. (2010), p. 389; Paasi et al. (2010), p. 629; Pavicic et al. (2011), p. 203.

[34] Cf. Gallarza et al. (2011), p. 188; Shieh (2011), p. 799.

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Review of Soft Skills Within Knowledge Management

2

This chapter constitutes the first part of the theoretical framework for the investigation at hand. It describes theories and views from the field of knowledge management which consider personal and organizational soft skills for the process of knowledge transfer or knowledge exchange. The selected theoretical approaches will be described in greater detail to illustrate the interplay of components within the framework.

The following section begins with an explanation of the key terms within knowledge management: data, information and knowledge. It goes on to provide an understanding of the different characteristics and builds the basis for investigation of soft skills within knowledge management and, referring to the next chapter, of soft skills within customer knowledge management.

2.1 Knowledge Hierarchy

What constitutes knowledge? This question was controversially discussed in the 1990s when the topic of knowledge management came more strongly into focus. An accepted and widely used model is the knowledge hierarchy developed by Skyrme in 1999. Over the years, this pyramid was adapted and modified by several scientists. Basically, it distinguishes between 'data', 'information', 'knowledge' and 'wisdom' (DIKW model; in some models, 'wisdom' is called 'intelligence').[1] Vandergriff, for instance, differed between wisdom and intelligence and expanded the model by the component 'measurement'. This is how the IWKIDM model (intelligence, wisdom, knowledge, information, data, measurement) came into being.[2] Nevertheless, in practice there are some problems in identifying which 'component' belongs to which level (Fig. 2.1).

[1] Cf. Cheong and Tsui (2010), p. 205; Lambe (2011), p. 187; Rennolls and Al-Shawabkeh (2008), p. 150; Saulais and Ermine (2012), p. 3; Taylor (2007), p. 14.

[2] Cf. Vandergriff (2008), p. 432.

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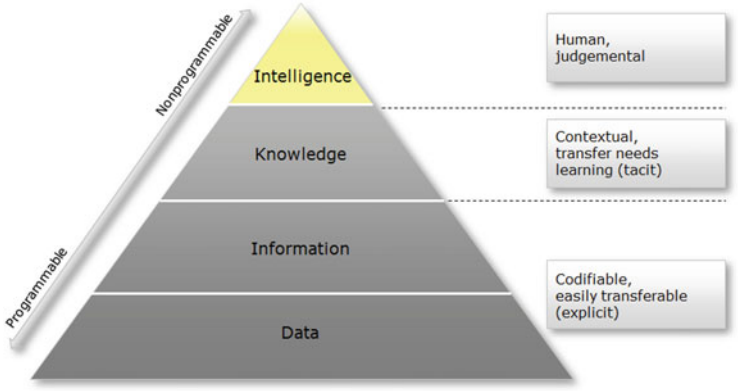

Fig. 2.1 Knowledge hierarchy (Cf. Montano 2005, p. 303; Taylor 2007, p. 15; Skyrme 1999, n. p.)

It is important to examine the definitions of the components 'data', 'information' and 'knowledge' (DIK) because they serve different purposes. In addition, each component is used differently in various business processes. The clear allocation of data, information or knowledge helps develop and manage these components pro-actively. It is therefore important to know which of the three components one is dealing with.[3]

2.1.1 Data

Business processes are based on information that is available in many different formats, e.g. oral discussions. Therefore, it is often difficult to identify what is 'data' and what is 'information'. Whether it is worthwhile distinguishing between the two notions is also questionable. Nevertheless, it can be said that, in terms of volume, the information existing or accessible inside a company is larger than the relevant set of data (records).[4] Some scientists like Amidon describe the data level as 'facts and figures',[5] while Davenport and Prusak describe it as 'a set of discrete, objective facts about events' normally found in companies as structured records of transactions.[6]

[3] Cf. Boisot and Canals (2004), p. 43; Cheng (2005), p. 605; van den Hoven (2002), p. 89; Taylor (2007), p. 16; Zeleny (2006), p. 751.

[4] Cf. Hicks et al. (2006), p. 19.

[5] Cf. Taylor (2007), p. 14.

[6] Cf. Davenport and Prusak (2000), p. 2.

2.1.2 Information

Nonaka defined information as a "flow of messages".[7] In many companies, the transfer of facts and figures constitutes a message. People use their knowledge to interpret the meaning of the given message in a certain environment.[8] Information comes from different sources, is used for different activities in business processes and has different context in which it was generated. Furthermore, it is necessary to know:

- Whether the information is as accurate as it needs to be[9]
- How long the information will remain up-to-date[10]
- How frequently it is updated and who or what triggers the update,[11] and last but not least
- If the information comes from appropriate sources[12]

2.1.3 Knowledge

Davenport and Prusak describe knowledge as "a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories, but also in organizational routines, processes, practices and norms".[13] Jennex, on the other hand, defines knowledge as contextualized information. Furthermore, he says that "knowledge is a human capability that can be acquired and expanded through learning".[14]

2.1.4 Characteristics of Data, Information, Knowledge

Different characteristics can be attributed to each level of the knowledge hierarchy.[15] The following table helps determine which level the individual is dealing

[7] Nonaka and Takeuchi (1995), p. 58.

[8] Cf. Melkas and Harmaakorpi (2008), p. 108; Nonaka and Takeuchi (1995), p. 58; White (2005), p. 12.

[9] Cf. Hammami and Triki (2011), p. 299.

[10] Cf. Chatti (2012), p. 833; Wild and Griggs (2008), p. 492.

[11] Cf. Franco and Mariano (2007), p. 440.

[12] Cf. Hult et al. (2004), p. 241; Mithas et al. (2011), p. 237; Taylor (2007), p. 14.

[13] Davenport and Prusak (2000), p. 5.

[14] Jennex (2008), p. 59.

[15] Cf. Liyanage et al. (2009), p. 119; Pun and Nathai-Balkissoon (2011), p. 205.

Table 2.1 Characteristics of data, information and knowledge

Characteristics	Data (records)	Information	Knowledge
Availability (creation and existence)	Once created, exists regardless of changes in the environment. Destruction usually altered once a document becomes a record. Available to all who are able to access and interpret this data	Once created, content exists regardless of changes in the environment. Available to all who are able to access and interpret the information. If updated, it is usually a specific activity	Selectively communicated, often as a consequence of a specific set of impulses. Consequently, availability may be time-bound
Accessibility (make use of it)	Access usually controlled by means of physical/electronic security. Knowledge of structure may be required to interpret meaning accurately	Access usually controlled by means of physical/electronic security. Knowledge of structure may be required to interpret meaning accurately	Accessible to those who are able to 'receive' and understand (may depend on tacit knowledge held)
Stability	Stable, management usually defined at an organizational level by policies	Relatively stable, purposely created and destroyed, but while in existence, the format and content will be stable unless purposely changed	Consciously created, but can be unstable, temporary, volatile, withdrawn, flowing between existing and shared. Can also be consciously withheld
Specificity to an environment	Expected content normally defined for each record type. Similar record types are usually a consistent format across an organization. Can be sensitive to changes in the environment	Relevance dependent on specific situation. As environment changes, likely to require knowledge to determine what is still relevant	Usually highly relevant at the time it is shared, as something in the environment could trigger knowledge to be processed, for example, shared or created
Content	Often predefined at a corporate level, provides an audit trail or record of transactions being undertaken	Needs to be seen in context in which it was created in order to ensure the content remains relevant to those who access the information. Format and structure need to be consciously altered	Context usually understood in its specific environment. Structure, format and means of communication may be difficult to determine due to change and individualism

Cf. Taylor (2007), p. 17

with in a given situation while the explanation of intelligence (wisdom) will get a special focus in the next sub-section (Table 2.1).

The following table provides examples of data, information and knowledge so as to illustrate the differences in practical use (Table 2.2).

Table 2.2 Examples of data, information and knowledge

	Data (what a machine can assess)	Information (what an individual with no domain knowledge can assess)	Knowledge (what an expert can assess)
Content What is it?	File type, data type	Content type (e.g. whitepapers), language, title	Subject area, topic, ontology concept, theme, summary, keyword
Quantity/ value How much is in it?	Byte size, # of records, # of files	Completeness (w.r.t. templates), number of diagrams and examples, domain and range of information	Current value to company, potential value, contribution to prior projects, authority and ownership of subject area
Quality How good is it?	Checksum, format, font, resolution	Matches template, grammatical correctness, clarity, contrast	Quality rating, reviews, comments, popularity, frequency of use
Goal/ purpose What is it meant for? Why is it there?	For viewing on handheld, for printing	To calculate taxes, for ID card, for a graduate course	Intended purpose, target audience, people and team goals
Applicability How do we use it?	Mapping to application, to zip, to encrypt, to protect via password	For review, not for critical applications, not for export, need-to-know basis, reference only	Constraints on application, assumptions made, ease of generalization or specialization, self-containedness, extra-functional requirements

Cf. Srikantaiah and Koenig (2008), p. 61

To sum up, data is regarded as facts that can be structured to become information.[16] Information is data endowed with meaning and purpose.[17] Knowledge occurs when information is interpreted or put into context, i.e. connected in relationships.[18] Intelligence is the understanding of why and how to use knowledge[19] and will be explained in the following sub-section.

2.1.5 Intelligence (Wisdom)

Intelligence (wisdom) is the level of understanding. The same as with knowledge, intelligence operates within us.[20] When sharing our experience with others,

[16] Cf. Lundvall and Nielsen (2007), p. 210; Schlegelmilch and Penz (2002), p. 7; Styhre (2003), p. 33.

[17] Cf. Kumar and Thondikulam (2005/2006), p. 178; Williams (2006), p. 83.

[18] Cf. Gordon and Grant (2005), p. 27; Jakubik (2007), p. 6; Lambooy (2009), p. 878; Wilde (2011), p. 33.

[19] Cf. Baars and Kemper (2008), p. 135; Montano (2005), p. 303.

[20] Cf. Christopher and Tanwar (2012), p. 62.

building blocks of intelligence will be created that need to be communicated with even more understanding of contexts.[21] So, when the value of (contextualized) knowledge is extended through insights into upstream and downstream consequences of applying that knowledge, knowledge will become intelligence.[22] In literature, intelligence is for example defined as the ability to make the right use of knowledge which has a significant impact on a company's success and is more than just maximizing and sharing knowledge.[23]

Recently, scientists have stated that intelligence:

- Combines experiences and cognitive skills, which allows good decision making[24]
- That intelligence is the ability to judge correctly in special situations so as to make life better[25]
- That wisdom is a person's basic sense of self[26]
- That wisdom involves cognitive, emotional and motivational characteristics[27]

From this it can be concluded that intelligence is essential for companies to make 'right judgments'.[28]

In recent publications, intelligence is described as knowledge that has been processed in meaningful ways and is the only level of the DIKW model that considers the future.[29] Further statements are that intelligence is:

- Related to tacit knowledge[30]
- Related to the phenomenon of consciousness[31]
- Linked to the complexity of human nature[32]
- Context-sensitive[33]
- Situation-dependent[34] and
- Appears to deal with the cognitive, emotional, personal and social aspects of life[35]

[21] Cf. Boder (2006), p. 83; Senapathi (2011), p. 87.
[22] Cf. Walker and Christenson (2005), p. 278.
[23] Cf. Rowley (2006a)), p. 1246.
[24] Cf. Small (2011), p. 838.
[25] Cf. Goede (2011), p. 36; Small (2004), p. 751.
[26] Cf. Lamb and Sutherland (2010), p. 303; Perrin et al. (2012), p. 177.
[27] Cf. Goyal and Akhilesh (2007), p. 206; Holian (2006), p. 1122.
[28] Cf. Rowley (2006a), p. 1246.
[29] Cf. Faucher et al. (2008), p. 5.
[30] Cf. Wang et al. (2009), p. 102.
[31] Cf. Laszlo and Laszlo (2002), p. 404.
[32] Cf. Budd (2011), p. 58.
[33] Cf. Lang (2001), p. 45.
[34] Cf. Rowley (2006b), p. 251.
[35] Cf. Bennet and Bennet (2008b), p. 7.

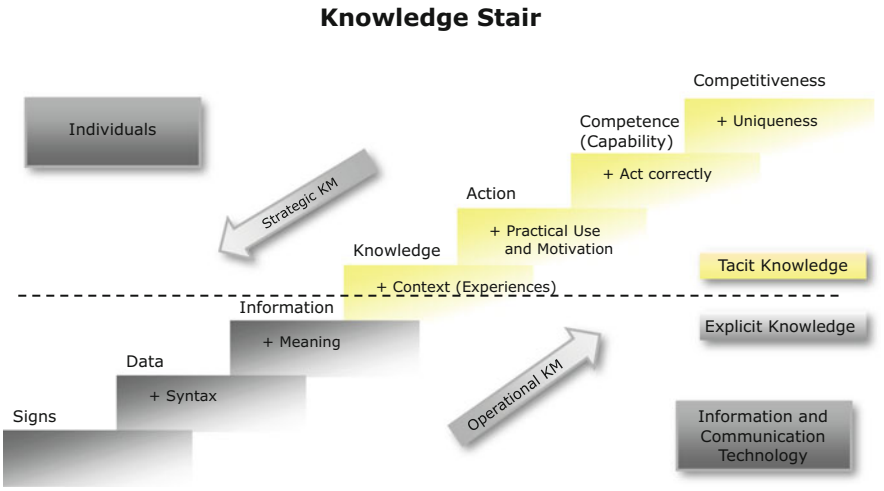

Fig. 2.2 Knowledge stair (according to North (2011), p. 36)

To sum up: Intelligence (wisdom) is making the best use of knowledge to achieve the company's goals, and this is the key to organizational survival.[36] Knowledge management approaches that neglect wisdom may result in blind actions without the necessary insight.[37]

The next section builds on the above mentioned elements data, information and knowledge.

2.2 Knowledge Stair

The ultimate aim of companies is profit maximization. This can be achieved by converting information into knowledge which is then used for gaining sustainable competitive edge.[38] This process is described by North in the Knowledge Stair. His model also describes the requirements to be met before reaching the next step (Fig. 2.2).

The explanations in the following sub-sections focus on the upper part of the stair, the 'Individuals', and their sharing of tacit knowledge. The lower part of the stair, 'Information and Communication Technology' (sharing of explicit knowledge), has already been described in detail in Sect. 2.1 Knowledge Hierarchy.

[36] Cf. Walker and Christenson (2005), p. 278.

[37] Cf. Rowley (2006a), p. 1247.

[38] Cf. Easterby-Smith and Prieto (2008), p. 235; North (2011), p. 35; Tsoukasw and Mylonopoulosw (2004), p. S1.

2.2.1 Knowledge and Experience

Knowledge develops when information is put into context.[39] The interpretation of information and the conversion of information into knowledge is a complex process that depends on the individual's experience and expectations.[40] This means that information can be perceived as useful and therefore successfully processed by some individuals, while other individuals will not or differently perceive the same information.[41]

2.2.2 Practical Use and Motivation

Knowledge is only of value if it is converted into competence—in other words: when knowledge is used for action. It is not sufficient for employees to simply acquire knowledge in different training courses if they do not put what they have learned into practice. It is therefore crucial to transfer knowledge into skills (competence) through practical use. It is the action (or performance) of an individual or company as a whole that delivers measurable results.[42]

Apart from the practical use of knowledge, motivation also plays a vital role in dealing with customers. A 2008 research paper by Ringberg and Reihlen on a socio-cognitive approach to knowledge transfer found that the creation of meaningful knowledge depends, among other factors, on the individual's volition.[43] If employees are not motivated and willing to share their knowledge, no new knowledge can be generated unless employees are stimulated by rewards or punishment (see also Sect. 2.3.5). In their 2009 study, Nonaka and von Krogh complemented these research results by finding that punishment/rewards and employee motivation are critical factors for running a business efficiently.[44]

It was also found that the private and cultural background of employees (e.g. behavioral patterns) has a great impact on the willingness to share knowledge. The soft skill 'motivation' has been identified as a key factor in the transfer of knowledge.[45]

According to Foss et al. and numerous other researchers, three types of motivation can be distinguished: intrinsic, extrinsic and introjected motivation.[46] These different types of motivation are based on individual characteristics, may lead to

[39] Cf. Diakoulakis et al. (2004), p. 32; Hicks et al. (2007), p. 7; Wilde (2011), p. 33.

[40] Cf. Hanisch et al. (2009), p. 148.

[41] Cf. Jantzen (2009), p. 20; Rahe (2009), p. 111.

[42] Cf. North (2011), p. 38; Wilde (2011), p. 20.

[43] Cf. Ringberg and Reihlen (2008), p. 912.

[44] Cf. Nonaka and von Krogh (2009), p. 635.

[45] Cf. Argote et al. (2003), p. 571; Foss et al. (2009), p. 871; Foss et al. (2010), p. 455; Menon and Pfeffer (2003), p. 497.

[46] Cf. Foss et al. (2009), p. 874.

different work performance qualities and involve various interpersonal environments. Naturally, each motivation type also has an impact on the employee's knowledge sharing behavior. Each type is linked with different specific needs[47] and is explained hereinafter:

Intrinsic Motivation Intrinsic motivation involves doing a task in accordance with the individual's own interests and personal values. An intrinsically motivated person is free of pressure and tension,[48] has a positive relation towards knowledge sharing behavior[49] and derives pleasure from the task itself.[50]

Extrinsic Motivation "External motivation means that an individual engages in an activity to attain a positive or to avoid a negative external outcome".[51] An extrinsically motivated person is stimulated into action by external factors like rewards or the avoidance of punishment (feel pressured from outside). The outcome, i.e. the performance of the task, does not reflect the person's personal interests or wishes.[52]

Introjected Motivation This type of motivation is a hybrid between intrinsic and extrinsic motivation and occurs when an individual internalizes an external regulation but without accepting it. The individual's behavior is no longer guided by external rewards or punishments; instead, it is the individual him/herself that regulates his/her behavior.[53] An important motive for introjected motivation is to "promote feelings of worth"[54] and to improve or maintain the person's self-esteem.[55] Employees with introjected motivation share their knowledge in order to show off and to boost their image—irrespective of whether the knowledge is useful or not.[56]

Foss et al. have shown that job design—under the aspects of job autonomy, task identity and feedback—has a strong impact on the different types of motivation

[47] Cf. Deci and Ryan (2000), p. 227; Foss et al. (2009), p. 874; Gagne and Deci (2005), p. 341; Osterloh and Frey (2000)), p. 538; Vansteenkiste et al. (2004), p. 246; Vansteenkiste et al. (2006), p. 19.

[48] Cf. Foss et al. (2009), p. 874; Gagne and Deci (2005), p. 341.

[49] Cf. Sosa (2011), p. 2.

[50] Cf. Sheldon et al. (2004), p. 475.

[51] Foss et al. (2009), p. 874.

[52] Cf. Bock et al. (2005), p. 87; Brachos et al. (2007), p. 35; Foss et al. (2009), p. 874; Lam and Lambermont-Ford (2010), p. 51; Milne (2007), p. 29.

[53] Cf. Foss et al. (2009), p. 874; Malhotra et al. (2008), p. 277; Perdomo-Ortiz et al. (2009), p. 1200; Stone et al. (2009), p. 79.

[54] Foss et al. (2009), p. 874.

[55] Cf. Ryan and Deci (2000), p. 62.

[56] Cf. Gagne (2009), p. 574.

and, ultimately, on the employee's willingness to share knowledge with other employees.[57]

Understanding motivational mechanisms helps facilitate knowledge transfer.[58] To sum up, leveraging knowledge transfer depends, among others, on employee motivation. A pro-motivational work environment actively promotes the sharing of knowledge.

2.2.3 Competencies and Correct Action

Competence is the total of an individual's or a company's knowledge, skills, results and track record. In a 2006 research study, Covey says that competence is part of leadership and is thus, besides character, a vital part of a company's success.[59] Competencies become real when knowledge is applied. North explains competence as the ability/disposition to act in accordance with the requirements of a particular situation.[60]

The competence of an employee allows him/her to act according to his/her own capabilities resp. expertise in different work situations.[61] The understanding of employees' competencies helps address competence development correctly.[62] There are several other definitions of competence by scholars, however, scientists largely agree that competence is an individual's characteristic set of knowledge, skills and motivations to perform a job.[63]

In the discussions on how to develop managerial competence, the personality traits of Emotional Intelligence (EQ) and Moral Intelligence (MQ) have gained more and more attention in modern companies.[64] Emotional and moral virtues have been found to be essential in the psychological process of decision making[65] or in relationships with customers.[66]

Emotional Intelligence EQ involves qualities that refer to the emotional side of an individual[67] and can be sub-divided into five components. These include self-awareness, self-regulation, motivation, empathy and social skills.[68] These

[57] Cf. Foss et al. (2009), p. 871.
[58] Cf. Foss et al. (2009), p. 871; Quigley et al. (2008), p. 71.
[59] Cf. Kosturiak (2010), p. 55.
[60] Cf. North (2011), p. 38.
[61] Cf. Lefebvre et al. (2005), p. 850.
[62] Cf. Pinnington (2011), p. 447.
[63] Cf. Moore et al. (2002), p. 314.
[64] Cf. Bolden (2005), p. 54.
[65] Cf. Surendra (2010), p. 7.
[66] Cf. Moberg and Seabright (2000), p. 845.
[67] Cf. Goleman (2004), p. 82.
[68] Cf. Rahim et al. (2002), p. 304.

components are linked with various characteristics like "intuition, relationship skills, ... integrity and personal management"[69] which are essential for the successful management of working relationships with others.[70]

Moral Intelligence MQ means "the justice, honesty, courtesy, fulfilling promises, the sense for duty, fairness, fulfilling principles and defining the rules".[71] Morality is generally described as the cognitive ability to make ethical decisions under consideration of the entire circumstances surrounding a given situation.[72] Ethical behavior plays a pivotal role in our today's business society, especially in customer treatment and customer relationships, as confirmed by Gardner in 2007.[73]

In our modern knowledge-based society, employees need to be competent with respect to their productivity, right knowledge use and focus on customer satisfaction. These are necessary qualities if they want to compete successfully in changing business environments and relations with customers. A company is well-advised to match its current employee competencies with the company's business strategy.[74]

The last step of the knowledge stair does not contain any relevant point to be considered as a soft skill within (customer) knowledge management. For the sake of completeness, however, it will be treated in the following sub-section.

2.2.4 Competitiveness and Uniqueness

In our knowledge-driven society, it is important for companies to distinguish themselves from competitors.[75] Competitive edge can be achieved, among others, by gaining a knowledge advantage. Being close to one's customers and thus fulfilling their needs requires an in-house learning process.[76] Especially in this age of globalization where developing countries try to compete with developed countries, it is essential to foster a human knowledge base.[77] "The knowledge [basis] is ... the human resource of an organization".[78] It is therefore essential to invest not only into knowledge systems but also into the human resource of a company. The integration of a knowledge framework (considering both humans

[69] Smith (2005a), p. 16.
[70] Cf. Chiva and Alegre (2008), p. 680; Hess and Bacigalupo (2010), p. 222.
[71] Kosturiak (2010), p. 55.
[72] Cf. Jeffries (2011), p. 200.
[73] Cf. Gardner (2007), p. 51.
[74] Cf. McHenry and Stronen (2008), p. 114.
[75] Cf. Kalpic and Bernus (2006), p. 41; Manning (2010), p. 91.
[76] Cf. Halawi et al. (2006), p. 384; Maqsood et al. (2007), p. 123.
[77] Cf. Mrinalini and Nath (2008), p. 38.
[78] Mrinalini and Nath (2008), p. 52.

and technology) into corporate culture is a crucial step that can help a company grow in terms of knowledge competitiveness.[79]

It must be said that the Knowledge Stair is an effective process of acquiring knowledge with special focus on the learning organization and the company's resp. individual's capabilities.[80] The effectiveness of a company's business activities depends on its capabilities.[81] It is therefore vital to establish and anchor a process of organizational learning inside the company. Specific demands on learning and knowledge processes are made that are complex but also necessary in order to increase a company's efficiency.[82]

After having discussed in the aforementioned the requirement of skills within knowledge management processes, the following section reveals the interplay of these KM processes by further consideration of soft skills.

2.3 Holistic Framework of Knowledge Management

Holistic knowledge management is more than just implementing a data warehouse. It is a holistic way of interaction among individuals, groups and organizations to improve business processes.[83] First of all, the exchange of knowledge needs to be triggered to ensure optimum use of the currently available knowledge.[84] From a corporate perspective, one of the goals is to successfully serve customers with products and services and to optimize processes in the future. KM is therefore an instrument to enhance the company's operating profits.[85] While a data warehouse fulfills the purpose of storing information,[86] the process of knowledge transfer needs to be stimulated so that knowledge and experience can freely flow.[87] Knowledge problems occur when the circulation of knowledge is disturbed[88] or when core processes like developing, storing and distributing knowledge are not sufficiently managed.[89] Each individual step in these processes is interlinked and should therefore not be considered separately. [90]

In order to manage knowledge in an organization, it is helpful to use a framework. Probst et al. describe such a concept of knowledge management. It is divided

[79] Cf. Rai (2011), p. 779.
[80] Cf. Jeschke et al. (2011), p. 293.
[81] Cf. Park and Kim (2005), p. 43.
[82] Cf. Jeschke et al. (2011), p. 293.
[83] Cf. Adamides and Karacapilidis (2006), p. 572.
[84] Cf. Rasmussen and Nielsen (2011), p. 479.
[85] Cf. Parida and Baksi (2011), p. 66.
[86] Cf. Greiner et al. (2007), p. 10.
[87] Cf. Chang and Ahn (2005), p. 118; de Pablos (2004), p. 105.
[88] Cf. Häussler (2010), p. 300.
[89] Cf. Bodendorf (2006), p. 133.
[90] Cf. Bodendorf (2006), p. 133.

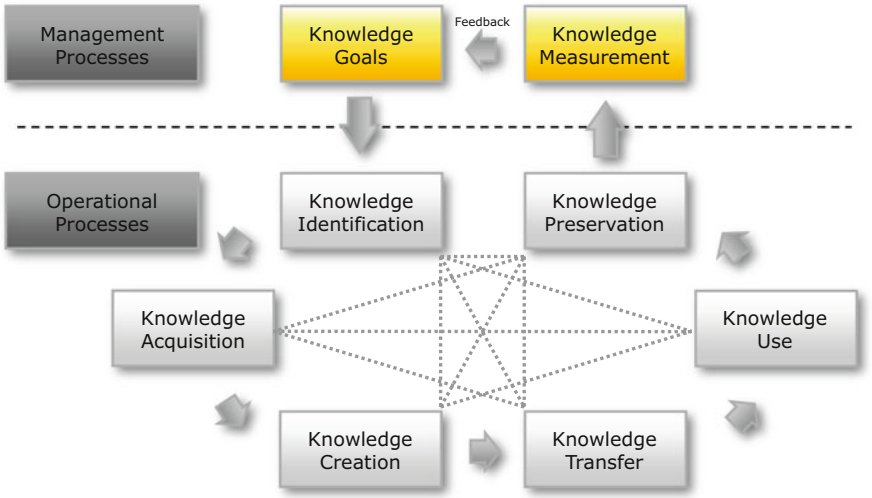

Fig. 2.3 Holistic framework of knowledge management (Cf. Probst et al. 2006, p. 32)

into management processes and operational processes as the figure above shows (Fig. 2.3).

The operational area contains the core processes. The inclusion of 'knowledge goals' and 'knowledge measurement' from the management area extends this concept into a holistic framework which enables the management to implement different activities on each level. Each building block is vital for the whole framework.[91] For each knowledge aspect, there is one core question that needs to be verified to make this concept viable. These core questions will be described in the following sub-sections.

2.3.1 Knowledge Goals

"A general goal of KM is to improve the systematic handling of knowledge and potential knowledge within an organization".[92] The core question related to the realization of knowledge goals is shown in Fig. 2.4.

Knowledge has to be aligned to corporate goals in order to achieve better corporate results.[93] In their research on 'implementation gaps for knowledge management systems' in 2005, Lin and Tseng found there is a gap between the knowledge required to enhance a company's competitiveness as perceived by its

[91] Cf. Probst et al. (2006), p. 3.

[92] Heisig (2009), p. 5.

[93] Cf. Anantatmula (2010), p. 239; Fink and Ploder (2009), p. 37; Kalling (2003), p. 67; Wilde (2011), p. 20.

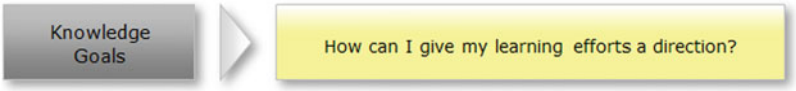

Fig. 2.4 Core question of knowledge goals (Cf. Elsner 2002, p. 52)

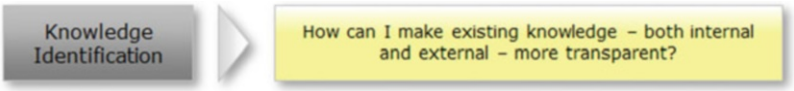

Fig. 2.5 Core question of knowledge identification (Cf. Elsner 2002, p. 52)

managers and the plan of KM in general. It is therefore crucial to define clear knowledge goals.[94] Knowledge-oriented goals can be divided into normative goals (corporate vision/culture), long-term strategic goals (develop/structure corporate core knowledge) and operational goals (implement normative and strategic goals, e.g. by ensuring the availability of documents).[95]

2.3.2 Knowledge Identification

The identification of existing knowledge and the search for new ideas ensures the company's direct and fast access to relevant or critical knowledge.[96] It also facilitates the work of (new) employees within the company. The evolved knowledge (internally and externally accessible) needs to be made transparent so that it can be effectively applied.[97] Bearing this in mind, the question formulated in Fig. 2.5 arises.

Probably the most important point is the communication of best practice knowledge concerning success and failure factors—knowledge that was collected e.g. by project teams and/or business units.[98] By comparing this knowledge with the defined goals, the current knowledge gap can be filled in the next step of 'knowledge acquisition'.[99] Sharing best practices is an important step in the organizational learning process and reflects the company's ability to learn. It is therefore further discussed in Sect. 2.4.3.

[94] Cf. Lin and Tseng (2005), p. 210.

[95] Cf. Bodendorf (2006), p. 134.

[96] Cf. Evanschitzky et al. (2007), p. 272; Wang and Ahmed (2005), p. 322.

[97] Cf. Egbu et al. (2005), p. 7; Elsner (2002), p. 52; Harorimana (2009), p. 12; Seleim and Khalil (2011), p. 590; Supyuenyong et al. (2009), p. 63.

[98] Cf. Elsner (2002), p. 52; Goh (2005), p. 6; Harorimana (2009), p. 12.

[99] Cf. Borredon and Ingham (2005), p. 493; Broßmann and Mödinger (2011), p. 355; Hoe (2008), p. 18; Kalkan (2008), p. 390.

Fig. 2.6 Core question of knowledge acquisition (Cf. Elsner 2002, p. 52)

2.3.3 Knowledge Acquisition

Companies should focus on reducing the cost and effort of knowledge acquisition and transfer through inter-organizational knowledge exchange.[100] This leads to the above-stated core question (Fig. 2.6).

Grafting knowledge is faster than acquiring it through experience and more complete than acquiring it through imitation.[101] Especially in knowledge-driven industries, companies acquire knowledge in order to gain new knowledge.[102] Innovative companies cannot solely draw knowledge from external sources: they need to run their own R&D departments to create new knowledge. This is described in the next building block.[103]

2.3.4 Knowledge Creation

The importance of developing organizational and (inter)personal skills, including the creation of knowledge for developing new products/services (innovation) and gaining sustainable competitive edge, is a well-known fact.[104] Based on this fact, companies need to address the question in Fig. 2.7.

New knowledge can be created e.g. through knowledge-based cooperation between companies and employees to improve core competencies and competitive edge.[105] The existing knowledge stock of a company can also be used to generate new knowledge by well-coordinated exchange processes.[106] To achieve this goal, two preconditions must be fulfilled: flexible distribution of information and experiences[107] (e.g. teamwork of experts from different departments or CK

[100] Cf. López-Sáez et al. (2010), p. 703; McCall et al. (2008), p. 67; Pacharapha and Vathanophas (2012), n. p.; Ryu et al. (2005), p. 245.

[101] Cf. Bergman et al. (2004), p. 63.

[102] Cf. Amiryany et al. (2012), p. 178.

[103] Cf. Palekar (2006), p. 29.

[104] Cf. Nielsen (2006), p. 59; Paiva et al. (2012), p. 302; Pfister and Eppler (2012), p. 372.

[105] Cf. Eliufoo (2008), p. 322; Michailova and Nielsen (2006), p. 44; Sharkie (2003), p. 20; Siakas et al. (2010), p. 376.

[106] Cf. Akbar (2003), p. 1997; Li and Kettinger (2006), p. 593; Nonaka and von Krogh (2009), p. 635; Smith et al. (2005), p. 346.

[107] Cf. Salmador and Bueno (2007), p. 367; Seshadri and Shapira (2003), p. 1099.

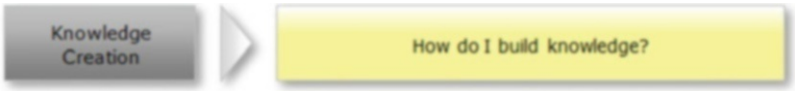

Fig. 2.7 Core question of knowledge creation (Cf. Elsner 2002, p. 52)

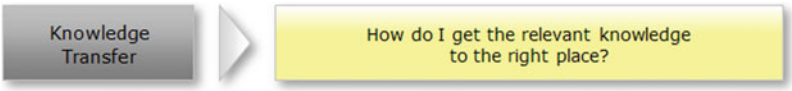

Fig. 2.8 Core question of knowledge transfer (Cf. Elsner 2002, p. 52)

exchange through sales staff) and improved organizational performance to eliminate uncertainties, e.g. in negotiations with customers.[108]

2.3.5 Knowledge Transfer

'If we had had the necessary information, we could have . . .'. An often-heard argument that clearly shows the dilemma. To make sure this does not happen, companies and their employees must answer the question in Fig. 2.8.

Information, experience and know-how need to be continuously exchanged within the company and beyond its boundaries.[109] A central task of knowledge transfer is the multiplication of knowledge so that fast knowledge dissemination to large groups can be realized.[110] Take, for example, the knowledge exchange among the sales reps of different industries. Barriers to knowledge flow, e.g. deliberate withholding of relevant knowledge due to opportunistic behavior, need to be eliminated.[111] Each knowledge transfer is an opportunity for an organization to learn[112] and an essential precondition for ensuring the successful application[113]—regardless of the direction of transfer (in- or outbound)—and may contribute to improving the company's learning curve.[114]

[108] Cf. Ramirez et al. (2012), n. p.

[109] Cf. Ambos and Schlegelmilch (2009), p. 491; Bennet and Bennet (2008c), p. 21; Davis et al. (2005), p. 101; Guzman and Wilson (2005), p. 59; Kimmerle et al. (2008), p. 381; Mohamed (2007), p. 100; Wilde (2011), p. 33.

[110] Cf. Choi et al. (2010), p. 855; Ingram and Simons (2002), p. 1517; Lindkvist (2005), p. 1189; Zhen et al. (2011), p. 2959.

[111] Cf. Broßmann and Mödinger (2011), p. 137; Lin et al. (2012), p. 10; Martini and Pellegrini (2005), p. 670; Monteiro et al. (2004), p. B1; Riege (2007), p. 48; Sun and Scott (2005), p. 75.

[112] Cf. Chawla and Joshi (2011), p. 501; Chen et al. (2012), p. 109; Kumar and Ganesh (2011), p. 224; Massingham and Diment (2009), p. 125; Tukel et al. (2008), p. 179; Wilkesmann and Wilkesmann (2011), p. 96.

[113] Cf. Jasimuddin and Zhang (2011), p. 84.

[114] Cf. Kutvonen (2011), p. 468.

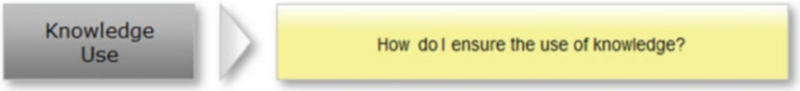

Fig. 2.9 Core question of knowledge use (Cf. Elsner 2002, p. 52)

The transfer of knowledge thus depends on individual (absorptive capacity) and organizational capabilities (systems, processes) and, even more important, on the employees' motivation to share knowledge. If there is no desire to exchange knowledge, the transfer of knowledge will quickly grind to a halt (see Sect. 2.2.2).

2.3.6 Knowledge Use

To ensure that newly acquired knowledge does not erode, it must be actively used.[115] It is the task of managers to assure that existing and newly created knowledge is employed for the benefit of the company (Fig. 2.9).[116]

KM systems should mainly store application-oriented and usable knowledge.[117] Knowledge sharing across different departments and hierarchical levels supports the use of available knowledge and transfers best practices.[118] Through discussions, mutual criticism and constructive suggestions from different departments and individuals—for example engineers, sales people and project teams, the quality of knowledge can be improved and knowledge re-combined for future use,[119] especially for meeting customer needs. This interaction contributes to ensuring a higher quality of products and services (externally) and to improving innovation and other processes (internally).[120]

As described above, the use of knowledge depends on both an individual's intelligence and competence. Therefore, the soft skill 'intelligence' has already been discussed in detail in Sect. 2.1.5, while Sect. 2.2.3 has been focused on the soft skill 'competence'.

[115] Cf. Amalia and Nugroho (2011), p. 71; Jantunen (2005), p. 336; Rejeb-Khachlouf et al. (2011), p. 278.

[116] Cf. Andreeva and Kianto (2012), p. 617; Danskin et al. (2005), p. 91.

[117] Cf. Edwards et al. (2005), p. 113; Grace (2009), p. 64; Iske and Boersma (2005), p. 126; Teoh and Pan (2009), p. 4; Wang and Wang (2008), p. 622.

[118] Cf. Andreeva and Kianto (2011), p. 1018; Ghobadi and D'Ambra (2012), p. 285; Han and Anantatmula (2007), p. 421; Ho et al. (2009), p. 1211; Marouf (2007), p. 122; Smith (2005b), p. 563.

[119] Cf. Gavrilova and Andreeva (2012), p. 523; Mariotti (2011), p. 875; Rusly et al. (2012), p. 346.

[120] Cf. Claycomb et al. (2002), p. 649; Gao et al. (2008), p. 3; Lee et al. (2001), p. 691; Yoo et al. (2011), p. 329; Zboralski (2009), p. 90.

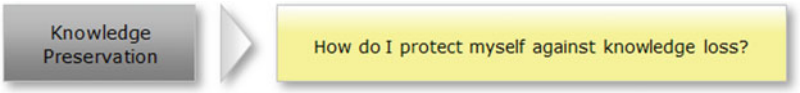

Fig. 2.10 Core question of knowledge preservation (Cf. Elsner 2002, p. 52)

2.3.7 Knowledge Preservation

As described in the previous sub-sections, the effort spent on acquiring, newly creating or ensuring the exchange of knowledge is enormous.[121] For this reason, it is crucial for companies to protect their knowledge investments (Fig. 2.10).

Through the continuous transfer of experience and know-how, tacit knowledge is made explicit and remains in the company[122] even if the knowledge carrier leaves the company, e.g. when reaching retirement age.[123] Knowledge needs to be shared, but also multiplied to secure the organization's knowledge basis. Different knowledge types require different but secure solutions. Securing knowledge also requires that only a well-selected, limited number of employees have access to crucial information and not the total number of individuals working for a company.[124] This applies in particular to sensitive information like innovations and customer data that ensure the company's competitiveness.[125]

As the avoidance of knowledge loss is essential for both organizations and individuals, this issue will be tackled in Sect. 2.5.

2.3.8 Knowledge Measurement

The KM-related effort made by an organization is linked to certain expectations of success. In this respect, the expected return on investment (ROI) plays a vital role (Fig. 2.11).[126]

Knowledge measurement in customer-oriented processes includes inputs like marketing, sales and service costs as well as outputs like customer revenue, profit and value.[127] KM activities must be effective, and their effectiveness must be

[121] Cf. Richter et al. (2004), p. 3; Richtner and Ahlström (2010), p. 1006; van Beveren (2002), p. 18; Zellmer-Bruhn (2003), p. 514.

[122] Cf. Boder (2006), p. 81; Disterer (2002), p. 512; Hall (2006), p. 117; Perez and de Pablos (2003), p. 82; Takahashi and Vandenbrink (2004), p. 64.

[123] Cf. Bennet and Bennet (2008a), p. 414; Leseure and Brookes (2004), p. 103.

[124] Cf. Andrews and Delahaye (2000), p. 797; Majchrzak and Jarvenpaa (2004), p. 40; Randeree (2006), p. 145.

[125] Cf. Erickson et al. (2003), p. 152; Kauffeld-Monz (2009), p. 41; Lamming et al. (2004), p. 291; Menon and Sarkar (2007), p. 101.

[126] Cf. Bose (2004), p. 457; Cohen (2006), p. 28; Elliott et al. (2009), p. 657; Kannan and Aulbur (2004), p. 389.

[127] Cf. Gebert et al. (2003), p. 108.

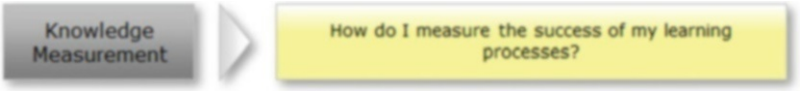

Fig. 2.11 Core question of knowledge measurement (Cf. Elsner 2002, p. 52)

measurable.[128] Knowledge is a dynamic parameter; hence it is difficult to measure a company's knowledge assets.[129] Nevertheless, "a complete measurement system needs to be developed to evaluate whether the KM activities will enable the enterprise to enhance its competitiveness".[130] Up to now, however, no generally applicable matrix of key performance indicators (KPIs) has been defined for CKM.

The interaction of processes with relevant soft skills has been made clear in Sects. 2.2 and 2.3. Therefore, the next section focuses on soft skills necessary for the creation of added value within knowledge management.

2.4 Knowledge Value Chain

Despite some overlaps of the knowledge value chain (KVC) with the holistic framework of KM (described in Sect. 2.3), there are further soft skills which are relevant within KM as yet not discussed within this book.

The concept of a KVC is based on the value chain first described by Michael Porter.[131] A value chain bundles a company's assets (resource-based view). However, it is not enough to have these resources: they must be effectively managed to develop unique strengths, thus gaining competitive advantage and creating value. Furthermore, a value chain helps identify and evaluate a company's value adding process. The result can be used to implement appropriate measures for building and enhancing competitive edge.[132]

Based on Porter's value chain from 1985, many knowledge value chains have been developed over the years.[133] Most important for the identification of soft skills in a knowledge management process is, however, the following model by Wang and Ahmed.

Wang and Ahmed proposed a KVC in 2005 which includes five infrastructure elements, so-called 'KM enablers', and eight 'KM processes'. Furthermore, their model considers 'organizational capabilities' as well as a 'performance margin'.

[128] Cf. Aujirapongpan et al. (2010), p. 192.

[129] Cf. Housel and Nelson (2005), p. 545; Lerro et al. (2012), p. 563; Rodgers (2003), p. 181.

[130] Lin et al.(2005), p. 42.

[131] Cf. Porter (1998), p. 33.

[132] Cf. Adams and Lamont (2003), p. 142; Barber (2008), p. 687; Shankar et al. (2003), p. 191; Swafford et al. (2006), p. 118; Wang and Ahmed (2005), p. 322.

[133] Cf. Carlucci et al. (2004), p. 580; Eustace (2003), p. 591; Xu and Bernard (2010), p. 957.

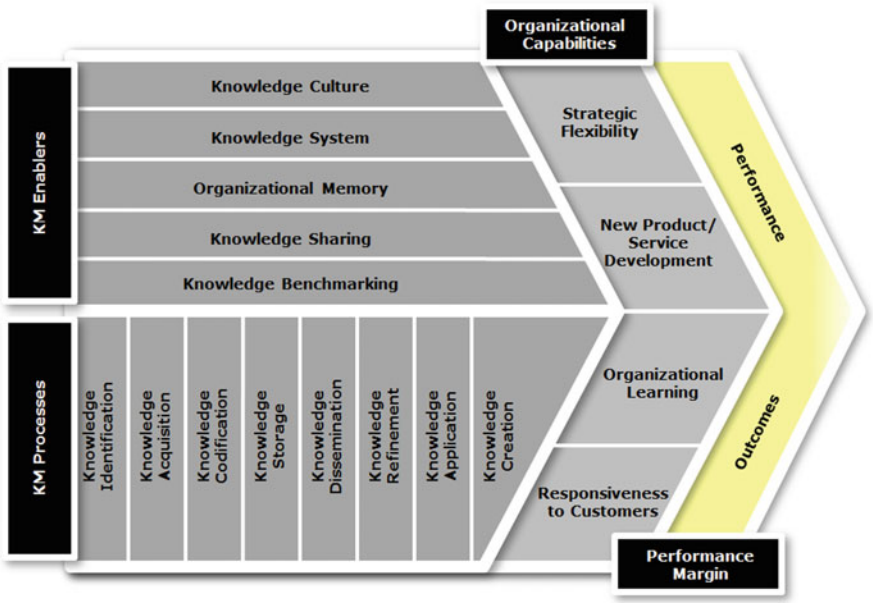

Fig. 2.12 Knowledge value chain (Cf. Wang and Ahmed 2005, p. 322)

This KVC was developed to capture the essence of a company's knowledge economy (see Fig. 2.12).[134]

By combining a company's knowledge resources (knowledge enablers and processes), a company builds its knowledge capability.[135] The contribution of each resource to the overall organizational performance is the company's "unique makeup that enables benefits such as competitive edge and improved performance".[136]

The following sections will take a closer look at components of the KVC in order to elucidate the interplay of the individual components.

2.4.1 Knowledge Management Processes

It is essential for a company's expertise and performance that knowledge management processes become organizational routines,[137] for example facilitating the creation of new knowledge or the application of existing knowledge.[138] The

[134] Cf. Wang and Ahmed (2005), p. 321.
[135] Cf. Gera (2012), p. 255; Wu (2008), p. 248.
[136] Mills and Smith (2011), p. 157.
[137] Cf. Claver-Cortes et al. (2007), p. 54; Li et al. (2012), p. 398; Sun (2010), p. 507.
[138] Cf. Beesley and Cooper (2008), p. 58; Jakubik (2011), p. 375.

Table 2.3 Knowledge management processes

Knowledge management processes	
Knowledge identification	Searching for new ideas, information and knowledge which are relevant for the company. Facilitating knowledge identification processes through a guidance or for example by visual ontologies
Knowledge acquisition	Acquiring identified relevant knowledge and absorbing this knowledge in specific organizational contexts. Using company's resources for increasing the knowledge inventory of the organization to fill knowledge gaps
Knowledge codification	Codifying tacit knowledge and categorizing acquired knowledge. Facilitate embedding new knowledge by investing into a company's capabilities (routines)
Knowledge storage	Recording, retaining and maintaining knowledge and clearly labeling the knowledge directory to enhance the productivity and quality. Stabilize the organizational culture to enhance the knowledge storage capabilities
Knowledge dissemination	Retrieving of stored knowledge and making it available for knowledge users. Pay special attention to interaction conditions so that dissemination enhance the company's performance
Knowledge refinement	Improving, transferring and adapting existing knowledge in changed situations or using in a new way (means in a new context)
Knowledge application	Putting knowledge into action and utilizing knowledge to realize organizational outcomes. Application is vital for development of corporate knowledge assets
Knowledge creation	Development and raising new ideas to generate new knowledge that leads to Innovation. Strengthening the knowledge sharing/distribution process

Cf. Bera et al. (2011), p. 883; Chen et al. (2010b), p. 28; Cricelli and Grimaldi (2010), p. 355; Edvardsson and Oskarsson (2011), p. 7; Hawass (2010), p. 409; Hsiao et al. (2011), p. 645; Ribeiro (2008), p. 272; Wang and Ahmed (2005), p. 322

organizational competencies (business processes) reflect the company's efficiency and effectiveness (Table 2.3).[139]

KM processes are dynamic[140] and part of the knowledge value adding process.[141] But the assimilation and integration of newly generated knowledge into organizational routines makes high demands on the company's capabilities. This process depends on the industry, the nature of the company and its strategy.[142]

2.4.2 Knowledge Management Enablers

KM enablers form the infrastructure that influences the KM processes. Wang and Ahmed identified five KM enablers, namely Knowledge System, Knowledge

[139] Cf. Dimitriades (2005), p. 316; Moustaghfir (2008), p. 20.

[140] Cf. Anantatmula (2009), p. 219; Karim et al. (2012), p. 779.

[141] Cf. Wong and Wong (2011), p. 940.

[142] Cf. Wang and Ahmed (2005), p. 322.

Culture, Organizational Memory, Knowledge Sharing and Knowledge Benchmarking, which will be briefly explained in this section.

Managing the Knowledge System Any KM approach cannot only be human-oriented; it must also be technology-oriented. Besides individuals, also technical systems serve as enablers for knowledge management[143] which enables the general knowledge process.[144] The important thing is that access to relevant data is given. Depending on the company's nature, the effort invested into developing knowledge management systems (KMSs) differs considerably. Innovation-driven companies, for instance, invest a lot into their creation processes of tacit knowledge. By contrast, companies with a low innovation output support the storage and retrieval processes by exploiting explicit knowledge.[145] To conclude, KMSs are fundamental in supporting and facilitating KM processes and thus improving the company's capabilities.[146]

Fostering the Knowledge Culture A company's knowledge culture depends on the personal commitment of its employees. If employee commitment is strong, it has a direct effect on the knowledge culture and consequently on KM practices (indirect effect).[147] Furthermore, knowledge culture has a positive and direct effect on training courses (practical knowledge sharing processes), as confirmed by a study recently published by Cardoso et al. in 2012.[148] The considerable impact of culture on KM processes and a company's capabilities was also reconfirmed by a recently published study (2012) by Lee et al.[149]

A well-established knowledge culture facilitates the creation of personal and organizational knowledge. Employees need encouragement to first identify their own work procedures and then share best practices with colleagues for future use in the whole company.[150] A study by Akhavan et al. in 2006 reveals that analyzing the key success factors (KSF) enriches organizational knowledge and creates respected culture.[151]

Developing Organizational Memory Experienced workers are recognized as significant repositories of organizational memory[152] and are also perceived as 'go to' people for valuable advice.[153] Consequently, they play a fundamental role with

[143] Cf. Abdullah et al. (2006), p. 137; Wilde (2011), p. 26.
[144] Cf. Barber et al. (2006), p. 1002; Goodman and Schieman (2010), p. 112.
[145] Cf. Massa and Testa (2011), p. 499.
[146] Cf. Chen et al. (2007), p. 136; Ju et al. (2006), p. 855.
[147] Cf. Machuca and Costa (2012), p. 29; Walczak (2005), p. 330.
[148] Cf. Cardoso et al. (2012), n. p.
[149] Cf. Lee et al. (2012), n. p.
[150] Cf. Fong and Choi (2009), p. 123; Wilde (2011), p. 38.
[151] Cf. Akhavan et al. (2006), p. 97.
[152] Cf. Ebrahimi et al. (2008), p. 124; Kuyken (2012), p. 369; Slagter (2007), p. 82.
[153] Cf. Dunham and Burt (2011), p. 865.

respect to knowledge sharing.[154] The corporate memory, where all of a company's data, information and knowledge are accumulated and stored for future use, plays an important role in improving organizational learning and decision making.[155] An organizational memory is the basis for KM processes, hence must be integrated.[156] Lessons learned as well as experiences need to be secured within the company to facilitate its future learning processes. A company needs to remember what succeeded and what failed.[157]

The organizational performance is closely linked to employee knowledge, skills and competencies.[158] The company's knowledge capital (among others human knowledge) is crucial for its success.[159] It is important to sustain well-established routines and best practices and to capture knowledge in organizational memory for future use.[160]

Promoting Knowledge Sharing Knowledge sharing in general, and especially the way of sharing knowledge implies that adequate competencies of those employees who take part in the knowledge sharing process are a prerequisite for efficient knowledge sharing.[161] This includes, among others, methodological, social, intercultural, professional and personal competencies, cooperation and communication.[162] In order to improve the efficiency of KM processes, it is necessary to enable knowledge sharing by simplifying bureaucratic procedures.[163] A study by Matzler et al. in 2011 demonstrated that personality traits like agreeableness and conscientiousness play a significant role in the knowledge sharing process. While an employee's agreeableness influences the person's commitment to the company, conscientiousness determines the documentation of knowledge.[164] Furthermore, companies need to invest into social capital to facilitate the knowledge flow. Mutual trust e.g. is required to efficiently share the knowledge.[165]

Knowledge Benchmarking A study by Anantatmula and Kanungo (2010) has shown that Knowledge Measurement (benchmarking) is another enabler in

[154] Cf. Groves (2007), p. 239; Harvey (2012), p. 400; Liebowitz et al. (2007), p. 1128.

[155] Cf. Lopez et al. (2005), p. 229.

[156] Cf. Bengoa et al. (2012), p. 336; Jimenez-Jimenez and Sanz-Valle (2013), n. p.

[157] Cf. Abel (2008), p. 15; Labedz et al. (2011), p. 551; Perez-Bustamante (1999), p. 11.

[158] Cf. Ho (2008), p. 1234; Kuo (2011), p. 581; Molina and Callahan (2009), p. 388; Ozcelik et al. (2008), p. 186; Anantatmula (2007), p. 133.

[159] Cf. Cezair (2008), p. 29; Keogh et al. (2005), p. 76.

[160] Cf. Abel (2008), p. 15.

[161] Cf. Jeong et al. (2006), p. 74; Mueller (2012), p. 435; Rompho and Siengthai (2012), p. 494; Wilde (2011), p. 33.

[162] Cf. Szabo and Csepregi (2011), p. 41.

[163] Cf. Pinho et al. (2012), p. 24.

[164] Cf. Matzler et al. (2011), p. 296.

[165] Cf. Casimir et al. (2012), p. 742; Kontinen and Ojala (2012), p. 39; Mu et al. (2008), p. 95.

achieving the desired outcomes of KM. For two reasons: On the one hand, it is important to reach the company's KM goals, but on the other hand it is also essential to assess their contribution to the business performance.[166] Sustainable competitive edge is important, not only in times of fierce competition.[167] Knowledge-based strategic management information systems are used for the purpose of strategic and competitive benchmarking.[168] Benchmarking is necessary to measure the performance resp. knowledge assets of a company in comparison with its competitors. In doing so, knowledge gaps but also best practices can be identified to improve the company's capabilities.[169]

All components in the KM process are closely connected. The enablers are the factors of performance or efficiency that enable a company to achieve its targets.[170]

2.4.3 Organizational Capabilities and Performance

KM processes are the primary activities which are supported by the knowledge value chain activities (infrastructure).[171] Although the processes of the knowledge value chain are linked with organizational performance, they do not automatically lead to performance improvement.[172] KM efforts have to be directed to strengthen the company's capabilities as for example strategic flexibility, product development, organizational learning and responsiveness to customers.[173] All KM processes have to be interlinked and need to be aligned for building improved capabilities.[174] Effective linking and alignment will finally result in the expected performance outcome.[175]

Strategic Flexibility A company's strategies need to be adjusted to environmental changes.[176] The adaptation of strategies, for example in Marketing & Sales, is necessary to develop the required competencies. Integrated strategic management systems (internal) must be flexible so as to match the organizational strategy with the dynamic environment (external).[177] This flexibility shows the company's ability

[166] Cf. Anantatmula and Kanungo (2010), p. 108.
[167] Cf. Lin and Chen (2008), p. 83; Matzler et al. (2010), p. 4.
[168] Cf. Marti (2004), p. 31.
[169] Cf. Helms and Nixon (2010), p. 215.
[170] Cf. Wang and Ahmed (2005), p. 322.
[171] Cf. Lee (2000), p. 785.
[172] Cf. Schiuma (2012), p. 516; Schiuma et al. (2012), p. 4; Wang and Ahmed (2005), p. 323.
[173] Cf. Wang and Ahmed (2005), p. 323.
[174] Cf. Kim and Lee (2010), p. 133; Levy et al. (2010), p. 125; Tseng (2010b), p. 827.
[175] Cf. Wang and Ahmed (2005), p. 323.
[176] Cf. López (2005), p. 661; O'Shannassy (2008), p. 168; Pearl (2007), p. 142.
[177] Cf. de Pablos and Lytras (2008), p. 48.

to respond to changing competitive conditions.[178] In addition, a company needs to consider that flexibility creates opportunities but at the same time also costs.[179]

New Product Development Companies need the ability to capture, reconfigure, apply and distribute knowledge for a successful new product/service development.[180] New business opportunities are significant for a company. Therefore, a company's KM processes must be timed to the pace of the changing environment and to the dynamic knowledge flux.[181] A knowledge strategy for product/service development must accommodate human and technical processes.[182] If necessary, structural changes in order to improve productive knowledge flows are inevitable.[183] A company's learning processes and abilities are vital for product/service development, too. This includes space for innovation.[184]

Organizational Learning KM depends, among others, on the soft skill 'employee learning'. This skill needs to be guided, facilitated and coordinated through the leadership of managers with the help of efficient and well-established processes, eventually resulting in an organization that learns. Thus, the learning organization is a direct result of organizational leadership.[185] "Organizational learning plays an important role for firms entering new international markets. Acquiring knowledge of a foreign market helps firms to decrease uncertainties, misunderstandings and risks, allowing them to plan and achieve project expectations more accurately".[186] As organizational learning is another key factor of competitiveness, it is the management's task but also challenge to manage the company's knowledge effectively.[187]

Effective knowledge management is interlinked with successful quality management of organizational learning, resulting from:

- Reward systems, based on actively involving employees in organizational learning processes and on their knowledge contribution quality[188]

[178] Cf. Combe et al. (2012), p. 1320; Javalgi et al. (2011), p. 171; Rylander and Peppard (2003), p. 321.

[179] Cf. Rundh (2011), p. 330.

[180] Cf. Bettiol et al. (2012), p. 559; Chen et al. (2010a), p. 851; Lawson and Potter (2012), p. 1232; Lettice et al. (2006), p. 217.

[181] Cf. Choy et al. (2006), p. 917.

[182] Cf. Storey and Hull (2010), p. 140.

[183] Cf. Pitt and MacVaugh (2008), p. 113.

[184] Cf. Goffin and Koners (2011), p. 300.

[185] Cf. Crawford (2005), p. 6; Singh (2011), p. 362.

[186] Javernick-Will (2009), p. 783.

[187] Cf. Rhodes et al. (2008), p. 245; Wilde (2011), p. 41.

[188] Cf. Yeo (2006), p. 34.

- The right allocation of knowledge resources (increase of relevance, accuracy and added value)[189]
- Ensuring effective methods for the distribution of knowledge to employees[190]
- Encouraging and promoting information exchange[191]
- Identification of core competencies and business knowledge for supporting these skills[192]
- Continuous removal of outdated, incorrect and/or unnecessary information and knowledge[193]
- Provision of a favorable working climate for open, free and constructive thinking[194]

Responsiveness to Customers Companies need to have core competencies to form the basis for customer benefits and strong customer relationships.[195] Customer relationship management requires different competencies, i.e. knowledge and skills. These include among others sales skills, understanding and anticipating of customer needs and wishes, customer compliant handling skills, customization skills with a given cost budget, creativity, problem-solving and analytical skills. Important to mention are also the ability to create added value for customers and their own company, customer information extraction skills, the ability to measure and manage customer loyalty and customer lifetime value, skills in relationship building, collaboration, effective learning and knowledge transfer.[196]

Customer-oriented processes need to be implemented and established in such a way that an organization achieves a high responsiveness to customers, finally delivering added value to customers.[197]

The knowledge value chain described above is a holistic framework, including fundamental value adding processes for KM, which requires infrastructural support (knowledge enablers).[198] "Furthermore, knowledge performance is not directly enacted but occurs through a mediated process of creating a certain set of capabilities or competences".[199] Only through the interaction of KM enablers and KM processes can organizational capabilities be built to enhance the company's performance outcome.

[189] Cf. Vrincianu et al. (2009), p. 473.
[190] Cf. Falconer (2006), p. 140.
[191] Cf. Swift and Hwang (2012), p. 1.
[192] Cf. Tseng (2010a), p. 269.
[193] Cf. Friedman (2004), p. 120; Mironova (2012), p. 128.
[194] Cf. Vrincianu et al. (2009), p. 473.
[195] Cf. Arnett and Badrinarayanan (2005), p. 329; Griese et al. (2012), p. 468; Nobre (2011), p. 422.
[196] Cf. Liew (2008), p. 131.
[197] Cf. Sing and Koshy (2012), p. 69.
[198] Cf. Sandhawalia and Dalcher (2010), p. 313.
[199] Wang and Ahmed (2005), p. 326.

The previous four sections dealt with soft skills for KM when interacting with each other, within processes and for creating added value. If the management of knowledge runs smoothly, the company benefits. However, what happens when knowledge is lost? Therefore, the next section discusses soft skills and problems for knowledge retention respectively knowledge loss.

2.5 Brain Gain versus Brain Drain

As early as in the late 1960s, companies were facing the problem of knowledge loss. The shortage of brainpower was, among others, due to a shortage of manpower as described by McClelland in his 1969 study 'Making Brainpower Effective'.[200] Currently, the same old problem is coming back to haunt us. We live in a rapidly changing world. This is reflected by the speed of product development, fast-changing market requirements and high staff turnover. The business environment calls for unique solutions, top service and innovative approaches to distinguish the company from its competitors.[201]

2.5.1 Increasing Staff Mobility

Nowadays, employees seldom stay with one company for many years. Long-term or even lifetime employment at one and the same employer has become an exception in today's business environment. Not surprisingly, business fluctuations and economic crises accelerate the brain drain.[202]

The increasing staff mobility requires the codification of knowledge so that tacit knowledge becomes explicit, remains in the company and can be shared, also with new employees joining the company.[203] Even in 'good times', some industries as for example the consultant and IT industry are confronted with high staff turnover and need to manage a dynamic workforce.[204] The ultimate aim of a company, independent of industry or current business circumstances, should therefore be to retain the company's individual and organizational knowledge. In brief: Permanent storage of the acquired knowledge.[205]

Today's 'up or out' policy may also be a reason for the high volatility of staff.[206] The increased staff turnover necessitates a greater awareness of the risk of

[200] Cf. McClelland (1969), p. 147.

[201] Cf. Brandel (2008), p. 28; McNichols (2010), p. 29; Miler (2006), p. 28; Nazari et al. (2011), p. 224; Peet (2012), p. 48.

[202] Cf. Brough et al. (2011), p. 122; Elsner (2002), p. 15; Wilde (2011), p. 16.

[203] Cf. Desouza and Awazu (2006), p. 32; Durst and Wilhelm (2012), p. 637; van Grinsven and Visser (2011), p. 384.

[204] Cf. Cantner et al. (2009), p. 187; Mishra and Bhaskar (2011), p. 356.

[205] Cf. Amankwah-Amoah (2011), p. 360; Andersen (2012), p. 443; Ringel-Bickelmaier and Ringel (2010), p. 525; Swart and Harvey (2011), p. 703.

[206] Cf. Elsner (2002), p. 15.

Table 2.4 Organizational knowledge loss

	Organizational knowledge loss				
			Level of knowledge preservation		
			Individual	Collective	Electronical
Types of knowledge loss	Knowledge gets lost or is deleted due to:		Termination of contract, death spiral, amnesia, (early) retirement	Dissolution of well-established teams, reengineering, outsourcing of functions	Irreversible data loss caused by: viruses, hardware failure, system crashes, insufficient/ missing backups, hackers
	Access not possible	Temporary	Excessive workload, transfer of staff, illness, vacation, inadequate training, work-to-rule	Stigmatization of old routines and habits, collective sabotage	Reversible data loss, temporary system overload, interface problems
		Permanent	Permanent overload, no awareness of the importance of one's own knowledge, mental resignation	Disposal of business units, "brain drain" (migration of teams)	Permanent incompatibility of systems, permanent system overload, wrong codification

Cf. Lehner (2009), p. 77

knowledge loss and calls for a change in the company's knowledge management process.[207] When knowledge is lost, it is hard to replace.[208] By adequately training and promoting their employees, companies can prevent brain drain in the long run.[209]

2.5.2 Organizational Knowledge Loss

All organizations face the potential risk of knowledge loss. Therefore, "... it is necessary to understand the consequences of losing knowledge and the significance of retaining knowledge in organizations".[210] Moreover, it is vital for companies to identify the reasons of knowledge loss so they can actively prevent or counteract the process (Table 2.4).[211]

[207] Cf. Calo (2008), p. 403; Chan and Chao (2008), p. 83; Elsner (2002), p. 15; Haesli and Boxall (2005), p. 1955; Harris (2006), p. 30; Meister (2005), p. 58; Scalzo (2006), p. 60; Stover (2004), p. 168.

[208] Cf. Aiman-Smith et al. (2006), p. 15; Levy (2011), p. 583; Salopek (2005), p. 23; Sharma et al. (2012), p. 38; Xavier (2009), p. 40.

[209] Cf. Boyens (2008), p. 186; Bracci and Vagnoni (2011), p. 7; Chaitovsky (2011), p. 84; Upshur-Myles (2009), p. 18; Whelan and Carcary (2011), p. 680.

[210] Martins and Meyer (2012), p. 77.

[211] Cf. Jafari et al. (2011), p. 315; McQuade et al. (2007), p. 758; Mir et al. (2008), p. 203; O'Donoghue and Croasdell (2009), p. 298.

Organizational knowledge loss is a systemic problem, the causes of which are manifold and involve the entire employment life cycle.[212] Most problem solutions taken by companies are, according to Boath and Smith, 'merely quick fixes'; they argue that comprehensive problems require comprehensive and integrated solutions.[213] These will be explained in the following sub-section.

2.5.3 Death Spiral of a Knowledge Base

The organizational knowledge base is the foundation from which a company-wide learning process can be launched.[214] But companies are confronted with the following dilemma. On the one hand, knowledge must be stored to prevent knowledge loss and have information available for re-use so that companies can survive with minimal effort in a competitive environment.[215] On the other hand, knowledge must be constantly updated to make it applicable.[216] This process includes a distinction between useful and useless knowledge. Selection criteria must be carefully chosen that help define whether knowledge is of value or not. In this constant selection and updating process, also future information needs have to be considered.[217]

To help managers and employees make the 'right' decisions in the daily business, it is necessary to have the relevant information at the right time, in the right place and with the right quality.[218] Since we are facing a flood of information these days, it can be concluded that the selection and updating of information is a complex process. If this process is not handled with care and expertise, knowledge systems are likely to end in a death spiral (Fig. 2.13).

The effective use of a knowledge database helps prevent the death spiral.[219] Knowledge needs to be managed—and this is where the company's managers are called to action.[220]

[212] Cf. Boedker et al. (2004), p. 15; Cuganesan et al. (2007), p. 896; Gendron (2007), p. 2; Sitlington and Marshall (2011), p. 116; Wilde (2011), p. 16; Wong (2005), p. 266.

[213] Cf. Boath and Smith (2004), p. 7.

[214] Cf. Firestone and McElroy (2004), p. 177; Huang (2010), p. 454; Lehner (2009), p. 76; Rolland (2006), p. 896.

[215] Cf. Edvardsson (2008), p. 554; Khamseh and Jolly (2008), p. 41.

[216] Cf. Choy et al. (2003), p. 263; Herrero et al. (2010), p. 26; Seidler-de Alwis and Hartmann (2008), p. 139.

[217] Cf. Cockrell and Stone (2010), p. 841; Gehle (2006), p. 183.

[218] Cf. Call (2005), p. 23; Chilton and Bloodgood (2010), p. 1159.

[219] Cf. Darroch (2005), p. 111.

[220] Cf. Cader (2007), p. 46; Desouza and Awazu (2004), p. 1; Jones et al. (2003), p. 49; Lin (2011), p. 136; Thompson and Cavaleri (2010), p. 50.

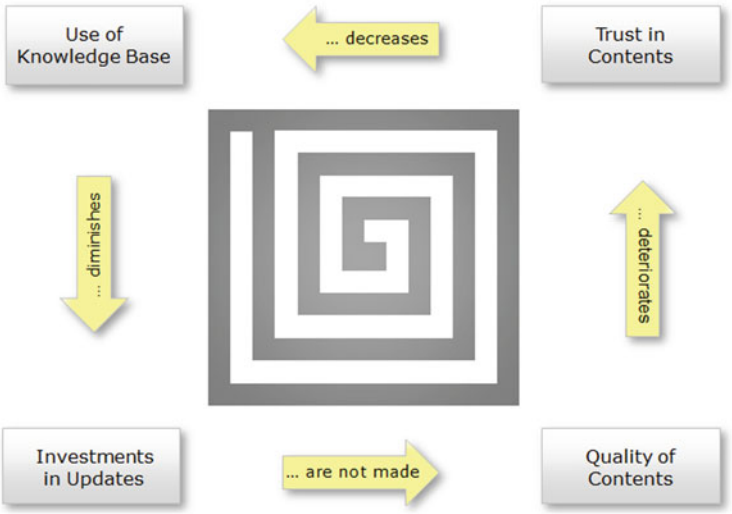

Fig. 2.13 Death spiral of a knowledge base (Cf. Probst et al. 2010, p. 212)

2.5.4 Activities for Avoiding Knowledge Loss

When employees leave the company, the loss of critical knowledge outweighs the concern about potential operational impact or possible cultural/social disruptions.[221] Nevertheless, an investigation conducted by Holtshouse in 2009 shows that many of the surveyed companies have no integrated knowledge retention strategies for retaining their knowledge.[222]

It is therefore vital for the company's human resources, but also for the systems and processes, to implement strategies for the preservation of knowledge.[223] The following table gives an overview of short- and long-term activities meant to retain expertise within the company and combat the risk of brain drain (Table 2.5).[224]

Companies need to minimize knowledge loss by embedding know-how (knowledge and expertise) into standard operating procedures.[225] Our today's business environment therefore calls for an integrated knowledge risk management (KRM).[226]

[221] Cf. Treleaven and Sykes (2005), p. 353.

[222] Cf. Holtshouse (2009), p. 1.

[223] Cf. Basly (2007), p. 154; Bishop (2005), p. 18; Bratianu and Orzea (2012), p. 7; Mutsuddi and Mutsuddi (2008), p. 73.

[224] Cf. Boath and Smith (2004), p. 7.

[225] Cf. Bloodgood (2012), p. 376; Freeze and Kulkarni (2007), p. 103; Hofer-Alfeis (2008), p. 44; Nunes et al. (2006), p. 101.

[226] Cf. Massingham (2010), p. 464.

Table 2.5 Combating brain drain

Impact	Action
Short-term	Integration of mentoring programs
	Implementation of knowledge databases
	Hiring retirees as contractors
Long-term	Workforce planning and organizational design to ensure that structures and processes support career development (identification of vital personnel and succession planning)
	Workforce support and collaboration by using portal and company resource management solutions
	Learning design—focusing on anytime, anywhere learning and focusing on powerful solutions found in today's performance simulation solutions

Cf. Boath and Smith (2004), p. 7

2.6 Summary

As a result of the extensive literature review in this chapter, it was possible to identify seven different factors that have a decisive influence on successful knowledge management. (i) Knowledge loss (brain drain) is a crucial factor that concerns both individuals and organizations. Hence, the resulting need for knowledge preservation is an important issue which the organization as a whole but also the employee in particular must face. The exchange of knowledge is clearly driven by the (ii) motivation of the company's employees. The willingness to share knowledge is influenced by intrinsic, extrinsic and introjected motivation. The use and management of (customer) knowledge is also closely linked with the individual's (iii) intelligence and (iv) competence. A certain degree of intelligence is required to exploit acquired (customer) knowledge for the company's benefit, e.g. when developing marketing strategies or adapting products and services to the customer's needs. Competence, on the other hand, is the ability to deal with customers and their knowledge in such a way as to acquire as much useful knowledge as possible. Other important factors that ensure successful knowledge management include (v) organizational learning and (vi) knowledge culture. Organizational learning, on the one hand, reflects the learning capabilities of a company. Knowledge culture, on the other hand, has a direct influence on the practical knowledge sharing processes. Finally, companies require a high (vii) responsiveness to customers if, for instance, the customer has problems and needs quick support or if knowledge gaps must be closed as fast as possible.

The following chapter deals with soft skills within customer knowledge management processes and emphasizes the importance of customer focus.

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Soft Skills Within Customer Knowledge Management and Their Impact on Customer Focus

3

The objective of this chapter is to give a deeper insight into customer knowledge management, the related processes and required soft skills. For this purpose, reference will be made to several practical research studies. This chapter will also point out why knowledge from, for and about the customer is of such high importance. When explaining the different approaches to CKM, the authors will always establish a relation between the respective approach and the degree of customer focus.

The first section deals with the importance of understanding customers' preferences and buying behavior and how these impact on the company. In brief: it describes customer learning processes which are crucial to the company.

3.1 The 'Customer Knowledge Journey'

In business, it is essential for companies to exactly understand their customers' needs[1] and to understand customers' motivation to buy a product so that they can optimize their customer knowledge processes.[2] The central focus is on achieving both customer satisfaction and corporate goals.[3] To receive relevant information and to process it for future use requires an integrated strategy. Customer knowledge is based on customer information resp. interaction[4] (see also DIKW). It exists in individual employees and/or inside the organization as a whole. This knowledge refers to special customer needs, characteristics and the potential of the customer relationship.[5] If the knowledge of knowledge carriers (systems or individuals) is

[1] Cf. Andreou et al. (2007), p. 58.
[2] Cf. Wang and Ji (2010), p. 173.
[3] Cf. Mithas et al. (2005), p. 201.
[4] Cf. Salojärvi and Sainio (2010), p. 339.
[5] Cf. Javalgi et al. (2006), p. 12.

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Fig. 3.1 Customer knowledge journey (Cf. Roscoe 2001, p. 317)

managed effectively, it facilitates the transfer of customer-specific knowledge.[6] CKM should be able to help achieve the business objectives as described by Roscoe:

- Get more profitable customers
- Retain existing customers
- Get a bigger share of customer spend
- Increase customer margin/value
- Ensure that the customer experience matches the offered products and services[7]

Figure 3.1 visualizes the 'customer knowledge journey', which is a simple but straightforward method to analyze tools and techniques for the sole purpose of learning.

The analysis consist of a four-step approach, including 'customer strategy', 'customer buying process', 'customer learning' and 'actions, tactics and campaigns'. These results can be used for the development of products and services.[8] Further details will be explained in the following sub-sections.

[6] Cf. Nätti et al. (2006), p. 304; Wilde (2011), p. 21.

[7] Cf. Roscoe (2001), p. 314.

[8] Cf. Joshi and Sharma (2005) p. 47.

3.1.1 Development of a Customer-Focused Strategy

A customer-focused strategy includes the use of CRM capabilities in order to develop customer-oriented products and services.[9] It cannot be stressed enough how important the role of internal communication is for the business strategy, especially concerning the company's customers.[10] An example is the online provision of information which is an advantage for the customers due to round-the-clock access (24/7). At the same time the company can reallocate freed-up resources, for example to after-sales activities which focus on developing long-term relationships.[11] Apart from the way of communication, also the creation of a customer-centric culture is essential. Through cross-functional information exchange, it is possible to avoid a lack of communication in the customer relationship chain so that finally a complete picture of the customer is obtained.[12]

The acquisition of customer knowledge from outside the company and the dissemination of this knowledge within the company are key components.[13] The literature refers to these processes as customer-focused knowledge management.[14] CKM forms the basis for the creation of profitable customers and can identify reasons for those customers' loyalty.[15] "Customer loyalty can be increased through the effective management of customer information . . .".[16]

3.1.2 Development of a Customer Buying Process

A company needs the ability to identify and manage customer relationships as they provide the basis of CKM.[17] The CR characteristics, as for example the customer buying behavior, play a pivotal role for the success in the market.[18] In view of the ever-growing demands of the market, customization is key to success. The need for customized products and services is based on the unique needs of the customers and the customers' customers.[19]

Understanding the complexity of the customers' buying behavior requires knowledge and skills.[20] Special KM training courses may support the leverage of

[9] Cf. Shahin and Nikneshan (2008), p. 68.
[10] Cf. Ray et al. (2005), p. 625; Wilde (2011), p. 15.
[11] Cf. Osarenkhoe and Bennani (2007), p. 139.
[12] Cf. Osarenkhoe and Bennani (2007), p. 139.
[13] Cf. Wilde (2011), p. 48.
[14] Cf. Lakshman (2009), p. 338.
[15] Cf. Lesser et al. (2000), p. 34.
[16] Ranjan and Bhatnagar (2011), p. 136.
[17] Cf. Rollins et al. (2011), p. 956.
[18] Cf. Storbacka (2012), p. 1.
[19] Cf. Endo and Kincade (2008), p. 275.
[20] Cf. Madhavaram and Appan (2010), p. 715.

key competencies to address customer needs and understand customer buying intentions.[21] From each step in the customer decision making process relevant information can be deduced. When understanding the buying process of the respective customer, it will be easier for the company to incorporate the customer into the individual steps and convince him to buy other products or to place repeat orders.[22]

3.1.3 Implementation of Actions, Tactics and Campaigns

KM is an important basis for business intelligence (BI) which enables the company to make faster and well-informed decisions by identifying trends, analyzing statistics and examining business characteristics to improve the customer lifetime value.[23] Targeted BI activities help a company in many different ways, including multidimensional analysis, problem solving, forecasting demands, organizational learning performance, data mining and strategic planning.[24]

Information collected during the BI process can only help the company achieve its objectives if it is put into use for strategic decision making.[25] Thus, BI is a process that brings real-time information to centralized knowledge pools (content systems). It supports the exploitation within a business division and also on a cross-divisional basis and helps make 'better' business decisions.[26] Understanding the customer buying process enables the company to make well-informed decisions and to implement targeted actions resp. run profitable campaigns.[27] This presupposes the necessary knowledge excavation that is able to consistently support business decisions.[28]

3.1.4 Customer Learning

Customer knowledge management is, among others, a process of continuous learning which requires constant sensitivity, adjustment and closing of gaps identified between customer needs, their values and the company's offers.[29] Knowledge from and about customers is essential for developing a learning relationship with customers.[30] The customers' preferences and needs should be captured in an

[21] Cf. Kaur et al. (2012), p. 280; Scarisbrick-Hauser (2007), p. 114; Yahya and Goh (2002), p. 457.
[22] Cf. Roscoe (2001), p. 317.
[23] Cf. Gessner and Volonino (2005), p. 66; Herschel and Jones (2005), p. 45.
[24] Cf. Ranjan (2008), p. 461.
[25] Cf. Hall and Lundberg (2010), p. 7.
[26] Cf. Ranjan (2008), p. 461.
[27] Cf. Lariviere et al. (2011), p. 39.
[28] Cf. Zhang et al. (2009), p. 145.
[29] Cf. Lawer and Knox (2006), p. 124.
[30] Cf. Nguyen and Mutum (2012), p. 400; Shieh (2011), p. 791; Wilde (2011), p. 47.

interactive feedback system.[31] Such a feedback mechanism not only needs to be implemented, but more important also to be integrated.[32]

Customer learning requires a customer feedback mechanism and is an important step in an organizational learning process.[33] Especially managers play a key role in the development and facilitation of customer learning processes in their respective business unit. Managers must make sure that this mechanism is accepted by their co-workers and must encourage and reward them for sharing knowledge.[34] Furthermore, the mechanism should provide the opportunity to add local, national, international and contextual knowledge about customers, their needs and how they can be met.[35] This also includes the cross-functional dissemination of best practices.[36]

Companies working closely together with their customers can influence the product development upon customer request in time[37] so as to create value to the customer.[38] Through the continuous process of customer knowledge generation, both the organization and the customer can learn from each other and eventually benefit from the exchange. The distribution of their knowledge assets creates mutual value for knowledge.[39] The acquired knowledge must be made available to support the process of organizational learning and ensure that every individual can benefit from it.[40]

Having gained insight into customers' behavior, the following section now addresses customer knowledge strategies using information provided by customer analysis.

3.2 Customer Knowledge Solution

Within CKM, information needs to be transformed into something meaningful for existing or potential customers.[41] This on the one hand requires the understanding of customer preferences[42] and on the other hand the understanding of which approach best fits the provision of relevant information to the customer.[43] This

[31] Cf. Dessi and Floris (2010), p. 107.

[32] Cf. Caemmerer and Wilson (2010), p. 288.

[33] Cf. Sin et al. (2005), p. 1264.

[34] Cf. Love et al. (2004), p. 113.

[35] Cf. Wilde (2011), p. 47.

[36] Cf. Caemmerer and Wilson (2010), p. 288.

[37] Cf. Dacko et al. (2008), p. 458; Enkel et al. (2005), p. 425.

[38] Cf. Zubac et al. (2010), p. 515.

[39] Cf. Gowan (2005), p. 14; Nätti and Ojasalo (2008), p. 213; Rowley et al. (2007), p. 136; Rowley and Slack (2001), p. 409; Svendsen et al. (2011), p. 518.

[40] Cf. Zack et al. (2009), p. 392.

[41] Cf. Lundkvist and Yakhlef (2004), p. 249; Peng et al. (2009), p. 145.

[42] Cf. Chen and Popovich (2003), p. 672; Smith (2006), p. 88.

[43] Cf. Davenport et al. (2001), p. 64.

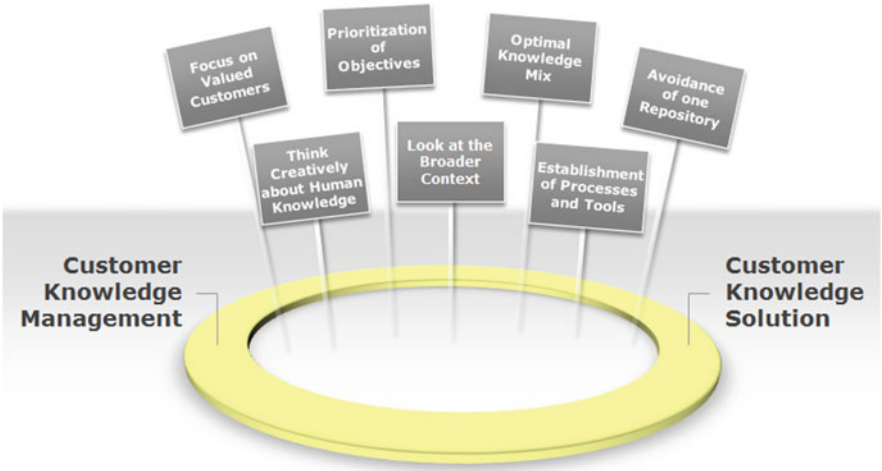

Fig. 3.2 Customer knowledge solution (according to Davenport et al. 2001, p. 63)

includes capturing the customer's psyche.[44] To achieve customer satisfaction, companies have to collect, share and use the 'right' information in order to act in a customer-oriented way.[45] "Insightful companies mix rich customer data with their understanding of the people behind the transaction".[46] An investigation by Davenport et al. of 24 companies identified seven aspects of dealing with CKM which can best be visualized in Figure 3.2.

The following sub-sections describe and explain the above mentioned aspects of the customer knowledge solution.

3.2.1 Focus on Most Valued Customers

CKM activities cause monetary and non-monetary costs like time, effort, energy, distance and conflict. For this reason, it is important to know which customers are worth it.[47] The segmentation of customers into profitability aspects like turnover or gross margin helps the company decide which customers will receive more attention than others.[48] This can be followed by another categorization of customers into

[44] Cf. Davenport et al. (2001), p. 64.
[45] Cf. Krepapa et al. (2003), p. 197; Yavas et al. (2008), p. 275.
[46] Davenport et al. (2001), p. 63.
[47] Cf. Wang and Lo (2004), p. 40.
[48] Cf. Murby (2008), p. 32; Scridon (2008), p. 175.

Fig. 3.3 Customer knowledge management objectives (according to Davenport et al. 2001, p. 66)

those who have already contributed to the company profit for a longer period of time and those who have only recently started to make a contribution.[49]

3.2.2 Prioritization of Objectives

The effectiveness of CKM activities—as measured by business performance—can be enhanced when the customer management objectives are in line with the overall corporate strategies. Based on this insight, the logical next step is a prioritization of the CKM objectives.[50] The company's efficiency is the result of successfully employed business strategies put into proportion to the spent resources.[51] A successful approach to CKM is based on the understanding why companies want knowledge, i.e. a clear definition of CKM objectives (Fig. 3.3).[52]

Segmentation of customers

- Customer segmentation is important in the process of conducting relationship marketing with the purpose of creating higher profit through the targeted (customized) offer of products and services. The segmentation helps determine special strategies in regard to customer behavior.[53]

Prioritization of customers

- It is essential that customers are served in the best possible way. This implies the prioritization of customers and their preferences while operating profitable.[54]

[49] Cf. Epstein et al. (2008), p. 54.
[50] Cf. Mavondo et al. (2005), p. 1235.
[51] Cf. Jiang et al. (2011), p. 58.
[52] Cf. Paasi et al. (2010), p. 629.
[53] Cf. Parish and Holloway (2010), p. 61; Tai and Ho (2010), p. 1385.
[54] Cf. Bucher et al. (2009), p. 418; Davis and Dacin (2011), p. 895.

Knowing what customers want to know

- Utilizing useful knowledge helps the company to fill gaps, e.g. knowledge about markets and customer requirements, which in the long run meets both corporate goals and customer needs.[55]

Understanding of customer's internet behavior

- By sending customized messages via Internet on factors such as previous purchases, the company can monitor and measure the interest of the customer by the clicks on the offered link. This insight helps to understand customer interests and buying behavior.[56]

Creation of customer loyalty

- A company needs to establish a good customer relationship to build long-term customer loyalty and customer satisfaction which will consequently influence the customer's repurchase intentions.[57]

Innovation of existing products

- Product innovation is the outcome of successful research into customer behavior and needs.[58] The company's capabilities must be employed in such a way as to create added value for both customers and company.[59]

Extension of products and services

- The use of knowledge portals helps to analyze the customer buying behavior and shows what customers need. This observation may trigger the development of an added value to the customer, for example through an extended product or service portfolio.[60]

Improvement of success in cross-selling

- Knowledge transfer and absorption of customer knowledge across the whole company provides the sales staff with information they need to do more effective cross-selling.[61]

[55] Cf. Fu et al. (2006), p. 50; Ho (2009), p. 103; Merono-Cerdan et al. (2007), p. 68; Wilde (2011), p. 47.

[56] Cf. Davenport et al. (2001), p. 66.

[57] Cf. Guchait et al. (2011), p. 513; Wang and Wu (2012), p. 58.

[58] Cf. Narver et al. (2004), p. 335.

[59] Cf. Parthasarathy et al. (2011), p. 59.

[60] Cf. He and Li (2010), p. 1366; Ray (2008), p. 156.

[61] Cf. Ahearne et al. (2012), p. 117; Yang et al. (2011), p. 156.

3.2.3 Aim for an Optimal Knowledge Mix

An interesting and customer knowledge oriented approach towards an optimal knowledge mix is the creation of mental maps in which customer thinking is captured.[62] This is necessary for companies if they want to make this (tacit) customer knowledge explicit, operational and transferable for future actions.[63] Depending on the situation, customers may have different perceptions based on their understandings, awareness capabilities, beliefs, values, ideals and experiences.[64] By observing customers in these situations, information can be collected which, in a next step, must be brought into context.[65] Based on these observations, it is possible to develop precise strategies through understanding customers.[66]

Gaining insights into customer needs and understanding buyer behavior calls for mental models that can be used as tools for achieving true customer focus.[67] Customer focus also requires the creation and sharing of information about the customers' customers. This deeper insight can be used to improve, adapt and innovate products and services as well as processes.[68] Insights can be gained through discussions with customers, either face to face or in online forums and through observations. If the capturing and sharing of customer knowledge is done successfully depends on the company's knowledge goals and capabilities.[69]

3.2.4 Avoidance of One Repository for All Data

The general idea of a knowledge repository is the collection of data and information on customers through the contribution of individuals and groups. The re-use of this information should eventually generate cost savings and benefits for the company.[70] There are, however, various types of customers with special characteristics and needs.[71] A tool combining all customer characteristics would lead to a complex database that is difficult to manage. A segmentation of customers and creation of a limited number of different databases may facilitate the handling of customer data.[72] Sales staff access to all relevant customer information on request has to be

[62] Cf. Davenport et al. (2001), p. 65.
[63] Cf. Garcia (2007), p. 23.
[64] Cf. Wiig (2003), p. 6.
[65] Cf. Thakur and Summey (2010), p. 141.
[66] Cf. Lin (2002), p. 339; Wiig (2003), p. 6.
[67] Cf. Spanjol et al. (2011), p. 236.
[68] Cf. Strandvik et al. (2012), p. 137.
[69] Cf. Davenport et al. (2001), p. 65.
[70] Cf. Iyer and Ravindran (2009), p. 412; Watson and Hewett (2006), p. 141.
[71] Cf. Knudsen (2007), p. 121.
[72] Cf. Davenport et al. (2001), p. 67.

ensured.[73] This means that all repositories have to contain knowledge that helps employees to perform their job well, to answers questions and to deliver problem solutions when needed. To this end, a high quality of data must be ensured, i.e. the data must be correct, effective, up-to-date and useful. Redundant data within a tool needs to be rejected.[74]

3.2.5 Think Creatively About Human Knowledge

Not all human knowledge can be coded into a computer program,[75] however, but exactly this (tacit) knowledge can be essential for the company.[76] It is more important to generate value through the use of human knowledge (which is not stored) rather than to create benefit through existing data to improve the individuals' and organizational competencies.[77] Nevertheless, both approaches—whether trying to make the most of transaction data (based on a good master data quality)[78] or managing data from customer encounters (e.g. through 'active learning' and 'semi-supervised learning')[79]—are essential for a company and its customers.

Making the most of transaction data

- Many companies collect too much customer data meaning essential customer information gets lost in the pool of information. An important approach to solving this problem is the definition of which data is required.[80] What is needed is a type of customer knowledge that is useful for developing customer-specific strategies.[81] A customer database supports the staff in managing individual customer relationships.[82] With the help of the right customer data, the following customer-oriented actions can be performed (Table 3.1).

All examples from the table above can be realized through the use of existing customer data. This information is obvious and easy to adapt.

Managing data from customer encounters

- It is important for companies to learn from face-to-face meetings with their customers so that new knowledge can be created.[83] This can take place through

[73] Cf. Boujena et al. (2009), p. 138.
[74] Cf. Durcikova and Gray (2009), p. 82.
[75] Cf. Abdullah et al. (2006), p. 127; Holsapple (2005), p. 47.
[76] Cf. Abdullah et al. (2006), p. 127.
[77] Cf. Lustri et al. (2007), p. 186.
[78] Cf. Haug and Arlbjorn (2011), p. 288.
[79] Cf. Grobelnik and Mladenic (2005), p. 133.
[80] Cf. Rowley (2002), p. 500.
[81] Cf. Powers and Sterling (2008), p. 174.
[82] Cf. Stefanou et al. (2003), p. 617.
[83] Cf. Smith and McKeen (2005), p. 744.

Table 3.1 Examples of using transaction data

CR objectives	Actions
Build relationships	Interview customers to offer the right products and send periodically e-mails with special offers
	Offer products to customers which they might need in addition to the products they already bought
	Send personalized e-mails (address the customers by name)
	Improve product cross-selling by understanding and reaction fast to the customers' needs
	Increase customer loyalty
	Identify unprofitable customers and turn them into desirable customers
Deliver promotional offers	Use past-purchase data and/or further personalized data to deliver promotional offers like vouchers for bought products (e.g. buy a bread and get a price-reduced marmalade)
	Analyze customers' internet clickstream to deliver targeted banner advertising
Create loyalty	Create a positive and lasting impression in order to keep the service level up
	Actively build customer experience management (CEM) to support targeted marketing activities

Davenport et al. (2001), p. 69

customer complaints, sales reports, visit reports or by actively involving customers into processes, e.g. at an early stage of product development, in order to gain a deeper insight into the customer's psyche and real needs. This approach of analyzing information, rather than using transaction data, involves greater effort, but is more likely to pay off since it includes past, present and future information.[84] Valuable customer information as a key to innovative solutions can also be captured from customer comments about market trends through intensive information sharing.[85] "... customer information is the key source to innovative solutions".[86] Thus, customer information from sales people is vital for the company's success: they are the ones with a strong customer focus and intent on improving the sales performance.[87] Among other sources, relevant customer information can also be provided by visit reports.

Capturing the human knowledge about customers is linked with efforts. The creation and collection of customer information therefore requires additional attention.[88] After having collected customer data, an easy-to-access repository (easy data entry and data use) is likely to result in greater proximity to the customer. Furthermore, incentive programs can enhance the commitment of the staff to invest effort in customer information and increase the customer profitability.[89]

[84] Cf. Lau (2011), p. 910.

[85] Cf. Lin et al. (2010), p. 111.

[86] Battor et al. (2008), p. 54.

[87] Cf. Cross et al. (2007), p. 821.

[88] Cf. Pavicic et al. (2011), p. 203; Wilde (2011), p. 1.

[89] Cf. Davenport et al. (2001), p. 70.

Tacit knowledge within a company can contribute to product innovations which, in turn, can lead to strategic benefits.[90] "The higher the degree of tacitness ..., the harder it is to be transferred from one firm to another".[91] Tacit knowledge therefore needs to be made explicit so that it can be used for new product developments. Nevertheless, customer knowledge that exists only in the minds of the company's employees must also be protected so that it can be employed for the company's own purposes.[92]

3.2.6 Look at the Broader Context

The success of a company's (re-)orientation towards customer knowledge management depends on various aspects[93] as Table 3.2 shows.

All tasks mentioned in the context of CK initiatives need to be in line with the overall corporate goals and be able to achieve the CK objectives.[94]

3.2.7 Establishment of Processes and Tools

Managers need to communicate the importance of customer knowledge processes clearly to their team.[95] Linked with the importance is the establishment of organizational processes to ensure the successful management of customer-focused knowledge. Operational aspects of customer knowledge process optimization are "customer meets ... technological networks with customers, internal organizational processes tuned to customers, organizational structuring, customer-focused teams, customer-focused divisions, acquisitions to enhance such information sharing, and cross-functional teams that include customers".[96]

The importance of a CKM tool is scientifically proven. Nevertheless, it must be so designed as to facilitate the achievement of the desired results.[97]

In order to get a deeper insight into matching product/service attributes with customer needs, the following section focus on quality aspects in relation to customer knowledge.

[90] Cf. Venkitachalam and Busch (2012), p. 359.
[91] Cavusgil et al. (2003), p. 9.
[92] Cf. Goffin et al. (2010), p. 39.
[93] Cf. Tohidinia and Mosakhani (2010), p. 611.
[94] Cf. Davenport et al. (2001), p. 63.
[95] Cf. Jayachandran et al. (2004), p. 219.
[96] Lakshman (2007), p. 51.
[97] Cf. Davenport et al. (2001), p. 65.

Table 3.2 Customer knowledge initiatives

Initiative	Action	Task
Establish new roles	Implement a chief knowledge officer (CKO)	Improve customer relations
		Promote knowledge management practices
		Enhance customer capital
		Support supplier–customer dialogue
		Install learning organization practices (studying what went wrong and right in customer case studies)
		Identify different customer knowledge needs and gaps
		Support communication and not only the use of customer knowledge databases (e.g. face-to-face training)
		Plan strategically knowledge audits
Move toward the customer-centric culture	Contribution to customer focus management (CFM)	Customize the company's knowledge database
		Provide specific customer-centric products and services
		(Re-) Configure resources (employees and systems)
		Integrate customer-centric attributes in project teams by knowledge network concepts (business communication and collaboration culture)
		Understand the influence of knowledge integration enablers in customer-centric development
		Share customer-centric development experiences
		Aiming to improve the level of customer satisfaction
		Pursuing customer-centric marketing activities
Carefully Restructure	Reorganization of the Company's Structure	Reorganize BUs from product groups to customer segments
		Aim for a deeper meaning of customer needs
		Make clear what should be delivered to the customer (benefits)
		Develop valuable generalized solutions for 'all' customers
		Develop effective approaches of customer types and groups

Cf. Brehmer and Rehme (2009), p. 961; Chakravorti (2011), p. 123; Davenport et al. (2001), p. 68; Navarro et al. (2010), p. 389; Palmberg (2010), p. 107; Rogers et al. (2011), p. 9; Theo and Pan (2009), p. 4

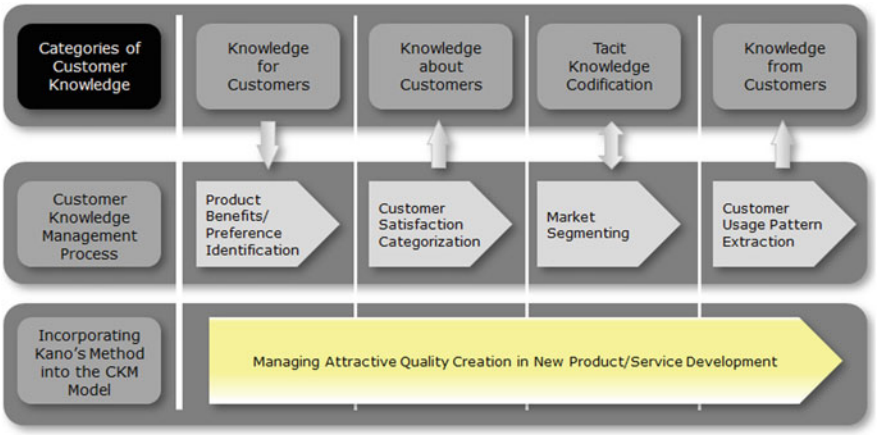

Fig. 3.4 The Kano-CKM model (Cf. Chen and Su 2006, p. 598)

3.3 The Kano-CKM Model for Customer Knowledge Discovery

CKM is a combination of systems, structures (processes) and human oriented approaches for using synergy potential.[98] Only if all areas managed successfully, CKM take place and relevant knowledge be shared effectively.[99] Even if a company is aware of its need for customer knowledge, the efficiency of CKM must be improved continuously.[100] The following aspects play an important role for the optimal extraction of knowledge from, for and about the customer:

- Understanding the cognitive and social psychological factors of knowledge processes[101]
- Impact on the stages and intensity of the interplay between customer knowledge and other components inside the company and the external environment[102]

Based on these two important aspects, an approach is proposed that combines the psychology-based customer satisfaction methodology (Kano's Method) with a CKM Model (knowledge from, for and about the customer) (Fig. 3.4).[103] The benefits that can be derived from combining both models will be outlined in the next sections. By linking both models, it is possible to gain deeper insights into customer needs, leading eventually to a better understanding of customer preferences. This, in turn, allows the targeted development of products and services.

[98] Cf. Riege (2005), p. 18.
[99] Cf. Hansemark and Albinsson (2004), p. 40; Riege (2005), p. 18.
[100] Cf. Chen and Su (2006), p. 590.
[101] Cf. Qiu et al. (2008), p. 156.
[102] Cf. Belkahla and Triki (2011), p. 648.
[103] Cf. Chen and Su (2006), p. 590.

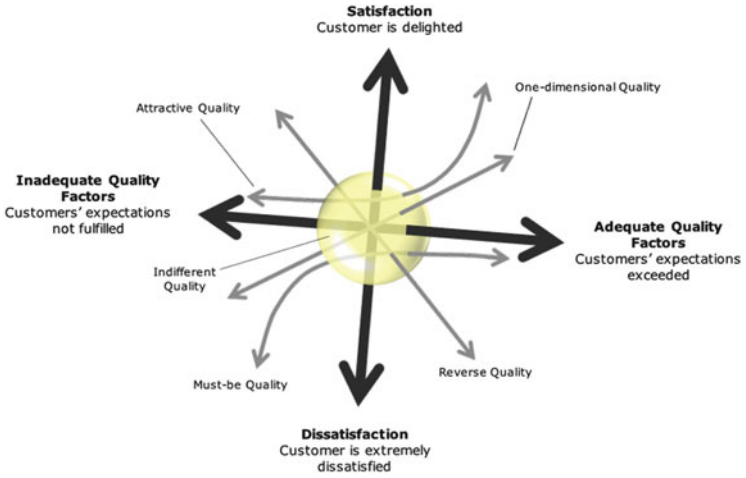

Fig. 3.5 Kano's model of quality attributes (Cf. Chen and Lee 2009, p. 1672; Robinson 2009, p. 24; according to Kano et al. 1984, p. 39)

The ultimate aim of using knowledge is to create benefits (e.g. innovations) for the satisfaction of customer needs[104] and to ensure the quality of innovative products.[105] This is why the input from the different customer knowledge categories has a decisive influence on a company's success.

3.3.1 Kano's Quality Attributes

Before explaining the new Kano-CKM Model, a description of the original Kano Model is given to better understand the combination of both.

"The Kano methodology is originally a tool for surveying customer satisfaction with quality attributes . . .".[106] Kano et al. developed a two-dimensional quality model, including a classification scheme that is spread over five quality dimensions.[107] The five categories are (1) attractive quality attributes, (2) must-be quality attributes, (3) one-dimensional quality attributes, (4) indifferent quality attributes, and (5) reverse quality attributes[108] as Figure 3.5 shows.

[104] Cf. du Plessis (2007), p. 20; Wilde (2011), p. 50.
[105] Cf. Hung et al. (2010), p. 425.
[106] Lee et al. (2011), p. 180.
[107] Cf. Chen and Lee (2009), p. 1139.
[108] Cf. Yang (2011) p. 86.

Attractive quality

- The offered product functionality leads, without doubt, to customer satisfaction. If the attribute is there, it causes satisfaction but if absent, it does not cause dissatisfaction.[109]

One-dimensional quality

- One-dimensional quality elements lead to satisfaction if the customer's expectations and needs are fulfilled[110] and to dissatisfaction if they are not fulfilled.[111] These quality elements are recognized by customers as attributes that characterize an organization and in which it competes with other organizations in order to win customers. "Furthermore, a one-dimensional attribute matures over time and many people become aware of its value".[112]

Must-be quality

- This quality category describes "an attribute, whose absence will result in customer dissatisfaction, but whose presence does not significantly contribute to customer satisfaction".[113] Consequently, must-be attributes have less impact on satisfaction but are recognized as a minimum threshold level of quality. They can also be defined as a necessary quality requirement.[114]

Indifferent quality

- The term 'indifferent' refers to attributes that are neither good nor bad. Consequently, these elements do neither result in customer satisfaction nor in dissatisfaction.[115]

Reverse quality

- Reverse quality elements are those whose presence leads to customer dissatisfaction while the absence or non-fulfillment of functions results in customer satisfaction. In other words: The higher the level of fulfillment for an attribute, the higher the dissatisfaction of the customer.[116]

Customer satisfaction depends on the fulfillment of customer requirements.[117] The existence of quality attributes for products and services reflects the degree of customer satisfaction.[118] However, customer requirements change over time due to

[109] Cf. Rejeb et al. (2011), p. 216.
[110] Cf. Löfgren et al. (2011), p. 238.
[111] Cf. Lilja and Wiklund (2006), p. 58.
[112] Löfgren et al. (2011), p. 238.
[113] Yang (2005), p. 1129.
[114] Cf. Mikulic and Prebezac (2011), p. 46.
[115] Cf. Witell and Löfgren (2007), p. 57.
[116] Cf. Hansemark and Albinsson (2004), p. 40; Nilsson-Witell and Fundin (2005), p. 152.
[117] Cf. Torres-Moraga et al. (2008), p. 312.
[118] Cf. Sharma and Gadenne (2008), p. 303; Williams et al. (2006), p. 1273.

substitute products or improved competitor products. Therefore, it is not only necessary for companies to identify the currently important attributes, but also to continuously follow up on changing customer requirements in order to maintain resp. enhance their competitive position.[119]

The following sub-sections continue the explanation of Fig. 3.4—the Kano-CKM Model.

3.3.2 Product Benefits/Preference Identification

This sub-section discusses the category 'knowledge for the customer'. A differentiation strategy can lead to increased customer benefits when the product/service development is strongly oriented towards customer needs.[120] Market orientation means customer-oriented thinking, market analysis and understanding[121] and plays an important role especially in preference identification.[122] A company needs to capture the benefits through differentiation for competitive strategies and thus for developing customer-oriented products and services to improve the company's performance.[123]

Involving the customer in the new product concept provides useful internal knowledge with cognitive and emotional benefits for the customer.[124] If a company is able to identify customer needs and gain insights into customer preferences, this knowledge can be translated into new product/service developments that are very likely to satisfy the customer requirements better than competitors.[125] When transferring the identified preferences into a demographic structure of customers, this will help companies to learn about the different needs of their customers. Effective customer clustering facilitates and structures the learning process within a company.[126]

After formulating the new product concept, the company offers product attributes that the customer perceives as added value.[127] Through the response to or interaction with customers regarding the new product concept, a company can

[119] Cf. Tontini (2007), p. 600.

[120] Cf. Gallarza et al. (2011), p. 179; Massey et al. (2002), p. 37; Wilde (2011), p. 49.

[121] Cf. Noble et al. (2002), p. 25.

[122] Cf. Homburg et al. (2011), p. 64; Hunt and Lambe (2000), p. 25; Kim and Atuahene-Gima (2010), p. 519.

[123] Cf. Hennig-Thurau (2000), p. 55; Voola and O'Cass (2010), p. 245.

[124] Cf. Kyriakopoulos and de Ruyter (2004), p. 1469.

[125] Cf. Bonner and Walker (2004), p. 155; Marsh and Stock (2006), p. 425; Roberts and Palmer (2012), p. 199.

[126] Cf. Yan et al. (2007), p. 39.

[127] Cf. Moon et al. (2009), p. 413.

collect useful data regarding customer preferences and can proceed with the psychology-based Kano model.

3.3.3 Customer Satisfaction Categorization

In the following sub-section, 'knowledge about the customer' is outlined in detail. Relevant information about the market and customer requirements can be gathered by market observations, market analyses (environmental scanning)[128] and through interaction (cooperation) with customers.[129] Market research provides information about attitudes, preferences and perceived value-add[130] and is an essential step towards customer satisfaction.[131] For this purpose, a questionnaire can be used which is based on the Kano-CKM model. This combination of Kano's questionnaire (human data) and the conventional instrument to collect primary data supports the identification and understanding of the customer and the customers' degree of preference of product features.[132] Identification of the preference is an important step towards satisfying customer requirements.[133] The results of such a questionnaire or survey results form the basis for Kano's method. Customer satisfaction is assessed based on elements described in Sect. 3.3.1. Within this step, a "company acquires knowledge about customers by understanding customers' background, expectation and preference on product attributes".[134]

3.3.4 Market Segmenting

This sub-section focuses on 'tacit knowledge codification'. Usually, customers can be clustered by geographic, demographic, psychographic and behavioral attributes. After clustering the customers, it is possible to identify new products or services that better address the needs of different customer segments.[135] The analysis of customer behavior is an important precondition for the customer/market segmentation.[136] "Customer behavior modeling is a process that includes segmenting target customer groups, establishing criteria for measuring behavior, monitoring and tracking behavior changes, generating behavior patterns, and predicting possible

[128] Cf. Armario et al. (2008), p. 485; Griffiths et al. (2001), p. 63.
[129] Cf. Jenssen and Nybakk (2009), p. 441; Slater (2008), p. 46; Wilde (2011), p. 47.
[130] Cf. Bindroo et al. (2012), p. 22; Cegarra-Navarro and Sanchez-Polo (2008), p. 1136.
[131] Cf. Alhabeeb (2007), p. 611; Crie and Micheaux (2006), p. 282.
[132] Cf. Chen and Su (2006), p. 589.
[133] Cf. Perez-Lopez and Alegre (2012), p. 648.
[134] Chen and Su (2006), p. 598.
[135] Cf. MacMillan and Selden (2008), p. 111; Rastogi (2003), p. 245.
[136] Cf. Wang and Lo (2003), p. 483.

future behavior".[137] Segmentation is a process which divides customers into homogeneous groups.[138] After segmentation, the company's products, services and activities are matched/adapted to each target group.[139] Furthermore, marketing efforts will be more target-oriented. For this purpose, customer profiling is necessary to select the 'right' strategy—an important step towards customer focus development.[140]

With the help of customer preference identification and customer satisfaction categorization, appropriate customer segments can be applied. Using the knowledge for and about the customer enables the company to identify characteristics for each customer group.[141] By analyzing customers based on certain product features, it is possible to elicit clues that lead to satisfaction in each segment. Based on Kano's method, it is possible to determine quality aspects perceived by the customer. The identified tacit customer knowledge finally needs to be transformed or codified into explicit customer knowledge for each target group (segment).[142]

3.3.5 Customer Usage Pattern Extraction

'Knowledge from customers' helps to identify preferences which enables companies to determine the requested level of quality and to eliminate, or at least minimize, the risk that new products or services will not be accepted by the market.[143] Additional features, product modifications or improved quality are a plus that offer a value-add to existing patterns.[144]

Customer satisfaction can be achieved, among others, through offering personalized/customized products and services, thus creating added value.[145] Leveraging customer knowledge is necessary for rapidly responding to changes in customer demands.[146] Real customer focus means that the expectations and needs of each segment of product customization must be taken into account. The analysis of customer patterns makes it easier for companies to deliver value offerings for individual customer segments.[147]

[137] Xu and Walton (2005), p. 965.

[138] Cf. Noori and Salimi (2005), p. 230; Shanks et al. (2009), p. 271.

[139] Cf. Bardakci and Whitelock (2004), p. 1397; Santala and Parvinen (2007), p. 587; Shanks et al. (2009), p. 271.

[140] Cf. Reijonen and Laukkanen (2010), p. 115.

[141] Cf. Chen and Su (2006), p. 599; Wilde (2011), p. 47; Zeithaml et al. (2001), p. 120.

[142] Cf. Chen and Su (2006), p. 599.

[143] Cf. Antioco and Klijnen (2010), p. 1700; Wilde (2011), p. 47.

[144] Cf. Woiceshyn and Falkenberg (2008), p. 89.

[145] Cf. Islam et al. (2012), p. 137; Khalifa et al. (2008), p. 119; Yim et al. (2004), p. 263.

[146] Cf. Fei et al. (2011), p. 538; Stewart and Waddell (2008), p. 987.

[147] Cf. Akroush et al. (2011), p. 158; Tanner et al. (2005), p. 176.

The knowledge from the customers enables companies to develop appropriate strategies and take the right decisions in product development and marketing.[148] By extracting information from a customer usage pattern, products with desirable quality/features can be developed.[149] Additionally, collected customer usage patterns can be exploited for other business units of the company.[150]

3.3.6 Interaction of Customer Knowledge and Quality Attributes

Finally, this sub-section deals with the management of quality aspects in new product/service development. Already in 1971, it had been suggested that the increasing incorporation of customer knowledge is an indispensable strategy if companies want to develop new products.[151] A simple fact: The more information a company has, the higher the probability of offering products and services with the requested quality attributes.[152] And: The more information/experience a company gains from direct exchanges with customers, the more successful the learning process, which can then be capitalized by providing the customer with added value rather than delivering only the requested attributes.[153]

A study of Tuu et al. in 2011 confirmed that customer management (including customer knowledge and customer relationship processes) ensures customer satisfaction. Only if customer risks are perceived and managed by incorporating customer knowledge and offering the required quality attributes, these perils can be reduced and a quality guarantee can be given to customers. Dealing with customer risks therefore means getting an understanding of customer knowledge which reduces threats and improves the quality features of products and services.[154]

However, involving the customer and making targeted use of customer knowledge not only helps to meet customer expectations. It also facilitates the company's innovation process.[155] In addition, CKM supports the company not only in meeting the requested quality attributes of today, but also those of tomorrow.

[148] Cf. Chong et al. (2010), p. 463; Wilde (2011), p. 47.
[149] Cf. Desouza et al. (2008), p. 35.
[150] Cf. Chen and Su (2006), p. 599.
[151] Cf. Roselius (1971), p. 56.
[152] Cf. Gunasekaran and Ngai (2007), p. 2391.
[153] Cf. Roselius (1971), p. 56.
[154] Cf. Tuu et al. (2011), p. 363.
[155] Cf. Noordhoff et al. (2011), p. 34.

3.4 Summary

This chapter dealt with the cognitive and psychological factors of managing customers and their knowledge. It was possible to identify two soft skills, namely (1) customer learning and (2) customer involvement. Learning from customers requires feedback from customers which must be further processed in the company. The information acquired in this way can be employed to anticipate future demands and thus to better fulfill the customer's present and future needs and wishes. In order to learn from customers, it is necessary to build up a learning relationship with customers. This, in turn, necessitates the active involvement of customers in the company processes. Only when customers and their knowledge are included in the development of strategies, products and services can the company's activities and operations be successful. In the long run, both parties will benefit and a win-win situation will be created—for the customers and the company itself.

In this chapter, it became evident how complex and comprehensive customer knowledge management is. The importance of the role of customer focus was outlined, as well as the impact of customer focus on the success or failure of an organization. This aspect will be further elucidated in Sect. 4.4.

In order to provide scientific evidence for these findings, the following chapter will be dedicated to the practical part of the book. This practical part will contain an analysis of those soft skills that are instrumental to ensuring a company's customer focus under consideration of different company characteristics.

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Analysis and Evidence

4

This chapter contains the actual study. It looks into the soft skills required by companies that want to improve their knowledge management process by giving it a stronger customer focus. When the investigation started, there was no study available that combined soft skills, customer knowledge and customer focus. Apart from presenting the result of the investigation, this chapter also provides detailed information on its methodology and execution in order to allow the reader a better overview of the course of the study.

4.1 Attributes and Inferences of Soft Skills

The previous chapters described several (customer) knowledge management processes. The models for the management of these processes frequently refer to soft skills as they play an important role and interact with all other aspects of the model. The general significance of soft skills when dealing with customers has already been outlined[1] and proven in the introductory chapter of this book.

The soft skills identified in the course of this research are essential for the successful handling of customer knowledge and can be divided into interpersonal skills[2] and organizational skills.[3] Interpersonal soft skills include (i) responsiveness to customers, (ii) intelligence, (iii) motivation and (iv) competence, while organizational soft skills comprise (v) knowledge culture, (vi) customer learning, (vii) organizational learning and (viii) customer involvement. One soft skill is neither a personal nor an organizational skill: (ix) brain gain is a hybrid that concerns both employees and companies.

[1] Cf. Robles (2012), p. 458.

[2] Cf. Barnes et al. (2013), p. 101; Barnes et al. (2011), p. 359; DeKay (2012), p. 449; i4cp (2009a), p. 15; Robles (2012), p. 453; Wilde (2011), p. 19.

[3] Cf. Ellonen et al. (2011), p. 459; Kim and Atuahene-Gima (2010), p. 519; Pranic and Roehl (2012), p. 246; Robles (2012), p. 453; Wilde (2011), p. 19.

S. Sain and S. Wilde, *Customer Knowledge Management*, Management for Professionals,
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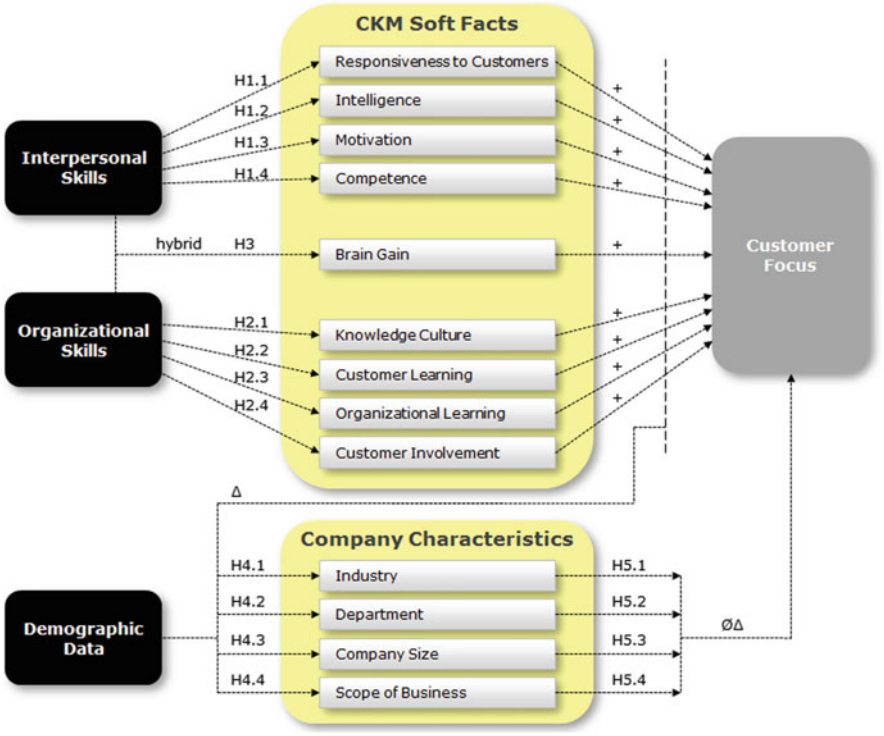

Fig. 4.1 Theoretical framework and hypotheses

The following hypotheses serve as empirical framework for the later statistical analysis. Based on the review of relevant literature, it is assumed that the above-mentioned soft skills are drivers for the successful management of customer knowledge and are instrumental in increasing the company's customer focus. Hence, it is hypothesized that personal and organizational soft skills improve the customer focus within customer knowledge management. If the assumptions can be confirmed, it remains to be clarified to which extent these soft skills influence the company's customer focus. This will be investigated by means of a statistical analysis.

Figure 4.1 visualizes the theoretical framework of the analysis. First, it positions the interpersonal and organizational skills in relation to customer focus (H1–H3) and emphasizes the relationship as positive (+). Secondly, the difference (Δ) of the individual soft skills with respect to company characteristics is shown. Finally, the non-difference (ØΔ) of demographic data in relation to customer focus is demonstrated.

On the following pages, the above soft skills will be once more briefly explained before deriving the hypotheses.

4.1.1 Personal Soft Skills

Soft Skill (i)—Responsiveness to Customers Although the majority of recent research regards responsiveness to customers as an organizational skill, in daily routine it can be considered to be predominantly an internal or external sales person who is in contact with the customer. Responsiveness to customers is therefore not a capability required by the company as a whole, but rather a soft skill needed by the company's employees to establish a long-standing customer relationship, to solve customer problems (see Sect. 2.4.3) or to increase the customer focus.

Soft Skill (ii)—Intelligence Intelligence is indispensable for good decision making, which is based on experience and cognitive skills. An intelligent person is expected to consider the future and develop effective strategies that ensure the company's survival (see Sect. 2.1.5). Intelligence is therefore an essential trait not only for the company where the person is employed, but also for the company's customers who are looking for a long-standing relationship.

Soft Skill (iii)—Motivation Motivation is a key factor for knowledge sharing. The dissemination of customer knowledge strongly depends on how motivated an individual is: The higher the motivation, the higher the quality of knowledge that will be passed on. Naturally, companies need to create a climate where this motivation can thrive. However, motivation works both ways: particularly in cases where customers need solutions or want to speed up innovation (see Sect. 2.2.2), they are likely to be motivated to share knowledge.

Soft Skill (iv)—Competence A customer expects a competent employee to provide best possible advice and support. Competence is a person's know-how that is needed to transform knowledge into skills. Since competence has a direct impact on the job performance, it is in the interest of both parties to have competent contact persons. The customer benefits from the employee's competence, and this raises the employee's productivity and profitability for the company. Furthermore, the company should not neglect the aspect of knowledge transfer among competent staff (see Sects. 2.2.3 and 2.4.2).

There are surely more soft skills, however, it is assumed that the four interpersonal skills mentioned above play a decisive role for the existence and quality of customer focus. Therefore, it is hypothesized that:

- H1.1 Responsiveness to customers has a positive effect on customer focus.
- H1.2 Intelligence has a positive effect on customer focus.
- H1.3 Motivation has a positive effect on customer focus.
- H1.4 Competence has a positive effect on customer focus.

To sum up, it is hypothesized that these four soft skills of individuals have an important positive impact on a company's orientation towards customer needs.

4.1.2 Organizational Soft Skills

Soft Skill (v)—Knowledge Culture A certain type of knowledge culture exists in every organization. However, this may be more or less strongly developed. The internal and external transfer of knowledge has to be facilitated for the company staff. Barriers that hinder the smooth flow of information exchange have to be eliminated. The knowledge culture lived inside an organization directly reflects itself in the knowledge management and sharing practices. The identification and exchange of best practices helps both company and customers to develop new products and optimize existing processes (see Sect. 2.4.2).

Soft Skill (vi)—Customer Learning In order to ensure a better customer understanding, it is important to get feedback and analyze the customer's psyche and behavior. After that, the company must process these insights internally so that conclusions can be drawn, e.g. concerning order patterns. The continuous internal processing of customer information, e.g. by disseminating customer knowledge within different BUs, is necessary to develop customer-oriented strategies and an important process to ensure customer learning. Customer learning is therefore an essential component of the customer knowledge process and of customer-focused activities (see Sect. 3.1.4).

Soft Skill (vii)—Organizational Learning The analysis of information on, for and about customers is able to yield important insights into actions and reactions, e.g. when launching new products. Being aware of the effects that different strategies can have on the customer buying behavior is crucial when developing new products and services, tapping into new markets, or modifying existing products/services and offering them to new customers. Subsequently, organizations need to have the appropriate skills for managing customer knowledge in such a way that learning is ensured across the organization. This is important for ensuring the company's long-term success (see Sects. 2.3.2, 2.4.2 and 2.4.3).

Soft Skill (viii)—Customer Involvement Involving customers into product or service developments is the best way to meet specific customer needs as they can be directly incorporated into the development. Customer involvement must be accompanied by an intensive exchange of knowledge. This close cooperation between customer and supplier is beneficial for both parties involved (see Sects. 3.2.5 and 3.3.6).

It can be assumed that the above-mentioned organizational skills have a direct influence on a company's customer focus. Hence, the following hypotheses are presented:

- H2.1 Knowledge culture has a positive effect on customer focus.
  H2.2 Customer learning has a positive effect on customer focus.
  H2.3 Organizational learning has a positive effect on customer focus.
  H2.4 Customer involvement has a positive effect on customer focus.

In brief, it is claimed that organizational soft skills play a significant role in the company's interaction with customers and orientation towards customers' needs.

4.1.3 Hybrid Soft Skill (Personal and Organizational Skill)

Soft Skill (ix)—Brain Gain Brain drain and brain gain are closely related. A staff member who makes no active and repeated use of the acquired knowledge will gradually forget what he once learned. If he does not store specific customer knowledge in writing or otherwise, he will have difficulties to retrieve this knowledge, and eventually it will be lost.

An organization that fails to create a sound basis for data storage faces the same problem. If, for instance, knowledge about customer processes, preferences or demands is not captured inside the company, this useful knowledge will get lost. And even if this knowledge is stored inside the company, it must be constantly updated to ensure that the company as a whole and the individual employee has direct access to current knowledge if and when it is needed (see Sects. 2.3.7 and 2.5).

The two above-mentioned sections address the danger of losing customer knowledge. The following hypothesis can be derived:

- H3 Brain gain has a positive effect on customer focus.

To sum up, it is claimed that the retention of knowledge in CKM has a substantial impact on the company's customer focus.

4.1.4 Soft Skills in Different Company Characteristics

Despite the well-known benefits of customer knowledge management, it is assumed that the different personal and organizational soft skills within CKM still differ from each other with respect to demographic factors. By extending the investigation and including company characteristics, it is hypothesized that:

- H4 The soft skills required for successful CKM are developed to a different degree, independent of the company's (H4.1) industry, (H4.2) department, (H4.3) size or (H4.4) scope of business.

4.1.5 Company Characteristics and Their Customer Focus

Finally, it is assumed that even though the demographic data may differ, this does not have a bearing on a company's customer focus. In other words: The relationship

between different company characteristics and customer focus does not vary. Consequently, the final hypothesis to be evaluated is:

- H5 Company characteristics ((H5.1) industry, (H5.2) department, (H5.3) size or (H5.4) scope of business) do not have a bearing on customer focus.

Again, Fig. 4.1 clearly shows the reference points of each hypothesis.

4.2 Methods of Analysis and Approaches

4.2.1 Design of Analysis and Concepts of Customer-Based KM

The investigation carried out for the purpose of this research is exclusively based on *primary data*. This primary data was gathered with the help of a questionnaire. Due to the fact that there was no previous research to build on, it was indispensable to start with a collection of raw data.[4] The data was acquired by means of a *computer-delivered*, *self-administrated* questionnaire and the results were measured by applying an *ex-post-facto design*.[5] The data was acquired by a *cross-sectional field survey*.[6]

The hypotheses formulated in Sect. 4.1 serve as a basis for the statistical analysis. The topic to be investigated is 'the importance of soft skills in a customer knowledge management process'. The survey consists of several multiple choice questions and one open question. The research is classified as *quantitative* and follows a *deductive approach*.[7] The variables of the hypotheses serve as reference points. In the analysis, they are expressed in relation to each other and must therefore be classified as relational. To sum up, it can be established that this investigation is an *exploratory study*[8] delivering findings for the relatively young research topic 'Customer Knowledge Management'. Being an *empirical analysis*, this investigation may pave the way for future research.

4.2.2 Sample

The practical part of this research is based on a cooperation with the consulting firm 'Die PRO:FIT.MACHER' (http://www.die-pro-fit-macher.eu/). The firm is located in Cologne, Germany, and has specialized in customer management. Customer focus in the development of strategies jointly with the client is their first priority.

[4] Cf. Blumberg et al. (2008), p. 202; Wiid and Diggines (2009), p. 84.

[5] Cf. Blumberg et al. (2008), p. 71; Cohen et al. (2007), p. 270.

[6] Cf. Herbst and Coldwell (2004), p. 37; Murthy and Bhojanna (2009), p. 60.

[7] Cf. Bryman and Bell (2007), p. 11; Curwin and Slater (2008), p. 15.

[8] Cf. Kothari (2009), p. 35.

Thanks to many years of practical experience, broad expertise gained in numerous projects and a personal passion for the topic of customer management, the two managing directors are perfectly prepared as partners for this investigation.

This study aims at revealing new insights gained in the field of customer knowledge management. It does not build on any previous study conducted in this field. In particular, it focuses on the soft skills required in the CKM process to ensure customer focus. The significance of the individual soft skills—both personal and organizational—is determined by people whose day-to-day business involves the practical use of such skills. The data collection is based on the principles described below.

To comply with the relevant *ethical standards* (anonymity, confidentiality), the questionnaire was checked and released before its publication. The questionnaire was distributed without targeting a specific type of company, line of business, employee function or position in the organization. The only limiting factor was the use of the German language—an issue that will be dealt with in the next section. The survey was opened in 2012 and closed in 2013. A graphic display of the demographic structure of the respondents will be shown in Sect. 4.3.

4.2.3 Design of the Questionnaire

The questionnaire was developed in German and English, but only distributed in its German version. The survey and the resulting data thus focus on the countries Germany, Austria and Switzerland. However, German-speaking participants from other countries also had access to this survey. As mentioned above, the survey consists of a self-administrated and computer-delivered questionnaire designed for the purpose of collecting primary data.

The questionnaire itself comprises the following five sections:

(A) (Inter)Personal soft skills of customer knowledge management (Appendix A)
(B) Organizational soft skills of customer knowledge management (Appendix B)
(C) Knowledge loss, customer focus and customer contact (Appendix C)
(D) Demographic data (Appendix D)
(E) Contact data for sending the survey results

The participants are asked to answer the questions under consideration of their current job situation.[9] At the beginning of the questionnaire, the interviewees indicate whether they have or don't have customer contact in their daily work. This opening question is directly followed by part A, dealing with the (inter) personal soft skills (i) responsiveness to customers, (ii) intelligence, (iii) motivation and (iv) competence. Part B is dedicated to the organizational soft skills (v) knowledge culture, (vi) customer learning, (vii) organizational learning and (viii) customer involvement. Part C addresses the issue of (ix) brain gain as well as the participant's resp. his company's customer focus. Part D enquires about the

[9] Cf. Blumberg et al. (2008), p. 508.

participant's background and deals with sensitive personal data. For this reason, it was deliberately positioned at the end of the questionnaire. By this time, the participants have hopefully established a certain commitment to the survey and are more inclined to reveal sensitive information.[10] This information is essential in order to establish a relationship and interpret the results from parts A, B and C. Moreover, the collected company and personal data serve as a basis for a detailed empirical analysis where a relationship is established between the characteristics and the aforementioned soft skills. The final part E asks for the participants' contact data so that the survey results can be made available to them on request.[11] The questionnaire also includes one open question which—according to a *free-response strategy*—invites comments and suggestions for future research topics.[12] At the end of the questionnaire, completeness is confirmed and all participants are thanked for their contribution and support. In addition, they are kindly asked to forward the survey link to interested parties.

The questionnaire consists of 12 main and 56 sub-questions (Part A: five main questions, 22 sub-questions; Part B: four main questions, 20 sub-questions; Part C: three main questions, 14 sub-questions). Questions concerning demographic data and contact details have not been considered in this list.

The questions were developed in three steps. (i) One part of the questions relating to individual soft skills already existed and was adapted to suit the purposes of the study. (ii) Another part did not exist beforehand, but was formulated newly after studying the relevant literature. These questions were worded along the lines of the questions developed in step one. (iii) The last part was derived from the results of existing studies. Here, the question scheme of step (i) served as a model. The studies used as a basis for formulating own questions and for creating the questionnaire have been listed in Appendix F.

Concerning soft skill terminology, it must be said that certain names have established themselves in the Anglo-American world. These are indicated at the end of the question. When developing the questionnaire, the authors decided to forego the use of a specific terminology for the sake of clarity.[13] As recommended by Lietz in 2010, question types like the double-barreled and double-negative question were avoided.[14] The operationalization of the different questions will be explained in the following section.

[10] Cf. Jackson (2008), p. 94.

[11] Cf. Smith-Worthington and Jefferson (2010), p. 65.

[12] Cf. Blumberg et al. (2008), p. 523.

[13] Cf. Baker (2003), p. 346.

[14] Cf. Lietz (2010), p. 253.

4.2.4 Measurement of Execution and Operationalization

This section will explain the analytical framework that was used to test the previously formulated hypotheses. The hypotheses will be dealt with one by one. The analysis of the survey results was based on a *regression analysis* as it is well suited for predicting the statistical correlations between dependent variables (e.g. customer focus) and independent variables (e.g. soft skills).

In a first step, the collected data was structured to allow an evaluation with SPSS. A variable was assigned to each possible answer. The variables for the main part of the survey can be found in Appendix G, the variables for the demographic data in Appendix H.

In order to operationalize the results, the evaluation of the answers was based on a rating scale. Based on the 6-point Likert scale (Appendix E) used for the purpose of this study, the answer 'agree strongly' corresponds to a value of 1, whereas the answer 'disagree strongly' is equivalent to 6.[15] The participants of the survey were also given the chance to make no statement by offering them the option 'n/s not specified'. This type of answer was given a value of 7 in the analysis.[16]

Since it has been repeatedly found that respondents tend to give an affirmative answer to questions, independent of the content, the problem of a potential distortion of results had to be addressed when developing the questionnaire. In order to avoid or minimize the tendency to answer in the affirmative, five negatively worded questions were included in the questionnaire, which fulfill the requirement of reversibility. These questions have been specially marked in Appendix G. The results of the corresponding variables (MOTIVATION_2, MOTIVATION_3, MOTIVATION_4, O_LEARNING_4 and BRAIN_GAIN_8) were mirrored before the start of the evaluation so that an answer with rating 1 corresponds to an answer with rating 6 and vice versa.

Dependent Variable—Customer Focus Hypotheses H1.1–H3 and hypotheses H5.1–H5.4 are all based on the same dependent variable as shown in Fig. 4.1. The customer focus (C_FOCUS_1-C_FOCUS_3) accounts for the dependent variable (DV) and is equivalent with customer orientation. This DV results from the core question formulated at the beginning of the book. The analysis takes the personal customer focus, the organizational customer focus as well as the appreciation of customer focus by customers into account.

Hypothesis H1.1 Hypothesis H1.1 is linked with the independent variables (IV) RESPONSIVENESS_1- RESPONSIVENESS_5 which express the degree of receptivity and reactivity towards customer problems. The sense of responsibility towards customers is also considered.

[15] Cf. Cohen et al. (2007), p. 326.

[16] Cf. Albaum et al. (2011), p. 687.

Hypothesis H1.2 The IVs INTELLIGENCE_1-INTELLIGENCE_5 in H1.2 refer to the intellect required for the management of customer knowledge—an attribute that is expected by customers due to the sensitive nature of certain information. This variable therefore expresses the intelligent use of customer knowledge.

Hypothesis H1.3 The fact that motivation plays an important role for the transfer of customer knowledge is well known and thoroughly researched. In the context of this analysis, the IVs MOTIVATION_1-MOTIVATION_6 serve as control variables. For the evaluation, different drivers for customer knowledge sharing have been taken into consideration.

Hypothesis H1.4 H1.4 refers to the IVs COMPETENCE_1-COMPETENCE_5. They reflect the empathy and competent behavior of individuals. The evaluation also takes moral and emotional aspects regarding knowledge from, for and about the customer into account.

Hypothesis H2.1 The culture, in particular the knowledge culture of a company, forms part of its corporate policy. H2.1 covers the IVs K_CULTURE_1-K_CULTURE_5. Among others, the evaluation considers aspects like awareness of the value of customer knowledge or the level of defined in-house knowledge management.

Hypothesis H2.2 The IVs C_LEARNING_1-C_LEARNING_5 measure the effectiveness of customer learning processes inside an organization. In addition, the evaluation takes a closer look at the willingness to learn from customers and whether an organization is aware of the importance of customer knowledge as a factor of success.

Hypothesis H2.3 H2.3 focuses on organizational learning. The IVs O_LEARNING_1-O_LEARNING_5 provide information on aspects like quality of work and continuous information improvement inside the company. The transfer of best practices and the level of information exchange reflect the company's ability to learn. Therefore, they were also considered.

Hypothesis H2.4 The IVs C_INVOLVEMENT_1-C_INVOLVEMENT_5 provide information about a company's customer focus. It is measured to which extent customers are involved in development processes so that they can meet their own needs. In addition, it is examined to which extent customers are encouraged to share their knowledge.

Hypothesis H3 Knowledge loss and knowledge retention take place on an organizational and on a personal level. They are investigated based on the IVs BRAIN_GAIN_1-BRAIN_ GAIN_11. The evaluation provides information on whether and to which extent a company has established processes likely to prevent

knowledge loss. Furthermore, the analysis will also shed light on the question whether and to which extent acquired knowledge is repeated by the company's employees.

Hypotheses H4.1–H4.4 For these hypotheses, the nine aforementioned soft skills form the IVs (see also Fig. 4.1). Four different company characteristics are used as DVs. This means that industry (INDUSTRY_1-INDUSTRY_20), department (ROLE_1-ROLE_13), company size (COMP_SIZE_1-COMP_SIZE_6) and scope of business (MARKET_1-MARKET_4) form the dependent variables.

Hypotheses H5.1–H5.4 Contrary to H4.1–H4.4, the company characteristics industry (INDUSTRY_1-INDUSTRY_20), department (ROLE_1-ROLE_13), company size (COMP_SIZE_1-COMP_SIZE_6) and scope of business (MARKET_1-MARKET_4) are used as IVs for hypotheses H5.1-H5.4. With the help of these variables, a relationship is established between the demographic data and the DVs C_FOCUS_1-C_FOCUS_3.

According to Field, Miles and Field, sufficient data must be collected before a reliable regression analysis can be carried out. For this reason, Cronbach's alpha was calculated which determines the reliability of a questionnaire.[17] The calculated value has to lie above the accepted level of >0.7. Since the number of relevant items in a questionnaire is mostly smaller than 10, Cronbach's alpha can also be around a value of 0.5.[18] The questions from the present online survey are reliable and valid (see Appendix I).

4.3 Results of the Exploratory Study of Soft Factors on Customer KM

The descriptive analysis begins with an overview of the sample characteristics before dealing with the evaluation of the answers given by the respondents.

4.3.1 Sample Characteristics

At the end of the online survey, 324 responses had been received. All questionnaires were checked for data anomalies. The result was that 295 valid questionnaires had been submitted. A response rate was not calculated as the survey was also posted in different groups of a business platform, offering access also to non-group members—thus an undeterminable sample size.

[17] Cf. Field et al. (2012), p. 802.

[18] Cf. Pallant (2010), p. 97.

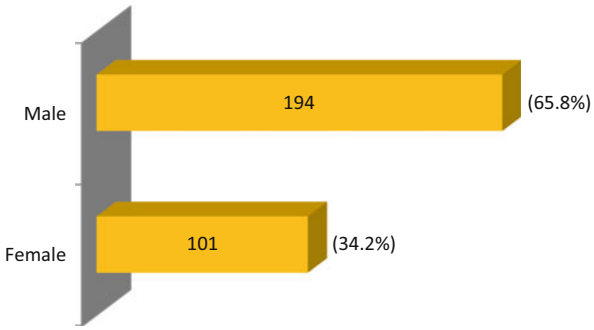

Fig. 4.2 Sample characteristic—gender

A total number of 194 male and 101 female respondents took part in the survey. The male participation therefore accounts for about two thirds of all valid questionnaires (Fig. 4.2).

The age range of the participants in the survey is 20–74 years. The weighted average is 37.8 years (Fig. 4.3).

89.5 % of the participants in the survey have their place of work in Germany. 6.4 % and 2.0 % of the participants come from other German-speaking countries (Austria and Switzerland). Six participants originate from five different countries around the globe (Fig. 4.4).

As for the hierarchical level, more than half of the participants (55.4 %) are employed as staff members. More than 1/4 of the answers (27.7 %) was given by participants who work in middle management. 49 answers (17.0 %) were received from persons on upper management level. The question was not answered by all participants (289 respondents) (Fig. 4.5).

The majority of participants work in the area of Consulting, followed by the sectors IT, Chemicals & Pharmaceuticals and Financial Services. The graph displays all other industries in descending order based on the rate of participation. There were 56 entries in other industries, including 1 × Real Estate, 2 × Education, 4 × Training & Further Education, 8 × Health Care. Seven persons work for different industries. The remaining 34 entries in other industries can all be allocated to the industries available for selection (Fig. 4.6).

The most of participants work in the Consulting and Marketing/Sales department. Those 56 participants who indicated 'Others' can be allocated as follows: 1 × Environment Department, 1 × Event Management, 2 × Project Management, 2 × Supply Chain Management, 3 × Product Management, 4 × Facility Management, 6 × Learning Management and 7 × Knowledge Management. The remaining 29 participants can be allocated to the aforementioned departments (Fig. 4.7).

With respect to company size, most participants work in companies with more than 10,000 employees (26.4 %). The participation of employees in the remaining categories is relatively balanced, ranging between 12.5 % and 18.6 % as the following graph shows (Fig. 4.8).

Concerning the type of business, 52.5 % work for companies doing business-to-business (B2B). 11.9 % of the business relationships are with private customers

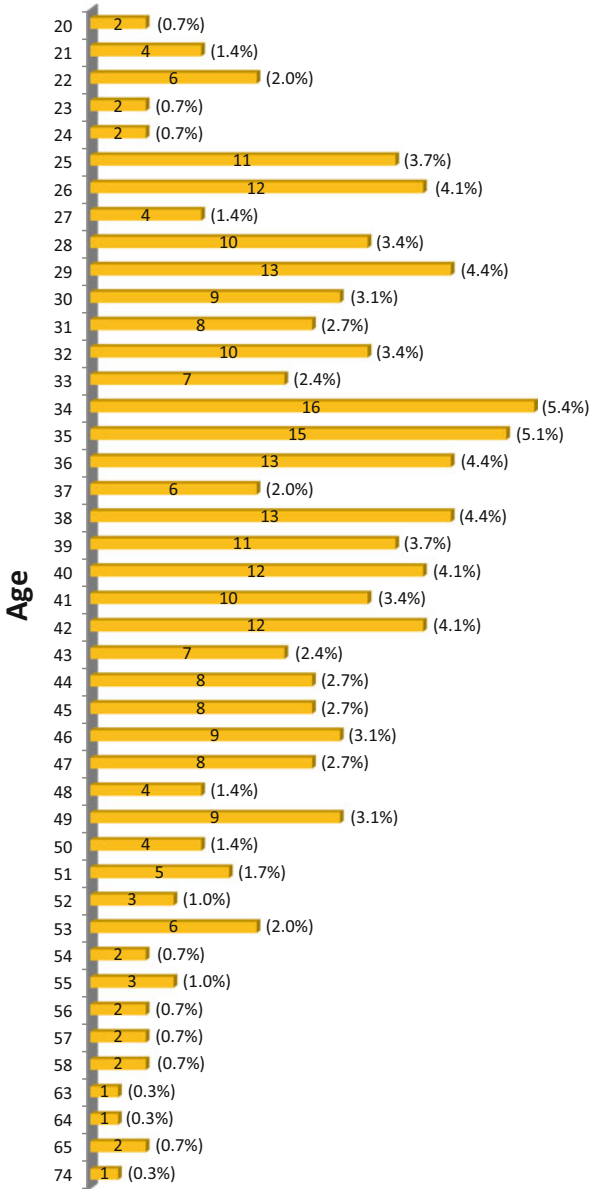

Fig. 4.3 Sample characteristic—age structure

(B2C). 35.6 % of the companies do business with both companies and private customers (Fig. 4.9).

The target market graph shows that most companies operate in international markets (66.4 %). 19.3 % of the companies are active in the domestic market. 31 companies only do regional business, while the business of 11 companies is limited to the local market (Fig. 4.10).

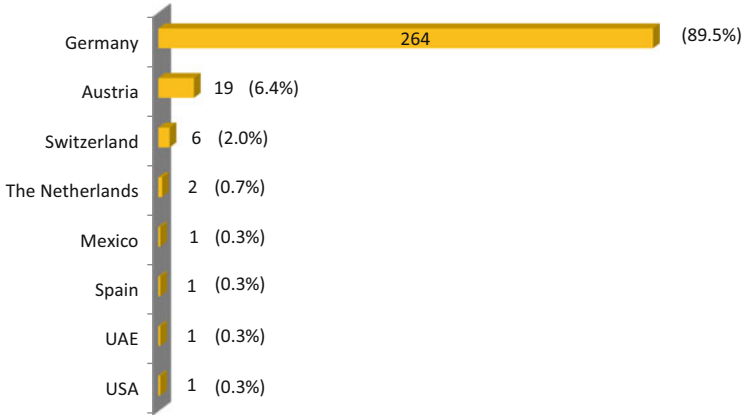

Fig. 4.4 Sample characteristic—location (workplace)

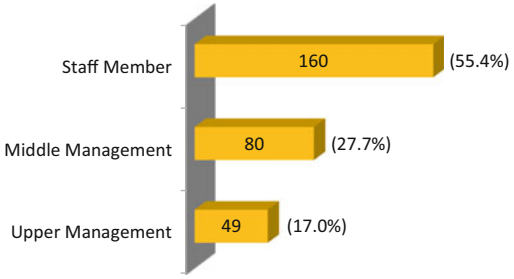

Fig. 4.5 Sample characteristic—position in the company

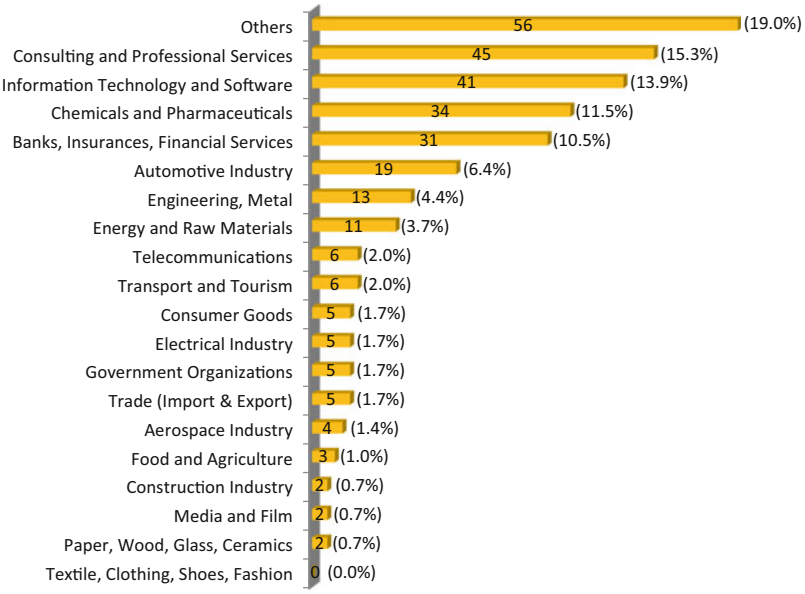

Fig. 4.6 Sample characteristic—industry

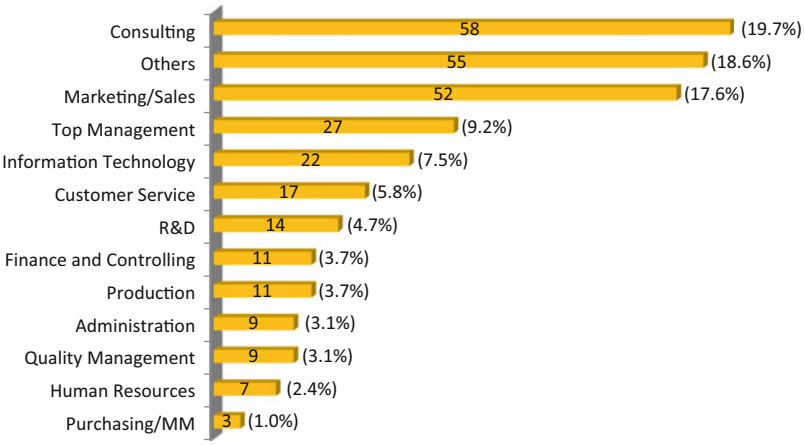

Fig. 4.7 Sample characteristic—role in the company

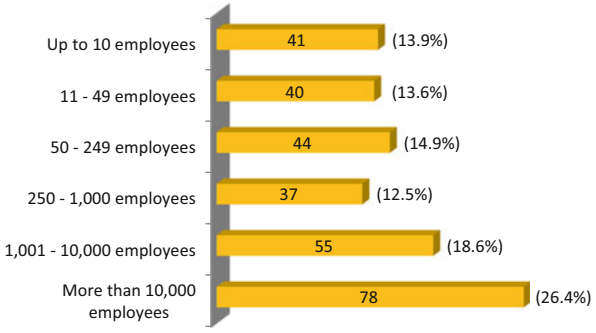

Fig. 4.8 Sample characteristic—company size

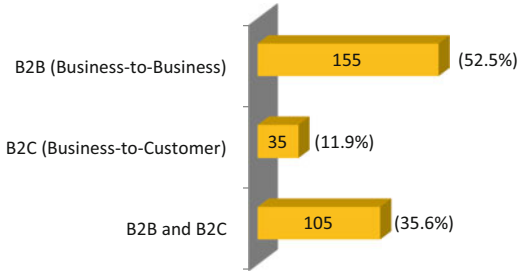

Fig. 4.9 Sample characteristic—type of company

With respect to customer contact, 64.5 % of all respondents have direct customer contact. 26.5 % answered that their work partially involves customer contact. 9 % work in areas or departments where there normally is no customer contact or where

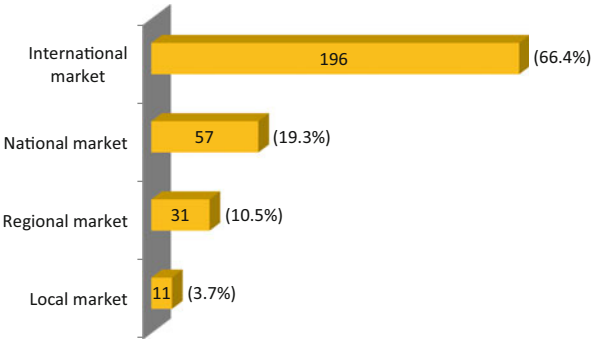

Fig. 4.10 Sample characteristic—target market

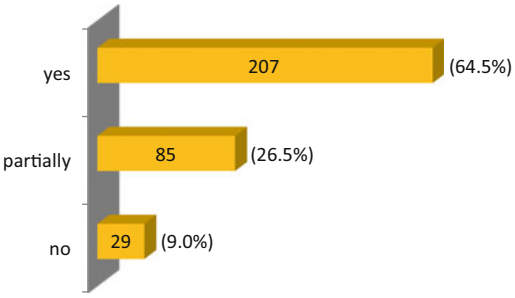

Fig. 4.11 Sample characteristic—customer contact

they personally have no customer contact. This question was answered by a total of 321 respondents (Fig. 4.11).

After the sample characteristics, the focus will now be on the actual results of the survey.

4.3.2 Survey Results

The majority of participants claimed they have a strong or moderate customer focus, reflected in 226 out of 296 answers. As for the company's customer focus, the answers show a similar picture: more than 2/3 of the respondents stated that the company focuses on customer needs.[19] More than half of the answers to the 3rd question show that the customers appreciate the customer focus shown by these companies (Table 4.1).[20]

Below, one results table of the survey is shown by way of example. It refers to the soft skill 'responsiveness to customers' and is the first set of questions in the online survey.

[19] 85 + 122 = 207; 207/296 = 69.9 %.

[20] 73 + 108 = 181; 181/296 = 61.1 %.

Table 4.1 Survey results—customer focus

Question	Q. no.	Rating								
Customer focus		Agree strongly	Agree moderately	Agree slightly	Disagreed slightly	Disagree moderately	Disagree strongly	n/s not specified		
Dependent variable H1.1–H3, H5.1–H5.4		1	2	3	4	5	6	7	Rating average	Response count
I personally have a strong customer focus	1	**117**	109	42	11	5	0	12	1.87	296
		39.5 %	36.8 %	14.2 %	3.7 %	1.7 %	0.0 %	4.1 %		
My company has a strong customer focus	2	85	**122**	57	14	4	3	11	2.08	296
		28.7 %	**41.2 %**	19.3 %	4.7 %	1.4 %	1.0 %	3.7 %		
The customers of my company appreciate our customer focus	3	73	**108**	61	17	8	1	28	2.19	296
		24.7 %	**36.5 %**	20.6 %	5.7 %	2.7 %	0.3 %	9.5 %		
								Answered question		**296**
								Skipped question		**28**

Table 4.2 Survey results—responsiveness to customers

Question	Q.-no.	Rating								
		Agree strongly	Agree moderately	Agree slightly	Disagreed slightly	Disagree moderately	Disagree strongly	n/s not specified	Rating average	Response count
Responsiveness to customers—H1.1		1	2	3	4	5	6	7		
I frequently ask customers for information/feedback to better understand their product-/service-related needs	1	86	**112**	52	31	13	9	18	2.34	321
		26.8 %	**34.9 %**	16.2 %	9.7 %	4.0 %	2.8 %	5.6 %		
I make sure to immediately clarify any doubts our customers may have concerning our products/services	2	121	**122**	46	6	4	2	20	1.86	321
		37.7 %	**38.0 %**	14.3 %	1.9 %	1.2 %	0.6 %	6.2 %		
My superior knows that I constantly try to reduce any information asymmetry between the customers and my company	3	62	**121**	61	20	5	7	45	2.30	321
		19.3 %	**37.7 %**	19.0 %	6.2 %	1.6 %	2.2 %	14.0 %		
I constantly put in great efforts to better fulfill the product-/service-related needs of our customers	4	104	**128**	56	10	4	2	17	1.97	321
		32.4 %	**39.9 %**	17.4 %	3.1 %	1.2 %	0.6 %	5.3 %		
My customers know that I always try to provide prompt solutions to their problems	5	121	**127**	45	8	2	1	17	1.84	321
		37.7 %	**39.6 %**	14.0 %	2.5 %	0.6 %	0.3 %	5.3 %		
								Answered question		**321**
								Skipped question		**3**

The survey results clearly prove the existence of responsiveness towards customers and their needs. This manifests itself in the employees' quick intervention when dealing e.g. with customer problems or in the continuously high endeavor to fulfill customer wishes in a timely manner. It also becomes obvious that information gaps concerning the customers' product and service demands are regularly closed. When taking a closer look at the rating scale, the majority of answers are given in the column 'agree moderately', followed by answers in the column 'agree strongly' (Table 4.2).

All other direct results can be found in Appendix J! As these are self-explanatory, no further explanation will be given in this book.

4.4 Significance of Soft Skills and Customer Focus Intensity

As already mentioned earlier, the results of the questionnaire were examined with the help of a regression analysis for hypotheses H1–H3. Concerning hypotheses H4 and H5, the average values of the answers given were compared with the DVs. This study constitutes a further step in the analysis of customer knowledge management. It investigates in particular the significance of soft skills and their influence on the customer knowledge process.

The ANOVA was used to check which effect an IV has on a DV. Further, in some analyses, collinearity was checked and controlled by the tolerance resp. variance inflation factor (VIF). In order to check the normal distribution, p-p plots were generated. Homoscedasticity was examined by producing a scatter plot. For the identification of outliers, diagrams with centered leverage values were created.

4.4.1 Soft Skill Intensity with Respect to Customer Focus

Of decisive importance for the interpretation of the ANOVA (Table 4.3) is the column significance. The soft skills with the related independent variables (i) responsiveness to customers (RESPONSIVENESS), (ii) intelligence (INTELLIGENCE), (iii) motivation (MOTIVATION), (iv) competence (COMPETENCE), (v) knowledge culture (K_CULTURE), (vi) customer learning (C_LEARNING), (vii) organizational learning (O_LEARNING), (viii) customer involvement (C_INVOLVEMENT) and (ix) brain gain (BRAIN_GAIN) have a generally positive and statistically significant ($p = 0.000$) effect on the customer focus (C_FOCUS) in the regression model at hand. This analysis tests hypotheses H1-H3 as a whole, with all allocated soft skills and all predictors. Irrespective of this, a small number of regression weights nevertheless missed the significance threshold. This is shown in Table 4.5 in greater detail.

For hypotheses H1–H3, a normal distribution is given as visualized by the histogram and p-p plot in Appendix K (first two figures). The 3rd graph shows the related scatter plot where the residuals form a uniform cloud, thus hinting at an

Table 4.3 Results of regression analysis for hypotheses H1-H3—ANOVA

	Anova[a]				
	Sum of squares (SS)	df	Mean square (MS)	F	Sig.
Regression	80.99	9	8.999	20.825	0.000[b]
Residual	123.59	286	0.432		
Total	204.59	295			

[a]Dependent variable: C_FOCUS
[b]Predictors: RESPONSIVENESS, INTELLIGENCE, MOTIVATION, COMPETENCE, K_CULTURE, C_LEARNING, O_LEARNING, C_INVOLVEMENT, BRAIN_GAIN

Table 4.4 Results of regression analysis for hypotheses H1-H3—model summary

	Model summary[a]		
R	R^2 (R-square)	Adjusted R-square	Std. error of the estimate
0.629[b]	0.396	0.377	0.6574

[a]Dependent variable: C_FOCUS
[b]Predictors: RESPONSIVENESS, INTELLIGENCE, MOTIVATION, COMPETENCE, K_CULTURE, C_LEARNING, O_LEARNING, C_INVOLVEMENT, BRAIN GAIN

Table 4.5 Results of regression analysis for hypotheses H1-H3—coefficients and collinearity

	Coefficients[a]						
	Unstandardized coefficients		Standardized coefficients			Collinearity	
	B	Std. Error	Beta	T	Sig.	Tolerance	VIF
(Constant)	0.508	0.220		2.314	0.021		
RESPONSIVENESS	0.023	0.067	0.022	0.346	0.730	0.510	1.962
INTELLIGENCE	−0.008	0.061	−0.008	−0.137	0.891	0.630	1.588
MOTIVATION	−0.176	0.061	−0.147	−2.885	0.004	0.818	1.222
COMPETENCE	0.317	0.091	0.223	3.479	0.001	0.513	1.948
K_CULTURE	−0.042	0.051	−0.051	−0.833	0.405	0.560	1.787
C LEARNING	0.202	0.057	0.238	3.540	0.000	0.469	2.134
O_LEARNING	−0.029	0.059	−0.030	−0.482	0.630	0.536	1.866
C INVOLVEMENT	0.229	0.057	0.249	3.991	0.000	0.543	1.842
BRAIN GAIN	0.210	0.068	0.204	3.097	0.002	0.485	2.061

[a]Dependent variable: C_FOCUS

unsystematic scattering. Graph four in Appendix K identifies outliers. In the present model, two outliers can be identified; nevertheless, they can be included in the statistical evaluation.

R^2 corresponds to the variation explained by the regression model. Concerning hypotheses H1–H3, the variation of the DV C_FOCUS was explained by the regression model by 39.6 % (see Table 4.4).

Table 4.5 lists the coefficients and collinearity related to hypotheses H1–H3. Again, the dependent variable is C_FOCUS as shown in Fig. 4.1.

4.4.1.1 Personal Skills in Relation to Customer Focus

Responsiveness The influence of the IV RESPONSIVENESS on customer focus is low as illustrated by the value $\beta = 0.022$. This is also underlined by the value t (286) = 0.346 and the significance $p = 0.730$. The results show that 'responsiveness to customers' is not a significant predictor of the DV C_FOCUS. The VIF of 1.962 (>1) indicates that RESPONSIVENESS has a linear relationship with the other soft skills. H1.1 does not receive relevant support.

Intelligence Likewise, the IV INTELLIGENCE does not yield significant results with $p = 0.891$. The VIF is 1.588. Similar to the IV RESPONSIVENESS related to H1.1 there is a linear relationship with the other soft skills. Since the t-value of t (286) = −0.137 is very low, there is not much sense in forecasting the degree of customer focus based on this soft skill. In this model, the soft skill 'Intelligence' has only little influence on customer knowledge management. Hypothesis H1.2 can therefore be regarded as not supported.

The research conducted in the field of customer knowledge management shows no support for hypotheses H1.1 and H1.2. The significance values determined for the soft skills responsiveness to customers and intelligence were not found to be relevant for an increase in customer focus.

Here an explanatory comment on the collinearity. Since the values obtained for all IVs are above 1 and below 10 in the above regression model presented above, the soft skills (independent variables) neither collided with each other nor with the customer focus (dependent variable).

Motivation As expected, the motivation factor is of high statistical significance ($p = 0.004$) for the customer focus. But in order to interpret the result correctly, a closer look at the Beta values (standardized coefficients) is necessary. Since $\beta = -0.147$, this would mean that an increase in employee motivation by 1 in the CKM process would decrease the customer focus by 0.147 (14.7 %). Thus, the validity of H1.3 can only partly be confirmed. Motivation certainly has an effect, but in this regression model it is unexpectedly negative.

Employee motivation has a direct effect on customer focus. It is, however, notable that in the present case an increase in employee motivation has a negative influence on the customer focus. A possible reason for this may be the negative wording of the questions (see question block 'motivation': Q2–Q4, Appendix G). Although a pre-test was carried out and the results were mirrored (6 = 1, 1 = 6), the result turned out to be negative. Future research should re-work this set of questions and give them a purely positive wording. Hypothesis H1.3 is therefore only partially supported.

Competence Hypothesis H1.4 with IV COMPETENCE has a significance factor of $p = 0.001$ and therefore supports the hypothesis that the competence of employees has positive effects on the customer focus. When increasing employee competence by 1, this would increase the customer focus in customer knowledge management by $\beta = 0.223$. Since $t = 3.479$ and thus clearly not equal to 0, it can be concluded that there is a 'genuine' connection between IV COMPETENCE and DV C_FOCUS.

It was found that a high degree of individual competence increases the orientation towards customer needs. This implies that moral and emotional aspects significantly contribute to a higher customer focus. The resulting mutual trust and support clearly facilitate the exchange of customer knowledge. The interaction with customers based on ethical and social principles has a positive influence on the cooperation with customers. Thus, H1.4 is fully supported.

4.4.1.2 Organizational Skills in Relation to Customer Focus

Knowledge Culture With a value of $p = 0.405$, the organizational soft skill knowledge culture does not have sufficient significance. Since the statistical significance of the IV K_CULTURE is at $p > 0.05$, hypothesis H2.1 of this research does not receive any support.

No support was found for hypothesis H2.1. This means that the factor knowledge culture is not significantly influencing the degree of customer focus in the given context—a fact that is reflected by the results of the regression analysis (Table 4.5).

Customer Learning The IV C_LEARNING has a significance factor of $p = 0.000$ and supports the hypothesis H2.2 that a high degree of customer learning has a positive effect on customer focus. To illustrate this point: When increasing the customer learning by 1, this will lead to an increase in customer focus of $\beta = 0.238$. Hence, H2.2 is fully supported.

Hypothesis H2.2 deals with the effects of customer learning processes inside companies. Effective customer learning processes positively influence the customer focus. Therefore, companies are well advised to develop strategies that enable such processes. H2.2 is fully supported, hence the implementation of a standardized customer feedback mechanism, for instance, facilitates the customer learning process so that the company can better meet changing customer needs and create added value.

Organizational Learning Within the scope of this regression model, organizational learning (IV O_LEARNING) does not have sufficient statistical significance ($p = 0.630$). Therefore, no support of H2.3 can be found.

In line with H1.1, H1.2 and H2.1, hypothesis H2.3 is also not supported by the regression analysis. The survey result shows that the factor organizational learning was found to have no statistical significance for increasing the customer focus. This set of questions also contains a negatively worded question (Q-block

'organizational learning': Q4, Appendix G, polarity of the question was reversed). Future research should consider whether a positive wording of the question could produce a different result.

Customer Involvement As was to be expected, a high degree of customer involvement has a positive effect on customer knowledge management. The strong significance value of $p = 0.000$ for the IV C_INVOLVEMENT fully supports H2.4.

As expected, the soft skill customer involvement has a positive impact and increases the customer focus. Closeness between employees and customers encourages the customers to share information, leading to a better understanding of customer preferences when developing new products. H2.4 is fully supported, therefore the integration of customers into processes is a safe way of developing customized products and services. This, in turn, results in a competitive edge for both customer and company.

4.4.1.3 Hybrid Skill in Relation to Customer Focus

Brain Gain Brain gain on an organizational and interpersonal level is also of statistical significance with a value of $p = 0.002$. Therefore, hypothesis H3 for IV BRAIN_GAIN is fully supported.

Hypothesis H3 is related to the impact of knowledge loss resp. knowledge retention on the degree of customer focus. Well-established processes of knowledge sharing and updating have a positive effect on customer focus. Strategies for transferring tacit knowledge into brain gain explicit knowledge make knowledge available for others. Due to the findings for the factor, H3 can be said to be fully supported. This means that making knowledge explicit has two advantages: on the one hand, it can be converted into organizational knowledge; on the other hand, it can be more easily stored in the company.

4.4.2 Soft Skill Intensity with Respect to Company Characteristics

In order to evaluate hypotheses H4.1–H4.4, the results were used to calculate average values for each soft skill. Based on the selected scaling (6-point Likert scale), the average values were found to be in the range of 1–6. They have been indicated in the M1 columns (Mean1). Since not every question was answered by all participants, the table additionally indicates the count (n). The following applies: The lower the mean value (M1–M9), the more strongly developed the soft skill (1 = agree strongly, 6 = disagree strongly). Apart from the standard deviation, also the average values of those soft skills were determined that had no statistical significance in H1-H3 (DV C_FOCUS) but some significance for the in-house customer knowledge management.

Table 4.6 Results of average value analysis for hypothesis H4.1—soft skills and industry

	Responsiveness		Intelligence		Motivation		Competence		Knowledge culture		Customer learning		Organizational learning		Customer involvement		Brain gain	
Industry	n	M1	n	M2	n	M3	n	M4	n	M5	n	M6	n	M7	n	M8	n	M9
Aerospace industry	3	2.27	3	2.27	4	2.67	4	1.65	4	2.85	4	3.15	4	3.05	3	2.80	4	3.26
Automotive industry	19	2.13	19	2.42	19	1.87	19	1.81	19	2.81	19	2.47	19	2.87	18	2.17	19	2.87
Banks, insurances, Finance	31	2.12	30	2.21	31	2.05	31	1.85	31	2.73	31	2.46	31	2.94	31	2.44	31	2.99
Chemicals and Pharma	34	2.14	33	2.26	34	2.13	34	1.89	34	2.92	34	2.57	34	2.98	34	2.33	34	2.94
Construction industry	2	2.00	2	2.18	2	2.92	2	2.20	2	2.90	2	2.20	2	2.65	2	2.80	2	3.37
Consulting and professional services	43	1.74	44	1.91	44	2.05	45	1.63	45	2.44	44	2.35	45	2.89	44	2.04	45	2.98
Consumer goods	5	1.92	5	2.16	5	2.13	5	1.52	5	2.72	5	2.77	5	2.92	5	2.12	5	2.71
Electrical industry	4	2.50	4	1.93	5	2.07	5	2.13	5	2.64	5	2.96	5	3.36	5	2.99	5	3.25
Energy and raw materials	9	2.26	9	1.96	11	2.24	11	1.89	11	2.87	10	3.21	11	3.33	10	2.60	11	3.07
Engineering, metal	11	1.99	11	2.71	12	2.10	11	2.32	12	3.32	11	3.18	12	3.54	11	2.36	12	3.40
Food and agriculture	3	1.93	3	2.18	3	2.44	3	2.05	3	3.27	3	3.00	3	3.93	3	2.83	3	4.15
Government organizations	4	2.45	4	1.65	5	2.03	5	1.80	5	2.68	4	3.30	5	3.00	4	2.60	5	3.53
IT and software	41	1.99	41	2.05	41	2.06	41	1.75	41	2.80	41	2.42	41	2.88	41	2.31	41	3.01
Media and film	2	2.10	2	3.20	2	4.17	2	2.40	2	4.40	2	4.10	2	4.10	2	3.50	2	3.97
Others and skipped questions	79	2.12	79	2.21	78	2.08	80	1.88	65	2.86	63	2.60	63	3.04	64	2.39	57	2.87
Paper, wood, glass, ceramics	2	2.88	2	2.13	2	2.10	2	2.63	2	3.83	2	3.90	2	3.27	2	3.40	2	3.26
Telecommunications	6	1.83	6	2.03	6	2.15	6	1.90	6	3.30	6	2.40	6	3.50	6	2.28	6	3.44
Trade (import & export)	5	1.80	5	2.26	5	2.17	5	1.80	5	3.44	5	3.28	5	4.09	5	2.72	5	3.60
Transport and tourism	5	2.20	5	2.28	6	1.92	6	1.57	6	3.21	5	2.44	6	3.37	5	2.16	6	3.33
Count/total average	308	2.05	307	2.17	315	2.10	317	1.84	303	2.84	296	2.60	301	3.05	295	2.35	295	3.04
Std. dev. of responses		1.05		1.03		1.27		0.80		1.47		1.36		1.31		1.09		1.39

4.4.2.1 Soft Skills in Relation to the Industry

Table 4.6 displays the examination results for hypothesis H4.1. It compares the soft skills with respect to their development in different industries. Since n is sometimes very low, no valid statement can be made on the basis of these results.

With an average value of M1 = 1.74, the Consulting industry has a clear lead over IT (1.99). Hence it can be concluded that the soft skill responsiveness to customers is most strongly developed in this industry. Engineering and Metal also have an M1 of 1.99; however, due to n = 11, this indicator should be used with caution. The industries Banks, Automotive and Chemicals produce almost identical results (2.12–2.14). Due to n = 19, the statistical significance for the Automotive industry is limited.

The soft skill Intelligence and the accompanying abilities for strategy development and providing advice are most strongly developed in the Consulting industry (M2 = 1.91), followed by IT with 2.05. The application of customer knowledge in changing situations is less strongly developed in Banks (2.21) and the Chemical industry (2.26).

The motivation to share knowledge and to actively contribute to knowledge exchange is nearly identical for the industries Consulting, Banks and IT (2.05–2.06), closely followed by the Chemical industry with M3 = 2.13.

Seeing the big picture and looking beyond the horizon—this is what the Consulting industry does best (M4 = 1.63). But also the IT sector with a competence value of M4 = 1.75 is characterized by prudence and a lot of foresight in its activities. The industries Banks and Chemicals with 1.85 resp. 1.89 also achieve good results. As these values are <2, this means that the answers range between 'agree strongly' and 'agree moderately'.

The average values obtained for knowledge culture and the related awareness of the value of knowledge is most strongly developed in the Consulting industry (M5 = 2.44). Compared to this, Banks achieve a value of 2.73, while the IT sector scores M5 = 2.80 and the Chemical industry 2.92. From this can be concluded that the factor knowledge culture currently plays a minor role in the day-to-day business of these industries.

The results obtained for customer learning in Consulting, IT, Banks and Chemicals are relatively close. For these industries, M6 lies in the range of 2.35–2.57. It can therefore be deduced that the recognition of customer knowledge as key element to successful business is weakly developed in these industries—as shown above for the factor knowledge culture.

The accuracy of information and the improvement of organizational knowledge yield similarly bad results for the IT, Consulting, Banks and Chemical industries. The average values of all answers related to organizational learning lie in the range of 2.88–2.98.

Currently, the Consulting industry is more successful than others in involving customers into different processes so as to better understand their needs (M8 = 2.04). But customer involvement is also an important issue for the industries IT, Chemicals and Banks. Their priority on customer satisfaction lies some distance behind in the range of 2.31–2.44.

Judging from the results, brain drain seems to be a highly sensitive issue for the Chemical, Consulting, Banks and IT business (brain gain = 2.94–3.01). The poor results are a clear indicator that companies still have not managed to get the problem of data, information and knowledge loss and the resulting consequences under control.

Due to the fact that the results between the individual industries greatly differ for some soft skills, it can be stated that hypothesis H4.1 with the DV Industry is fully supported.

In brief: The Consulting industry turns out to have the best knowledge management: it is able to learn from knowledge and to newly employ the acquired knowledge. It also succeeds in learning from different projects and using best practices throughout the company. However, the analysis of the results shows strong differences in the development of soft skills between the different industries. Hypothesis H4.1 is fully supported, which gives cause for concern. In view of the fact that the importance of successful CKM has already been known and discussed for several years, the efforts to improve the relevant soft skills should be equally strong in all industries and the strategies implemented so far should have first positive effects.

4.4.2.2 Soft Skills in Relation to the Role in a Company

The results for hypothesis H4.2 are compiled in Table 4.7. When taking a closer look at the skills responsiveness to customers, intelligence, motivation and competence, it shows that they are more strongly developed in the Consulting department and on top management level than in other areas of the company. On the other hand, it is also obvious that some personal skills seem to play a less important role or to be less strongly developed in employees working in the IT department compared to other areas of the company.

It is notable that employees working in the role of consultant achieve a responsiveness value (M1 = 1.67) that clearly exceeds that of the top management (M1 = 1.96) and of all other departments. The soft skill intelligence plays the most important role for people employed in R&D (M2 = 1.88). Since n = 14, this result should only be regarded as an indication and not as totally accurate. The motivation to share knowledge is similarly high on top management level and in the departments Consulting, Marketing/Sales and Customer Service (2.03–2.14). For the soft skill competence, the Customer Service department scores a value of M4 = 1.99 which, in itself, is not bad. However, in direct comparison with the other departments, the customer-oriented Customer Service scores less well in some respects. In this survey, only the IT department scores even worse in terms of competence.

When comparing the organizational skills of different departments, it shows that also some of these are more strongly developed in the Consulting department and on top management level. Nevertheless, when it comes to knowledge culture, the top management only scores a value of M5 = 2.46. The values of all other departments are even worse. The average values achieved by Marketing/Sales (3.14) and IT (3.49) reveal an apparent lack of knowledge culture in the company.

Table 4.7 Results of average value analysis for hypothesis H4.2—soft skills and role in the company

	Responsiveness		Intelligence		Motivation		Competence		Knowledge culture		Customer learning		Organizational learning		Customer involvement		Brain gain	
Role in the company	n	M1	n	M2	n	M3	n	M4	n	M5	n	M6	n	M7	n	M8	n	M9
Administration	9	2.53	9	2.11	9	2.26	9	1.84	9	2.58	9	2.69	9	3.30	9	2.16	9	2.85
Consulting	55	1.67	56	1.94	57	2.07	58	1.63	58	2.57	58	2.35	58	3.00	58	2.12	58	3.00
Customer service	17	1.97	17	2.34	17	2.14	17	1.99	17	2.69	17	2.52	17	3.15	17	2.74	17	3.06
Finance and controlling	8	1.91	8	2.55	11	2.02	10	1.72	11	2.75	9	2.81	10	2.74	10	2.70	11	2.68
Human resources	6	2.21	6	2.53	7	1.97	7	1.91	7	2.95	6	2.96	7	2.97	6	2.35	7	3.32
Information technology	21	2.50	21	2.17	22	2.35	22	2.10	22	3.49	21	2.69	22	3.11	21	2.62	22	3.23
Marketing/sales	51	2.07	51	2.31	51	2.09	51	1.84	51	3.14	51	2.50	51	3.02	51	2.28	51	2.98
Others and skipped questions	77	2.12	76	2.19	79	2.03	79	1.92	64	2.98	61	2.80	63	3.14	60	2.49	56	3.19
Production	11	2.50	10	2.48	11	2.70	11	2.06	11	2.85	11	2.87	11	3.04	11	2.98	11	3.25
Purchasing/materials management	3	2.20	3	2.80	3	1.67	3	2.13	3	2.90	3	2.90	3	2.33	3	2.13	3	2.45
Quality management	9	1.89	9	1.82	9	1.78	9	1.67	9	2.07	9	2.00	9	2.62	8	1.90	9	2.78
Research and development	14	2.13	14	1.88	14	2.15	14	1.75	14	2.69	14	2.79	14	3.50	14	2.21	14	3.08
Top management	27	1.96	27	2.10	25	2.03	27	1.69	27	2.46	27	2.69	27	2.93	27	2.16	27	2.90
Count/total average	308	2.05	307	2.17	315	2.10	317	1.84	303	2.84	296	2.60	301	3.05	295	2.35	295	3.04
Std. dev. of Responses		1.05		1.03		1.27		0.80		1.47		1.36		1.31		1.09		1.39

Furthermore, in-company processes related to customer learning are developed to a comparable degree in the above-mentioned departments (2.35–2.69). In addition, the lack of efforts made in different departments to improve organizational knowledge is alarming. These are reflected in the soft skill organizational learning and show values in the range of 2.93–3.15 (similar degree of development). The most successful department in reaching the aim of customer proximity is—not surprisingly—Consulting (2.12) as reflected in the column customer involvement of Table 4.7. It is notable that there is a wide gap between Consulting and IT (2.62) resp. Customer Service (2.74).

The survey results clearly show that the companies' activities—both on a personal and organizational level—to keep information/knowledge up-to-date and to provide colleagues with information/knowledge for reuse are in serious need of improvement in the different departments. The average values scored for the retention of knowledge, as indicated under brain gain, lie in the range of 2.90 and 3.08. There is one outlier, the IT department, with an even greater lack of measures against knowledge loss (M9 = 3.23).

The survey results for soft skills related to individual departments partly reveal enormous differences—not only among the departments but also inside a department. It can therefore be stated that hypothesis H4.2 with the DV Department is fully supported.

In brief: The evaluation of hypothesis H4.2 yield results that are comparable with those of hypothesis H4.1. The survey revealed that there are strong differences in the development of individual soft skills between the different departments of a company, covering the full range between strongly and weakly developed. A possible reason for this may be the discrepancy between awareness and implementation: on the one hand, employees are aware of the importance of soft skills, but on the other hand not enough is done to strengthen and implement them in their daily work. This hypothesis is fully supported, underlining the fact that the soft skills are in urgent need of optimization.

4.4.2.3 Soft Skills in Relation to the Company Size

In order to verify hypothesis H4.3, the average values achieved for the soft skills were related to the company size. These calculations are shown in Table 4.8. The different company sizes do not seem to play a major role for the development of (inter)personal soft skills. In other words: The skills are more or less similarly developed for companies with different numbers of employees. Take, for example, the average values determined for the soft skill responsiveness: they lie in a range of 1.93–2.17. This corresponds to a maximum difference of just about 0.24 between the different company sizes. Similar results were calculated for intelligence (2.05–2.25), motivation (1.92–2.29) and competence (1.78–1.90).

As far as the organizational skills are concerned, the picture looks different: there are much greater differences between companies of different size. The value determined for knowledge culture shows a spread of 2.65–3.06. Since the maximum value is 3.06 and was achieved by companies with 250–1,000 employees, this means that current structures and processes do not facilitate the creation of new

Table 4.8 Results of average value analysis for hypothesis H4.3—soft skills and company size

	Responsiveness		Intelligence		Motivation		Competence		Knowledge culture		Customer learning		Organizational learning		Customer involvement		Brain gain	
Company size	n	M1	n	M2	n	M3	n	M4	n	M5	n	M6	n	M7	n	M8	n	M9
Up to 10 employees	41	2.02	41	2.05	38	2.11	41	1.86	41	2.65	41	2.63	41	3.09	41	2.23	41	2.85
11–49 employees	40	1.93	40	2.22	40	2.29	40	1.85	40	2.97	40	2.64	40	3.20	40	2.30	40	3.07
50–249 employees	42	2.09	42	2.16	44	1.92	44	1.78	44	2.68	43	2.70	44	2.75	43	2.37	44	2.79
250–1,000 employees	35	2.12	35	2.15	36	2.13	36	1.90	36	3.06	34	2.83	36	3.16	34	2.52	36	3.31
1,001–10,000 employees	53	2.17	54	2.25	55	2.22	55	1.87	55	3.00	55	2.65	54	3.07	53	2.45	55	3.16
More than 10,000 employees	73	1.97	71	2.14	78	2.01	77	1.78	78	2.69	75	2.33	78	3.01	75	2.22	78	3.03
Skipped questions	24	2.11	24	2.23	24	2.05	24	1.85	9	3.26	8	3.08	8	3.46	9	2.96	1	3.82
Count/total average	308	2.05	307	2.17	315	2.10	317	1.84	303	2.84	296	2.60	301	3.05	295	2.35	295	3.04
Std. dev. of responses		1.05		1.03		1.27		0.80		1.47		1.36		1.31		1.09		1.39

knowledge. The difference concerning the ability to learn more about customer preferences is even greater, as reflected by the average value M6. Customer learning shows a difference of 0.50 between MIN 2.33 and MAX 2.83 value. From this can be concluded that the current structures and strategies to improve the organizational knowledge (including the process of keeping information up-to-date) are not only insufficient but in urgent need of improvement. The mean values calculated for organizational learning lie in the range of 2.75 and 3.20. Despite different employee numbers, the companies do not differ much when it comes to the involvement of customers in processes or product developments (customer involvement 2.22–2.52).

The most distinct difference in the development of organizational skills can be found with respect to activities undertaken by the companies to retain information and knowledge. The values obtained for brain gain range between 2.79 and 3.31. Furthermore, it can be stated that these values are the worst compared to all other soft skills. The high results allow the conclusion, that independent of company size, strategies for the retention of knowledge are either missing or not effective enough.

Due to strong variations in the development of the individual soft skills in companies of different size, hypothesis H4.3 with the DV Company Size is fully supported.

In brief: With respect to company size, one needs to differ between interpersonal and organizational soft skills. While the interpersonal soft skills are more or less similarly developed, no matter what the company size, there are distinct differences concerning the development of organizational skills. The same applies for the hybrid brain gain. This may be due to the fact that quite a number of companies have not yet developed strategies for strengthening the necessary soft skills or that the approaches taken are not as successful as expected. Like hypotheses H4.1 and H4.2, also H4.3 is fully supported.

4.4.2.4 Soft Skills in Relation to the Target Market

In hypothesis H4.4, the different soft skills were analyzed with respect to the target market. The results can be found in Table 4.9. Since only 11 answers from persons active in the local market were submitted, the results should be interpreted with caution.

When taking a closer look at the results for the (inter)personal soft skills, it is notable that these are equally positive for companies with a regional, national and international focus. Outliers can be found for companies that operate in the local market as the calculations show: responsiveness 2.00–2.18 (local market 2.40), intelligence 2.12–2.16 (local market 2.46), motivation 2.06–2.14 (local market 2.65) and competence 1.79–1.92 (local market 2.14).

Concerning the development of organizational skills, the picture looks similar. While similar results were obtained for companies operating on a regional, national and international scale, the results for companies with a local focus deviate considerably for some of the skills. The following average values were determined: knowledge culture 2.74–2.84 (local market 2.95), customer learning 2.54–2.65

Table 4.9 Results of average value analysis for hypothesis H4.4—soft skills and target market

	Responsiveness		Intelligence		Motivation		Competence		Knowledge culture		Customer learning		Organizational learning		Customer involvement		Brain gain	
Target market	n	M1	n	M2	n	M3	n	M4	n	M5	n	M6	n	M7	n	M8	n	M9
Local market	11	2.40	11	2.46	11	2.65	11	2.14	11	2.95	11	3.09	11	3.43	11	2.57	11	3.19
Regional market	29	2.18	30	2.15	29	2.10	31	1.92	31	2.82	31	2.65	31	3.05	31	2.41	31	3.00
National market	56	2.05	56	2.12	57	2.14	57	1.79	57	2.74	56	2.65	57	2.98	55	2.46	57	3.08
International market	188	2.00	186	2.16	194	2.06	194	1.81	195	2.84	190	2.54	194	3.03	189	2.27	195	3.02
Skipped questions	24	2.11	24	2.23	24	2.05	24	1.85	9	3.26	8	3.08	8	3.46	9	2.96	1	3.82
Count/total average	308	2.05	307	2.17	315	2.10	317	1.84	303	2.84	296	2.60	301	3.05	295	2.35	295	3.04
Std. dev. of responses		1.05		1.03		1.27		0.80		1.47		1.36		1.31		1.09		1.39

(local market 3.09), organizational learning 2.98–3.05 (local market 3.43) and customer involvement 2.27–2.46 (local market 2.57).

Independent of the target market, the companies' activities for retaining knowledge generally need to be improved. This can be concluded from the high values scored in the column brain gain. Here again, it shows that locally operating companies with a mean value of M9 = 3.19 fall behind the remaining markets (3.00–3.08).

The development of soft skills in companies with a regional, national and international focus is comparable. Since the results for locally operating companies deviate from the others and because n = 11, it can be stated that hypothesis H4.4 with the DV Target Market is only partially supported.

In brief: Hypothesis H4.4 investigates the soft skills in companies with different target markets. In companies with a regional, national and international focus, the development of soft skills shows similarities. The results of companies with a local operation focus deviate considerably from all others. Moreover, only 11 responses were received for this type of company, thus representing an insufficient sample size. It is therefore difficult to make a final statement about the validity of this hypothesis. All in all, hypothesis H4.4 can be said to be only partially supported.

4.4.2.5 Soft Skills in Relation to the Position in the Company

Due to the volume of collected data, further statistical evaluations can be undertaken. These provide insightful information about special soft skills related to certain company characteristics.

However, the results (intensity of soft skills in different company positions) will not be explained in further detail (Table 4.10). They can be interpreted by analogy with the results listed in Tables 4.6, 4.7, 4.8 and 4.9.

4.4.2.6 Soft Skills in Relation to the Type of Business

The results concerning the soft skill intensity in different types of business will not be explained in further detail (Table 4.11). They can also be interpreted by analogy with the results listed in Tables 4.6, 4.7, 4.8 and 4.9.

4.4.3 Customer Focus Intensity with Respect to Company Characteristics

The following four tables refer to hypotheses H5.1, H5.2, H5.3 and H5.4. For the evaluation of the results, both the mean and the total average were calculated and compared with each other. Also the standard deviation was determined and indicated based on the absolute numbers. The interpretation of results is identical with the approach taken for H4.1–H4.4. Since a 6-point Likert scale was used, the MIN average value is 1 (agree strongly) and the MAX average value 6 (disagree strongly). This means: The lower the mean resp. total average value, the stronger developed the customer focus.

Table 4.10 Results of average value analysis—soft skills and position in the company

	Responsiveness		Intelligence		Motivation		Competence		Knowledge culture		Customer learning		Organizational learning		Customer involvement		Brain gain	
Position in the company	n	M1	n	M2	n	M3	n	M4	n	M5	n	M6	n	M7	n	M8	n	M9
Staff member	153	2.10	153	2.23	159	2.14	158	1.90	159	2.82	155	2.49	159	2.99	153	2.38	159	3.02
Middle management	76	2.10	75	2.17	80	2.14	80		80	3.05	78	2.85	79	3.27	78	2.53	80	3.14
Upper management	49	1.79	49	1.95	46	1.92	49	1.61	49	2.42	49	2.47	49	2.87	49	1.95	49	2.89
Skipped questions	30	2.10	30	2.20	30	2.05	30	1.85	15	3.19	14	2.96	14	3.10	15	2.49	7	3.26
Count/total average	308	2.05	307	2.17	315	2.10	317	1.84	303	2.84	296	2.60	301	3.05	295	2.35	295	3.04
Std. dev. of responses		1.05		1.03		1.27		0.80		1.47		1.36		1.31		1.09		1.39

Table 4.11 Results of average value analysis—soft skills and type of business

	Responsiveness		Intelligence		Motivation		Competence		Knowledge culture		Customer learning		Organizational learning		Customer involvement		Brain gain	
Type of business	n	M1	n	M2	n	M3	n	M4	n	M5	n	M6	n	M7	n	M8	n	M9
B2B (business-to-business)	148	1.96	147	2.09	151	2.10	153	1.81	154	2.92	151	2.64	154	3.08	149	2.35	154	3.08
B2C (business-to-customer)	34	2.28	34	2.30	35	2.10	35	1.76	35	2.52	34	2.42	35	3.08	33	2.38	35	2.92
B2B and B2C	102	2.09	102	2.21	105	2.11	105	1.89	105	2.78	103	2.57	104	2.97	104	2.29	105	3.01
Skipped questions	24	2.11	24	2.23	24	2.05	24	1.85	9	3.26	8	3.08	8	3.46	9	2.96	1	3.82
Count/total average	308	2.05	307	2.17	315	2.10	317	1.84	303	2.84	296	2.60	301	3.05	295	2.35	295	3.04
Std. dev. of responses		1.05		1.03		1.27		0.80		1.47		1.36		1.31		1.09		1.39

Table 4.12 Results of average value analysis for hypothesis H5.1—industry and customer focus

Industry	n	Personal customer focus Mean1	Company's customer focus Mean2	Customer's appreciation of customer focus Mean3	Total average
Consumer goods	5	1.40	1.80	1.80	1.67
Consulting and professional services	44	1.52	1.80	1.81	1.72
Automotive industry	19	1.84	1.68	1.94	1.82
Others	55	1.85	1.85	2.18	1.96
Information technology and software	41	1.85	2.00	2.10	1.99
Transport and tourism	5	2.00	2.20	1.80	2.00
Banks, insurances, financial services	31	1.84	2.10	2.36	2.09
Chemicals and pharmaceuticals	33	1.73	2.18	2.48	2.11
Construction industry	2	2.00	2.50	2.00	2.17
Trade (import & export)	5	2.00	2.20	2.00	2.23
Aerospace industry	3	2.67	2.33	2.00	2.33
Engineering, Metal	11	2.73	2.36	2.36	2.48
Media and film	2	2.50	2.50	2.50	2.50
Energy and raw materials	9	2.11	2.90	2.57	2.60
Food and agriculture	3	2.33	3.00	2.00	2.67
Telecommunications	5	1.60	3.00	3.40	2.67
Electrical industry	5	2.60	2.80	2.80	2.73
Government organizations	4	2.25	3.75	2.33	2.96
Paper, wood, glass, ceramics	2	3.00	3.00	3.00	3.08
Total average	284	1.87	2.08	2.19	2.06
Std. dev. of responses		0.92	0.99	1.02	

4.4.3.1 Customer Focus in Relation to the Industry

Table 4.12 below refers to hypothesis H5.1 which investigated the differences in customer focus development with respect to different industries. The table has been sorted in ascending order of total average. This means that industries with a strongly developed customer focus can be found at the top of the table. The column $n = 284$ indicates the number of answers that were given concerning industry and customer focus. As the number of answers obtained for some industries is relatively low (example: Consumer Goods = 5), these cannot be regarded as representative. Therefore no clear statement can be made for these specific industries. Due to the overall number of participants, only results with $n > 10$ were considered for the evaluation.

Table 4.12 shows the customer focus of different industries and refers to hypothesis H5.1. With a total average of 1.72, the customer focus in Consulting and Professional Services is most strongly developed, clearly ahead of IT with 1.99, Banks with 2.09 and Chemicals with 2.11. The Automotive industry scores a value of 1.82 while Engineering and Metal score a total average of 2.48. Due to the small number of respondents from these two industries (n = 19 and n = 11), the results can only be interpreted as a tendency.

Also the personal customer focus (Mean1) is most strongly developed in Consulting and Professional Services (1.52), followed by Chemicals and Pharmaceuticals with 1.73. The remaining industries considered in this survey range between 1.84 and 1.85.

Likewise, the company's customer focus (Mean2) is most strongly pronounced in Consulting and Professional Services (1.80), with a clear lead over the industries IT (2.00), Banks (2.10) and Chemicals (2.18).

When taking a closer look at the customer's appreciation of customer focus (Mean3), it becomes obvious that the customers of the Consulting industry appreciate the customer focus most highly (1.81), with the IT sector lagging well behind (2.10). The industries Banks (2.36) and Chemicals (2.48) clearly trail behind.

In brief: When evaluating the results obtained for hypothesis H5.1, one problem is immediately apparent. For many industries, the number of participants in the survey was quite low (e.g. Consumer Goods: n = 5) so that no valid statement can be made. When comparing the results from industries with a higher number of participants (e.g. Consulting: n = 44), it shows that there are partly strong differences in the degree of customer focus between these industries. Example: Consulting = 1.72 vs. Chemicals = 2.11. Hypothesis H5.1 has therefore found no support.

4.4.3.2 Customer Focus in Relation to the Role in a Company

Hypothesis H5.2 is evaluated based on the results in Table 4.13. Here, the emphasis is on the customer focus in different departments. As with the analysis of different industries, it holds that results with a small number of responses (n) have little significance.

On average, the highest level of customer focus can be found in the Top Management (total average 1.75), closely followed by Consulting and Marketing/Sales (1.80, 1.87). The result achieved by the R&D department (2.19) can only be considered as a possible indicator (n = 14). Compared to the Top Management, the IT department shows a distinctly lower orientation towards customer needs (2.49). Lagging far behind—surprisingly in the last position (total average 2.53)—is the Customer Service department.

The personal customer focus of the Consulting department and of the Top Management is outstanding (Mean1 = 1.49, 1.52). But also the customer focus displayed by employees of Marketing/Sales stands out prominently (1.69). What is striking again is the gap between these departments and Customer Service (2.12). Only the personal customer focus of employees in IT is lower (2.38).

Table 4.13 Results of average value analysis for hypothesis H5.2—role in the company and customer focus

Role in the company	n	Personal customer focus Mean1	Company's customer focus Mean2	Customer's appreciation of customer focus Mean3	Total average
Top management	27	1.52	1.88	1.76	1.75
Purchasing/Materials	3	2.67	1.33	1.33	1 78
Consulting	57	1.49	1.93	1.95	1.80
Marketing/Sales	51	1.69	1.92	2.04	1.87
Human resources	6	1.67	1.80	2.20	1.89
Administration	9	1.67	1.78	2.33	1 93
Quality management	9	2.11	2.11	2.22	2.15
Research and development	14	1.79	2.36	2.43	2.19
Others	52	2.10	2.25	2.33	2.23
Production	10	2.80	2.09	2.22	2.35
Finance and controlling	8	2.25	2.44	2.44	2.41
Information technology	21	2.38	2.19	2.90	2.49
Customer service	17	2.12	2.71	2.50	2.53
Total average	284	1.87	2.08	2.19	2.06
Std. dev. of responses		0.92	0.99	1.02	

When analyzing the company's customer focus and the customer's appreciation of customer focus, it becomes apparent that here as well the Top Management and the departments Consulting and Marketing/Sales display a high level of customer orientation. What stands out again are the poor results achieved by the IT and Customer Service departments. The latter department scored a company customer focus of Mean2 = 2.71 and thus falls well behind the results achieved by the other departments.

In brief: When analyzing the results for hypothesis H5.2, the same problem had to be confronted. On the one hand, the sample size for some departments (e.g. Purchasing n = 3) is too small, so that due to a lack of data no valid statement can be made. On the other hand, the degree of customer focus varies considerably between the different departments (e.g. Top Management = 1.75 vs. IT = 2.49). Especially in Customer Service (2.53), the lack of customer focus is surprising as this department is supposed to be close to the customers' needs. As above with H5.1, hypothesis H5.2 is not supported.

Table 4.14 Results of average value analysis for hypothesis H5.3—company size and customer focus

Company size	n	Personal customer focus Mean1	Company's customer focus Mean2	Customer's appreciation of customer focus Mean3	Total average
Up to 10 employees	41	1.68	1.90	1.73	1.81
11–49 employees	38	2.08	1.89	1.97	2.00
50–249 employees	42	1.83	2.02	2.20	2.02
More than 10,000 employees	73	1.71	2.19	2.32	2.07
250–1,000 employees	35	1.94	2.09	2.25	2.08
1,001–10,000 employees	54	2.00	2.19	2.38	2.21
Skipped question	1	4.00	6.00	5.00	5.00
Total average	284		2.08	2.19	2.06
Std. dev. of responses		0.92	0.99	1.02	

4.4.3.3 Customer Focus in Relation to the Company Size

Hypothesis H5.3 aims at showing the level of customer focus displayed by differently sized companies. The results have been compiled in Table 4.14. The question concerning the company size was not answered by one respondent.

It is evident at first sight that the customer focus is most strongly developed in very small businesses with up to ten employees. The total average of customer focus is 1.81 and thus clearly ahead of companies that employ a greater number of staff. The orientation towards customer needs seems to be slightly lower in companies with 1,000–10,000 employees.

The evaluation reveals strong differences in the level of customer focus for companies with more than 10,000 employees. While the personal customer focus is Mean1 = 1.71, the results achieved for the company's customer focus (Mean2 = 2.19) and the customer's appreciation of customer focus (Mean3 = 2.32) are almost bottom of the league.

In brief: Although there is a sufficient number of responses available from differently sized companies for the evaluation of hypothesis H5.3, the degree of customer focus varies within a relatively wide range (MIN = 1.81, MAX = 2.21). Due to this deviation, hypothesis H5.3 can be regarded as not supported. Hence, the company size plays no role for the degree of customer orientation.

4.4.3.4 Customer Focus in Relation to the Target Market

The evaluation results for the last hypothesis H5.4 can be found in Table 4.15. This hypothesis analyzes the companies' customer focus broken down by target markets.

Table 4.15 Results of average value analysis for hypothesis H5.4—target market and customer focus

Target market	n	Personal customer focus Mean1	Company's customer focus Mean2	Customer's appreciation of customer focus Mean3	Total average
International market	187	1.83	2.05	2.15	2.01
Local market	11	1.91	1.91	2.10	2.03
National market	55	1.89	2.04	2.14	2.05
Regional market	30	1.93	2.32	2.46	2.27
Skipped question	1	4.00	6.00	5.00	5.00
Total average	284	1.87	2.08	2.19	2.06
Std. dev. of responses		0.92	0.99	1.02	

Companies active in international, national and local markets display a nearly identical level of customer focus (total average = 2.01, 2.03, 2.05). The customer focus of companies operating on a regional scale clearly brings up the rear with a total average of 2.27. The results achieved by these regionally operating companies show clear differences: While the personal customer focus is Mean1 = 1.93, the company's customer focus is Mean2 = 2.32 and the customer's appreciation of customer focus Mean3 = 2.46.

In brief: Companies operate in different target markets. Nevertheless, their customer focus is more or less identical and varies within a relatively small range (MIN = 2.01, MAX = 2.27). As the number of responses from locally operating companies is only n = 11, the results can only cautiously be interpreted as a tendency. But since the degree of customer focus in companies with a local target market is almost identical with the one obtained for all other target markets, hypothesis H5.4 can at least be regarded as partially supported. It would be recommendable though to conduct another survey with a higher number of participants. For the study at hand, however, the target market does not play a major role. In other words: Whether a company operates on a small or large scale does not seem to have a decisive influence on the degree of customer focus.

4.4.3.5 Customer Focus in Relation to the Position in the Company

Based on the collected data, further analyses can be done. The results provide additional information on the intensity of customer focus in relation to different company characteristics.

Table 4.16 shows the intensity of customer focus broken down by hierarchical levels. With a total average of 1.65 the upper management has the highest value, thus the strongest focus on customer orientation, followed by staff members (2.11)

Table 4.16 Results of average value analysis—position in the company and customer focus

Position in the company	n	Personal customer focus Mean1	Company's customer focus Mean2	Customer's appreciation of customer focus Mean3	Total average
Upper management	49	1.43	1.77	1.70	1.65
Staff member	153	1.94	2.12	2.25	2.11
Middle management	76	1.97	2.15	2.32	2.17
Skipped question	6	2.17	2.83	2.83	2.61
Total average	284	1.87	2.08	2.19	2.06
Std. dev. of responses		0.92	0.99	1.02	

Table 4.17 Results of average value analysis—type of business and customer focus

Type of business	n	Personal customer focus Meanl	Company's customer focus Mean2	Customer's appreciation of customer focus Mean3	Total average
B2B	148	1.80	1.99	2.12	1.98
B2C	34	1.76	2.26	2.16	2.10
B2B and B2C	101	1.97	2.12	2.27	2.13
Skipped question	1	4.00	6.00	5.00	5.00
Total average	284	1.87	2.08	2.19	2.06
Std. dev. of responses		0.92	0.99	1.02	

and middle management (2.17). Six respondents did not answer the question related to their position in the company.

4.4.3.6 Customer Focus in Relation to the Type of Business

The results obtained for the customer focus in different business types were not to be expected as regards literature review (see Table 4.17). It can be reasonably assumed that companies doing direct business with end customers (B2C) have a high customer focus. The evaluation of the survey results showed, however, that, according to this research, the customer focus in the B2B segment is higher (total average = 1.98) than in the B2C segment (2.10). Companies doing business in both areas follow close behind with a total average of 2.13. This impressively confirms the truth behind the frequently used catch-phrase 'service wasteland Germany', an allusion to the typically poor service level and lack of customer orientation in Germany.

The following Table 4.18 gives an overview of the research findings.

Table 4.18 Overview of research findings

Hypothesis	Supported	Comments
H1.1	Not supported	IV RESPO NSIVENESS is statistically not significant $p = 0.730$, no support of hypothesis
H1.2	Not supported	IV INTELLIGENCE is statistically not significant $p = 0.891$, no support of hypothesis
H1.3	Partially supported	IV MOTIVATION is statistically significant $p = 0.004$; in this model, an increase in motivation would have a negative impact on DV C_FOCUS ($\beta = -0.147$); model leads to a sufficient R^2 value (.396), partial support of hypothesis
H1.4	Supported	IV COMPETENCE is statistically significant $p = 0.001$, model leads to sufficient R^2 value (0.396), full support of hypothesis
H2.1	Not supported	IV K_CULTURE is statistically not significant $p = .405$, no support of hypothesis
H2.2	Supported	IV C_LEARNING is statistically significant $p = 0.000$, model leads to sufficient R^2 value (0.396), full support of hypothesis
H2.3	Not supported	IV O_LEARNING is statistically not significant $p = .630$, no support of hypothesis
H2.4	Supported	IV C_INVOLVEMENT is statistically significant $p = 0.000$, model leads to sufficient R^2 value (0.396), full support of hypothesis
H3	Supported	IV BRAIN_GAIN is statistically significant $p = 0.002$, model lead to sufficient R^2 value (0.396), full support of hypothesis
H4.1	Supported	Partly strong deviations in the degree of soft skill development in the DV Industry, low number of participants in some industries is therefore not relevant, full support of hypothesis
H4.2	Supported	Different intensity of soft skills in the DV Department, low number of participants in some departments is therefore not relevant, full support of hypothesis
H4.3	Supported	Different intensity of the organizational soft skills in the DV Company Size, full support of hypothesis
H4.4	Partially supported	The soft skills of companies present in regional, national and international markets are developed to a comparable degree, low number of participants in locally active companies $n = 11$ (in addition, there is also a deviation from the other markets), hypothesis is partially supported
H5.1	Not supported	Partial lack of responses ($n < 10$), statement not possible for every type of industry, the other results partly show considerable differences (total average range: 1.72–2.11)
H5.2	Not supported	Partial lack of responses, statement not possible for every type of department, the other results partly show considerable differences (total average range: 1.75–2.53)
H5.3	Not supported	Two clear outliers, companies with up to 10 employees show a very high customer focus (1.81), companies with 1,001–10,000 employees are characterized by a low customer focus (2.21).
H5.4	Partially supported	The degree of customer focus shows only slight differences for different target markets (2.01–2.27); since for companies operating on a local scale $n = 0.11$, this hypothesis is only partially supported.

4.5 Possible Outlook and Interpretation of Soft Skills on Customer-based KM

4.5.1 Other Areas of Customer-based KM and Soft Skill Requirements

The following discussions result from the comments and recommendations made by the participants of the survey.

Application administrators and managers—both in technical and commercial environments—often do not have contact with business customers in the strict sense of the term. Their clients can be software developers, whole departments or business divisions of the company whose operation ability needs to be ensured. Employees working in this field see themselves as service providers. If they receive positive feedback, this strongly contributes to higher job satisfaction and efficient processes. Therefore, also employees working in such departments have a customer relationship[21] and require a high level of customer orientation in order to have the desired effect.

One participant recommended expanding the question block 'company soft skills' in order to track how much of the obtained feedback is ignored, handled poorly or not used for the benefit of the customer despite intentions to the contrary.[22] The analysis of the knowledge loss caused by the disregard of feedback information is certainly an interesting aspect in the evaluation of feedback mechanisms.

The possible answers to responsiveness to customers—including among others 'I frequently ask customers for information/feedback to better understand their product-/service-related needs.' and 'I make sure to immediately clarify any doubts our customers may have concerning our products/services.'—are limited by the implicit assumption that employees are sufficiently 'empowered' to implement necessary measures.[23] Since the respondent has the possibility to indicate the degree of disagreement (disagree slightly vs. disagree strongly), it can be excluded that the respondent gives an answer that he thinks is socially desirable.

In Germany and also in further countries, the 'knowledge' resource is often neglected. At present, we are experts in developing and implementing hardware solutions for KM. However, this research outlined that human beings decide whether or not to share their knowledge.[24] In full awareness of this fact, the authors of this research decided to conduct this survey which is meant to point out shortcomings and to support managers in the development of strategies for improving the soft skills of their employees.

[21] Cf. Comments from the online survey.

[22] Cf. Comments from the online survey.

[23] Cf. Comments from the online survey.

[24] Cf. Comments from the online survey.

Corporate knowledge management is only successful with motivated employees. Employees who are afraid of losing their workplace will not voluntarily and happily disclose and share their knowledge—despite the obligation to archive knowledge.[25] The result of the survey clearly shows that motivation is a crucial factor in the customer knowledge management process. Responsible managers are called upon to break down the barriers to knowledge transfer in their companies to avoid damage or competitive disadvantage caused by the lack of relevant knowledge.

The investigated list of soft skills should be expanded by the following ones: ability to communicate, ability to listen, empathy, emotional intelligence, respect of customers, mutual trust, ability to realize the importance of customer knowledge, compliance with ethical principles (one's own and those of the company).[26] Empathy, emotional intelligence and mutual trust are covered in the present survey by the soft skill competence. All other items can be investigated within the scope of a new or extended study provided they are relevant for the purpose of customer knowledge management.

4.5.2 Possible Limitations of the Study and the Results

Although a comprehensive pre-test was carried out with persons from different industries and departments, a number of limitations were revealed during the survey. In addition, some critical comments were received from the respondents. These will be addressed and discussed in the following paragraphs.

First of all, the term 'customer' would have to be defined more clearly. Depending on the field of activity, employees need to deal with internal and/or external customers. An IT administrator provides his service to people who work in the same organization (individuals, departments or whole divisions), whereas sales people have direct contact to external customers. But no matter whether internal or external: there should be the same high degree of customer focus aiming at the highest level of customer satisfaction. Soft skills are necessary for dealing with both internal and external customers. It needs to be analyzed whether the intensity of these soft skills may be different when dealing with internal or external customers.

Secondly, the inclusion of five negatively worded questions (see Sect. 4.2.4) may cause a certain ambiguity or lack of precision for the survey results. Not all respondents were aware that their answer 'agree strongly' (1) corresponds to 'disagree strongly' (6), depending on whether the question is worded positively or negatively. Future research should consider whether the questions would produce the same results if they had a positive wording. A direct control by repeating the survey would be difficult since the survey is anonymous and does not allow

[25] Cf. Comments from the online survey.

[26] Cf. Comments from the online survey.

conclusions regarding individual participants. A new survey would certainly change the sample characteristics.

Finally, non-commercial people seem to have a slightly defensive or negative attitude towards the term 'knowledge management'. The results were therefore primarily gathered from people working in the commercial sector. Although fixed expressions were used that are well established by now, blue-collar workers e.g. in production, might quickly come up against their limits. It remains to be researched whether a questionnaire without any technical terms—no matter how well established—might find a higher level of acceptance among blue-collar workers.

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Soft Skill Drivers for Successful CKM

5

This chapter sums up the main contents and research results of the book. After summarizing the key findings, the authors outline the theoretical and practical implications of the study. The chapter will conclude with recommendations addressed to the management and suggestions for future research work.

Relevant Soft Skills Through extensive investigation, it was possible to identify nine soft skills that are relevant for *customer knowledge management*. Moreover, the results of the regression analysis show that five of the nine soft skills mentioned below do additionally influence the *customer focus*. These are specially marked with an asterisk (*):

- Responsiveness
- Intelligence
- Motivation*
- Competence*
- Knowledge Culture
- Customer Learning*
- Organizational Learning
- Customer Involvement*
- Brain Gain*[1]

All of these soft skills play a vital role in the customer knowledge management process.

According to the analysis, the soft skill motivation has a negative influence on the customer focus. This questionable result might be a result of misinterpreted survey questions (negatively worded questions). However, it also has to be considered that personal advantage often comes before the needs of others. In other words: The motivation to share customer knowledge is rather driven by self-interest (added

[1] *=Soft skills that are relevant within the CKM process and also have a direct impact on customer focus.

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value for one's own benefit) than by the interest to help and support the customer (added value for the customer). It would therefore be advisable to re-investigate the set of questions around motivation with newly worded questions (purely positive). Furthermore, the results obtained for the soft skill competence have shown that empathy, fair treatment of customers, moral and emotional intelligence are also essential personal skills when dealing with customers and their knowledge and when trying to establish customer focus. Standardized and effective processes of customer learning in a company as well as the recognition of customer knowledge as key element to successful business also have a direct bearing on the customer focus. The same conclusion can be drawn for creation of customer commitment and the involvement of customers in the development of new products and services. Measures to retain the knowledge inside the company and keep it up-to-date (brain gain) are intended to safeguard the company's knowledge capital.

Degree of Soft Skill Development When comparing the intensity of soft skills with different company characteristics, it became obvious that the interpersonal skills are more strongly developed than the organizational skills—independent of industry, department, company size or scope of business. A potential reason for this discrepancy may lie in the tendency of respondents to create a positive self-image. Participants in a survey are rather inclined to assess their personal skills to be above standard or average. Moreover, personal skills are more tangible and easier to grasp than organizations skills. The poor results attained for the organizational skills may be due to the employees' lack of overview inside the company or missing room for maneuver because of too rigid corporate guidelines. Immediate action should be taken and the existing approaches re-worked in order to:

- Make learning processes (customer and organization) more efficient
- Involve customers more strongly into product and service development
- Live and establish the corporate knowledge culture in such a way that a smooth and trouble-free exchange of customer knowledge can take place

The results obtained for brain gain suggest that there is an enormous scope for improvement and a lot of catching-up to do. The following serious shortcomings could be identified:

- Failure to keep knowledge in the company
- Failure to retain knowledge in a person
- Failure to avoid knowledge loss
- Failure to accumulate in-house knowledge

In order to stop further brain drain, the current activities for the retention of knowledge should be supported by allocating more time resources to the transfer of customer knowledge. The poor degree of brain gain may be due to the following reasons:

- Companies do not realize and address the consequences of customer knowledge loss
- The perception of the importance of customer knowledge is different (customer knowledge of employees who have daily customer contact versus employees without customer contact)

- Customer knowledge that has been personally acquired and is used on a daily basis is no longer perceived as special customer knowledge as this knowledge has become routine in doing one's job
- The effectiveness of a measure for retaining knowledge can only be measured after a longer period of time

Soft Skills in Companies Further insights can be gained from the analysis of single soft skills related to company characteristics. For instance, it is clearly visible that the soft skills are more strongly developed in the Consulting industry than in any other line of business. This may be due to the typical product portfolio. Since this industry sells services and capabilities, there is a stronger need for the relevant soft skills than, for instance, in the Automotive industry where product features stand in the foreground.

A comparison of the different departments in companies revealed that soft skills are most strongly developed in the Consulting department and on Top Management level. Two possible reasons can be identified: Firstly, the Top Management needs to take a holistic view of the organization (strategies, analysis of success and failure). For another, consultants have a strong operational focus, offering know-how and a range of services. There is much room for soft skill improvement in Marketing/Sales and the Customer Service since these departments have direct customer contact and therefore are the face of the company.

Concerning different company sizes, the intensity of interpersonal skills can be said to be more or less similar. However, when it comes to organizational skills, there are distinct differences. While the knowledge culture is most strongly developed in small companies up to 10 employees, organizations with 250–1,000 employees have a lot of catching-up to do concerning the realization that knowledge is part of their corporate policy. Moreover, it could be observed that the customer learning process is best organized in companies with more than 10,000 employees, whereas again those with 250–1,000 employees urgently need to optimize their mechanisms for learning from customers.

Soft skills in customer knowledge management are least strongly developed in companies that are active in local markets. This may be explained by the fact that there is only limited competition in local markets while global players need to face fierce competition and therefore have a higher demand for the relevant soft skills. Companies operating in international and new markets have realized that a steady flow of new customer knowledge must be generated for the development of new products and services. Companies with a focus on local markets (often traditional businesses) probably lack the awareness of the necessity of soft skills, because they fail to realize the relevance and urgency for their own business.

Awareness of Customer Focus When investigating the customer focus, it was remarkable to see that the personal customer focus of individual employees is sometimes clearly more pronounced than the customer orientation of the company as a whole. And when taking a closer look at the customer's appreciation of

customer focus, it became obvious that this is even farther away from a desirable level. Either the customer is not able to appreciate the customer orientation of the company he does business with (and is not aware of this), or he does not make this properly known to the company. Another possible interpretation may also be that the respondent's perception does not correspond to the customer's perception of the situation.

Finally, it can be said that companies must further strengthen the five identified soft skills (motivation, competence, customer learning, customer involvement and brain gain) while taking their own company characteristics into account (e.g. scope of business).

5.1 Implications for the Theory and Practice

This study yields important findings with regard to the interplay of soft skills, customer focus and in particular customer knowledge management. Since this study is only to a limited extent based on a previously conducted investigation, it provides a host of useful information concerning (inter)personal and organizational soft skills within CKM.

The research has shown that individual soft skills were already investigated in the past and have found their way into different models. However, it became also clear in the course of research that a great number of soft skills play a vital role in handling customer knowledge, and these have not yet been investigated as a whole for the field of CKM.

This new theoretical approach, combining soft skills with the relatively young topic of customer knowledge management, expands existing theories and thus may well form the basis for further research work.

This study not only makes a contribution to the existing literature, but also delivers valuable insights for practitioners by providing ample food for thought. In accordance with the findings of this study, the following implications can be derived:

The questions asked in the survey (see Appendix E) can inspire a company (managers and employees) to think about their own organization and to reflect on its potential deficiencies. From the questions posed in the survey, new questions may arise, such as:

- Do we actually have customer knowledge management processes in our organization?
- Do I know these processes?
- What exactly do these processes look like?
- How strongly do we involve our customers in development processes?

As a result, the survey stimulates or encourages companies to re-assess and critically analyze the existing processes and to initiate changes for the sake of an improved customer focus.

Furthermore, the questions start a process of self-reflection/personal reflection. Especially the questions concerning (inter)personal skills inquire about the employees' self-image (I share knowledge within the company in my own interest, because. . .) and public image (the way customers, colleagues, superiors see them: Customers who I deal with directly have realized that I. . .). With these questions, individuals will be forced to consider how they see themselves and how others perceive their knowledge use and customer knowledge based actions. A company can assess the behavior of its employees (interpersonal) in a customer knowledge management process and can take a critical look at where there may be scope for improvement, for instance in the way of handling the transfer of customer knowledge.

It lies in the responsibility of the company to re-consider their corporate culture/policy in general and their knowledge culture in particular. The requirements to employees with respect to handling this customer knowledge are changing and need to be adapted over time.

A classification of customers into categories, for example into those with regular contact and those with only little contact, may help obtain information about them more easily and quickly. Experience has shown that the Pareto Principle, also known as the 80–20 rule (80 % of the effects come from 20 % of the causes), works well in such cases and can also be employed in knowledge management. With 20 % of the information it is possible to find 80 % of the answers. The remaining 20 % of the answers cost 80 % effort.[2] It is therefore of high practical importance to categorize customers with as little effort as possible in order to acquire as much but also as relevant information as possible.

5.2 Managerial Recommendations

Before launching activities aimed at improving the soft skills and increasing the customer focus, it is in a first step essential to create the demand for knowledge management and to make executives and co-workers aware of the need of soft skills and finally customer knowledge. Companies and individuals have to learn that, in order to acquire customer knowledge, they have to fulfill various conditions. Only if they have fully grasped the importance of introducing and implementing new measures, the appropriate steps can be initiated that are likely to optimize the existing customer knowledge management.

This study identified a number of important soft skills for CKM. But trying to optimize these soft skills can only be an efficient process with a realistic chance of success if the task is tackled in a targeted and conscious way. It is therefore indispensable to identify where deficits concerning the use of soft skills—in the organization as a whole and among the employees—are, before taking appropriate action. Only the implementation of training courses (e.g. for strengthening specific

[2] Cf. Comments from the online survey.

skills) is not sufficient in itself. The success of such measures needs to be checked and analyzed in regular, pre-defined intervals. Where appropriate, training has to be repeated or further soft skill training take place.

Managers should remind themselves and their co-workers again and again that, in addition to high profit margins, it is the satisfaction and loyalty of their customers that should be the primary objective of companies in order to ensure their long-term survival. And this starts with the customer focus. Superiors must live up to their function as a role model and should be living examples for their co-workers. Once the employees have changed their mindset and incorporated the new behavior, also the customer will eventually feel that his needs are well taken care of and that he gets his money worth.

Based on the results of this study, concrete recommendations can be given. The customer focus of organizations can be increased by following the general guideline outlined below. First of all, before jumping into action and implementing any measures, it is important to raise the awareness inside the company.

Awareness

- Make company management and employees aware of the need for soft skills and of the importance of customer knowledge.
- Fully understand the importance of optimizing customer knowledge management processes.

After raising the awareness of customer focus, the time has come to implement actions.

Actions

- Identify deficits in the use of soft skills (employee and company).
- Implement actions for improving people's soft skills and increasing their customer focus.
- Raise the motivation level (if the results of a new survey show a positive effect on customer focus).
- Make learning processes (customer and organization) more efficient to achieve best possible results in terms of profit and customer satisfaction. (We already learned at school that learning processes should be highly efficient if you want to achieve best possible marks. Why should this be any different for the learning processes inside a company? At the end of the day, the aim is the same.)
- Strengthen individual competencies
- Involve customers in the development of new products and services by greater customer proximity and stronger cooperation.
- (Re-)Organize the corporate knowledge culture to ensure a smooth customer knowledge flow. A company's knowledge culture is a delicate little plant that must be watered every day.
- Implement effective strategies for retaining knowledge inside the company.

5.3 Future Research Directions

Naturally, there are different possibilities of how to continue research in the field of CKM and related soft skills. For instance, the existing research findings can be used for further evaluation. Based on the accumulated data, it could be attempted to (1) establish a relationship between gender and the soft skills required in the customer knowledge management process. (2) It may also be interesting to see whether there is a connection between customer focus and age. (3) As experience grows in the course of a working life, it might be worthwhile analyzing which soft skills in CK management develop more strongly with increasing age.

Further research opportunities result when extending the scope of this study. This can for example be done by expanding the range of demographic data and customer knowledge related soft skills. Since the study focuses on the German-speaking community while the business world is becoming increasingly global, an analysis of the (4) KM soft skills in different countries/cultures may also contribute valuable research findings. In addition, it may be worthwhile investigating (5) other relevant soft skills for the field of CKM (e.g. the ability to listen or the ability to realize the importance of customer knowledge).

A question that accompanies this research work is (6) in how far the investigated soft skills—relevant within the knowledge management process—differ among persons who have direct, only partial or no customer contact at all. In this context, it can also be investigated (7) whether there is a difference in customer focus depending on the degree of customer contact.

Appendices

Appendix A: Online Questionnaire Section 1—Part A: Personal Soft Skills of Customer Knowledge Management (GER)

The English version can be found in Appendices E and H.

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Table A.1 Questionnaire of soft skill 'Reaktionsfähigkeit gegenüber Kunden'—Hypothesis H1.1 (GER)

Type of fact	Soft Faktor	Hypo-thesen	Fragen	Nr.	Bewertung						
Persönlicher Faktor	Reaktions-fähigkeit gegenüber Kunden	H1.1	Die folgenden Aussagen beziehen sich auf die **Reaktionsfähigkeit gegenüber Kunden** (responsiveness to customers), d.h. wie schnell eine Person/ein Unternehmen auf sich ändernde Kundenbedürfnisse reagiert. Bitte kreuzen Sie an, inwieweit Sie den folgenden Aussagen, unter Berücksichtigung Ihrer aktuellen Situation, zustimmen. Nur eine Antwort pro Aussage ist erlaubt.		stimme voll und ganz zu 1	stimme zu 2	stimme eher zu 3	stimme eher nicht zu 4	stimme nicht zu 5	stimme überhaupt nicht zu 6	k. A. (keine Angabe) 7
			Ich frage Kunden in regelmäßigen Abständen nach Informationen/Feedback, um ihre produkt-/dienstleistungsbezogenen Anforderungen besser zu verstehen.	1							
			Zweifel von Kunden an unseren Produkten/ Dienstleistungen kläre ich immer sofort.	2							
			Mein Vorgesetzter weiß, dass ich ständig versuche, den unterschiedlichen Informationsstand zwischen unseren Kunden und meinem Untemehmen zu reduzieren.	3							
			Ich unternehme kontinuierlich große Anstrengungen, um produkt-/ dienstleistungsbezogene Anforderungen unserer Kunden besser zu erfüllen.	4							
			Meine Kunden wissen, dass ich immer prompt versuche, Lösungen für ihre Probleme umzusetzen.	5							

Table A.2 Questionnaire of soft skill 'Intelligenz'—Hypothesis H1.2 (GER)

Type of fact	Soft Faktor	Hypo-thesen	Fragen	Nr.	Bewertung						
Persönlicher Faktor	Intelligenz	H1.2	Die folgenden Aussagen beziehen sich auf **Intelligenz** (intelligence), d.h. benötigter Intellekt, der ausschlaggebend im Umgang mit Kunden ist. Bitte kreuzen Sie an, inwieweit Sie den folgenden Aussagen, unter Berücksichtigung Ihrer aktuellen Situation, zustimmen. Nur eine Antwort pro Aussage ist erlaubt.		stimme voll und ganz zu 1	stimme zu 2	stimme eher zu 3	stimme eher nicht zu 4	stimme nicht zu 5	stimme überhaupt nicht zu 6	k. A. (keine Angabe) 7
			Kunden, mit denen ich direkt Kontakt habe, erwarten intellektuelle Qualifikationen/Fähigkeiten von mir.	1							
			Wissenschaftliche/theoretische Ansätze im Umgang mit Kunden setze ich bei meiner täglichen Arbeit problemlos um.	2							
			Intelligenz hat einen signifikanten Einfluss auf den Erfolg meiner täglichen Arbeit mit Kunden.	3							
			Es fällt mir leicht, neu errungenes Kundenwissen zweckbestimmt einzusetzen.	4							
			Mitarbeiter kann ich mit meinem Kundenwissen ohne Einschränkung in meinem Arbeitsbereich anlernen.	5							

Table A.3 Questionnaire of soft skill 'Motivation'—Hypothesis H1.3 (GER)

Type of fact	Soft Faktor	Hypo-thesen	Fragen	Nr.	Bewertung						
Persönlicher Faktor	Motivation	H1.3	Die folgenden Aussagen beziehen sich auf **Motivation** (motivation), d.h. die Intensität, mit der persönliche bzw. organisatorische Ziele verfolgt werden. Bitte kreuzen Sie an, inwieweit Sie den folgenden Aussagen, unter Berücksichtigung Ihrer aktuellen Situation, zustimmen. Nur eine Antwort pro Aussage ist erlaubt.		stimme voll und ganz zu 1	stimme zu 2	stimme eher zu 3	stimme eher nicht zu 4	stimme nicht zu 5	stimme überhaupt nicht zu 6	k. A. (keine Angabe) 7
			Ich teile mein Wissen innerhalb des Unternehmens aus eigenem Interesse, weil mir die Bedeutung von Wissensaustausch bewusst ist.	1							
			Ich teile mein Wissen nur aufgrund zu erwartender Gegenleistungen (Bonus, Prämienzahlungen, Anerkennung).	2							
			Ich teile mein Wissen nur aufgrund zu erwartender Sanktionen (Verstoß gegen Richtlinien).	3							
			Ich teile mein Wissen nur, wenn ich persönlich davon überzeugt bin, dass der Wissenstransfer einen Mehrwert darstellt—unabhängig davon, ob Anreize bzw. Strafen seitens des Unternehmens gegeben sind.	4							
			Meine Kollegen schätzen mich als Mitarbeiter, der sein Fachwissen gern teilt.	5							
			Mein Vorgesetzter sieht mich als hochmotivierten Mitarbeiter, der sein Wissen unaufgefordert teilt.	6							

Table A.4 Questionnaire of soft skill 'Kompetenz'—Hypothesis H1.4 (GER)

Type of fact	Soft Faktor	Hypothesen	Fragen	Nr.	Bewertung						
Persönlicher Faktor	Kompetenz	H1.4	Die folgenden Aussagen beziehen sich auf **Kompetenz** (competence), d.h. notwendige emotionale und moralische Eigenschaften, die unerlässlich im Umgang mit Kunden sind. Bitte kreuzen Sie an, inwieweit Sie den folgenden Aussagen, unter Berücksichtigung Ihrer aktuellen Situation, zustimmen. Nur eine Antwort pro Aussage ist erlaubt.		stimme voll und ganz zu 1	stimme zu 2	stimme eher zu 3	stimme eher nicht zu 4	stimme nicht zu 5	stimme überhaupt nicht zu 6	k. A. (keine Angabe) 7
			Kollegen auf der gleichen Hierarchieebene wissen, dass ich meine Versprechen stets einhalte.	1							
			Die Kunden, mit denen ich direkten Kontakt habe, wissen, dass ich über den Tellerrand hinaus denke.	2							
			Die Kunden, mit denen ich direkten Kontakt habe, sehen mich als sehr kooperativen Ansprechpartner.	3							
			Mein Vorgesetzter schätzt mich als Mitarbeiter, der sehr viel Wert auf win-win Situationen (Unternehmen + Kunde) legt.	4							
			Der Kundenfokus spielt, für mich persönlich, in meiner täglichen Arbeit eine übergeordnete Rolle.	5							

Appendix B: Online Questionnaire Section 2—Part B: Organizational Soft Skills of Customer Knowledge Management (GER)

The English version can be found in Appendices E and H.

Table B.1 Questionnaire of soft skill 'Wissenskultur'—Hypothesis H2.1 (GER)

Type of fact	Soft Faktor	Hypo-thesen	Fragen	Nr.	Bewertung						
Organisato-rischer Faktor	Wissenskultur	H2.1	Die folgenden Aussagen beziehen sich auf die **Wissenskultur** (knowledge culture), d.h. die unternehmensinterne Philosophie und Unternehmenspolitik, wie mit dem Faktor 'Wissen' umgegangen wird. Bitte kreuzen Sie an, inwieweit Sie den folgenden Aussagen, unter Berücksichtigung Ihrer aktuellen Situation, zustimmen. Nur eine Antwort pro Aussage ist erlaubt.		stimme voll und ganz zu	stimme zu	stimme eher zu	stimme eher nicht zu	stimme nicht zu	stimme überhaupt nicht zu	k. A. (keine Angabe)
					1	2	3	4	5	6	7
			Die Bedeutung von Wissen wird an meinem Arbeitsplatz verdeutlicht, damit die Qualität der Arbeit erhöht wird.	1							
			Ich kenne die Prozesse, wie Wissen an meinem Arbeitsplatz verwaltet wird.	2							
			Wir haben Mitarbeiter, die speziell für die Verwaltung von Wissen zuständig sind (Bsp. Wissensmanager).	3							
			Mein Unternehmen unterstützt die Mitarbeiter darin, ihre Erkenntnisse durch Wissens-/Erfahrungsaustausch zu teilen.	4							
			Wissensprozesse sind Routine in meinem Unternehmen.	5							

Table B.2 Questionnaire of soft skill 'Kundenorientiertes Lernen'—Hypothesis H2.2 (GER)

Type of fact	Soft Faktor	Hypo-thesen	Fragen	Nr.	Bewertung						
Organisatorischer Faktor	Kunden-orientiertes Lernen	H2.2	Die folgenden Aussagen beziehen sich auf **kundenorientiertes Lernen** (customer learning), d.h. die Fähigkeit eines Unternehmens, Kundennähe und Kundenfeingefühl zu verbessern. Bitte kreuzen Sie an, inwieweit Sie den folgenden Aussagen, unter Berücksichtigung Ihrer aktuellen Situation, zustimmen. Nur eine Antwort pro Aussage ist erlaubt.		stimme voll und ganz zu 1	stimme zu 2	stimme eher zu 3	stimme eher nicht zu 4	stimme nicht zu 5	stimme überhaupt nicht zu 6	k. A. (keine Angabe) 7
			Ich trage zu kundenorientiertem Lernen bei, indem ich Kunden-Feedback teile und nutze.	1							
			Ich lege bei meiner täglichen Arbeit besonderen Wert auf Kunden-Feedback.	2							
			Mein Unternehmen verfügt über effektive Prozesse, Kundenwissen innerhalb der Organisation zu verteilen.	3							
			Mein Unternehmen führt regelmäßig Kunden-Zufriedenheitsumfragen durch.	4							
			Mein Unternehmen sucht kontinuierlich nach Möglichkeiten, Kunden besser kennenzulernen.	5							

Table B.3 Questionnaire of soft skill 'Organisatorisches Lernen'—Hypothesis H2.3 (GER)

Type of fact	Soft Faktor	Hypothesen	Fragen	Nr.	Bewertung						
Organisatorischer Faktor	Organisatorisches Lernen	H2.3	Die folgenden Aussagen beziehen sich auf **organisatorisches Lernen** (organizational learning), d.h. die Fähigkeit eines Unternehmens, Wissenslücken zu minimieren, die kritisch in Geschäftsbeziehungen sein können. Bitte kreuzen Sie an, inwieweit Sie den folgenden Aussagen, unter Berücksichtigung Ihrer aktuellen Situation, zustimmen. Nur eine Antwort pro Aussage ist erlaubt.		stimme voll und ganz zu 1	stimme zu 2	stimme eher zu 3	stimme eher nicht zu 4	stimme nicht zu 5	stimme überhaupt nicht zu 6	k. A. (keine Angabe) 7
			Informationen in Datenbanken werden in meinem Unternehmen immer auf dem aktuellen Stand gehalten.	1							
			Die Art und Weise, wie Informationen in meinem Unternehmen organisiert/strukturiert werden, erleichtert den Mitarbeitern die tägliche Arbeit.	2							
			Mein Unternehmen speichert interne Erfahrungen und Wissen so, dass sie später problemlos von Mitarbeitern genutzt werden können.	3							
			Mein Unternehmen verfügt über keine Prozesse, die den Austausch von Best Practices zwischen den verschiedenen Geschäftsfeldern sicherstellen sollen.	4							
			Mein Unternehmen bietet Möglichkeiten, von anderen Mitarbeitern und Geschäftsbereichen zu lernen (z.B. durch interne Austausch- und Trainingsprogramme).	5							

Table B.4 Questionnaire of soft skill 'Kundenmitwirkung'—Hypothesis H2.4 (GER)

Type of fact	Soft Faktor	Hypo-thesen	Fragen	Nr.	Bewertung						
Organisatorischer Faktor	Kunden-mitwirkung	H2.4	Die folgenden Aussagen beziehen sich auf **Kundenmitwirkung** (customer involvement), d.h. die Einbeziehung von Kundenwissen in interne Prozesse, um den Kundenfokus zu erhöhen. Bitte kreuzen Sie an, inwieweit Sie den folgenden Aussagen, unter Berücksichtigung Ihrer aktuellen Situation, zustimmen. Nur eine Antwort pro Aussage ist erlaubt.		stimme voll und ganz zu	stimme zu	stimme eher zu	stimme eher nicht zu	stimme nicht zu	stimme überhaupt nicht zu	k. A. (keine Angabe)
					1	2	3	4	5	6	7
			Mein Unternehmen ist sehr stark bemüht, Kunden in die Produkt-/ Serviceentwicklung einzubinden.	1							
			Mein Vorgesetzter schätzt mich als Mitarbeiter, der sehr viel Wert auf die Einbindung von Kunden legt.	2							
			Bei den Kollegen der gleichen Hierarchieebene bin ich für meine Einbindung von Kunden bekannt.	3							
			Die Kunden, mit denen ich direkten Kontakt habe, merken, dass ich sehr viel Wert auf ihre Meinung lege.	4							
			Informationen von Kunden sind bei meiner täglichen Arbeit sehr wichtig.	5							

Appendix C: Online Questionnaire Section 3—Part C: Knowledge Loss, Customer Focus and Customer Contact (GER)

The English version can be found in Appendices E and H.

Table C.1 Questionnaire of soft skill 'Wissensbewahrung/Wissensabwanderung'—Hypothesis H3 (GER)

Type of fact	Soft Faktor	Hypothesen	Fragen	Nr.	Bewertung						
Organisatorischer + Persönlicher Faktor	Wissensbewahrung/ Wissensabwanderung	H3	Die folgenden Aussagen beziehen sich auf **Wissensbewahrung/ Wissensabwanderung** (brain gain/ drain), d.h. zum einen die Fähigkeit des Unternehmens, Wissen in der Organisation zu bewahren und zum anderen die persönliche Fähigkeit, die Qualität des eigenen Wissens aufrecht zu halten. Bitte kreuzen Sie an, inwieweit Sie den folgenden Aussagen, unter Berücksichtigung Ihrer aktuellen Situation, zustimmen. Nur eine Antwort pro Aussage ist erlaubt.		stimme voll und ganz zu 1	stimme zu 2	stimme eher zu 3	stimme eher nicht zu 4	stimme nicht zu 5	stimme überhaupt nicht zu 6	k. A. (keine Angabe) 7
			Jeder Mitarbeiter, der das Unternehmen verlässt, muss einen angemessenen Wissenstransferprozess durchlaufen.	1							
			Jedem Mitarbeiter, der das Unternehmen verlässt, wird seitens des Unternehmens ausreichend Zeit gegeben, sein Wissen zu teilen.	2							
			Das Wissen über Kunden wird in meinem Unternehmen immer aktuell gehalten.	3							

Mein Unternehmen hat detaillierte Prozesse, um das Wissen des einzelnen Mitarbeiters in das Unternehmen zu übertragen.	4
Die Datenbank in meinem Unternehmen wird kontinuierlich mit allen relevanten Informationen gefüllt, die ausreichen, um meinen Job sehr gut auszuführen.	5
Mein Unternehmen führt regelmäßig Wartungsarbeiten und Verbesserungen an allen vorhandenen Systemen durch.	6
Ich speichere von mir neu zusammengetragene Informationen immer in der Unternehmensdatenbank ab.	7
Ich teile kritisches Wissen mit meinen Kollegen nur auf Anforderung/wenn ich gefragt werde.	8
Erlerntes Wissen wird von mir regelmäßig wiederholt.	9
Ich besuche auf Eigeninitiative Fortbildungen, um meinen Wissensstand zu erweitern.	10
Ich wende erlerntes Wissen in der Praxis bei meiner täglichen Arbeit an.	11

Table C.2 Questionnaire of 'Kundenfokus' Intensity—Hypothesis H1-H3 (GER)

Variable		Hypothesen	Fragen	Nr.	Bewertung						
Kundenfokus	Abhängige Variable	H1.1-H3	Die folgenden Aussagen beziehen sich auf den **Kundenfokus** (customer focus), d.h. wie stark die Kundenorientierung ist. Bitte kreuzen Sie an, inwieweit Sie den folgenden Aussagen, unter Berücksichtigung Ihrer aktuellen Situation, zustimmen. Nur eine Antwort pro Aussage ist erlaubt.		stimme voll und ganz zu 1	stimme zu 2	stimme eher zu 3	stimme eher nicht zu 4	stimme nicht zu 5	stimme überhaupt nicht zu 6	k. A. (keine Angabe) 7
			Ich persönlich habe einen ausgeprägten Kundenfokus.	1							
			Mein Unternehmen hat einen starken Kundenfokus.	2							
			Die Kunden meines Unternehmens schätzen unseren Kundenfokus.	3							

Table C.3 Questionnaire of 'Kundenkontakt' Intensity (GER)

Variable	Fragen	Nummer	Antwort
Kundenkontakt	Haben Sie bei der Ausführung	1	ja
	Ihrer täglichen Arbeit	2	teilweise
	Kundenkontakt?	3	nein

Table C.4 Questionnaire of 'Weitere Faktoren' (GER)

Variable	Fragen	Nummer	Offene Frage
Weitere Faktoren	Welche weiteren Faktoren spielen Ihrer Meinung nach ebenfalls eine wesentliche Rolle im Umgang mit Kunden und Kundenwissen? Ein voll funktionsfähiges System (Datenbank) wird vorausgesetzt.	1	. . .

Appendix D: Online Questionnaire Section 4—Part D: Demographic Data (GER)

The English version can be found in Appendices E and H.

Table D.1 Questionnaire of 'Demographic Data' (GER)

Anzahl Fragen	Daten	Fragen	Antwort	Werte
1	Geschlecht	Bitte geben Sie Ihr Geschlecht an.	1	männlich
			2	weiblich
2	Alter	Bitte geben Sie Ihr Alter an.	1	drop down 15–99
			2	. . .
3	Arbeitsstätte	Wo liegt Ihr aktueller Arbeitsort?	1	drop down alle Länder
			2	. . .
4	Branche	Bitte wählen Sie die Branche, in der Ihre Firma/Organisation hauptsächlich tätig ist.	1	Automobilindustrie
			2	Bau
			3	Banken, Versicherungen, Finanzdienste
			4	Beratung
			5	Chemie- und Pharmaindustrie
			6	Elektroindustrie
			7	Energieversorgung und Rohstoffe
			8	Ernährung und Landwirtschaft
			9	Handel (Import & Export)
			10	Informationstechnologie und Software
			11	Konsumgüterindustrie
			12	Maschinenbau und Metallindustrie
			13	Luft- und Raumfahrt
			14	Regierungsorganisation, Länder, Städte
			15	Medien und Film
			16	Papier, Holz, Glas, Keramik
			17	Telekommunikation
			18	Textil, Bekleidung, Schuhe, Mode
			19	Transport und Tourismus
			20	Sonstige(s)

Anzahl Fragen	Daten	Fragen	Antwort	Werte
5	Funktion im Unternehmen	In welchem Bereich Ihres Unternehmens sind Sie tätig?	1	Beratung
			2	Buchhaltung/Finanzen/ Controlling
			3	Einkauf/ Materialwirtschaft
			4	Forschung und Entwicklung
			5	Geschäftsleitung
			6	Informationstechnologie/ EDV
			7	Kundenservice
			8	Marketing/Vertrieb
			9	Personalwirtschaft
			10	Produktion
			11	Qualitätsmanagement
			12	Verwaltung
			13	Sonstige(s)
6	Position im Unternehmen	Welcher Hierarchieebene gehören Sie an?	1	Mitarbeiterebene
			2	mittlere Führungsebene (Abteilungs-, Team-, Gruppenleiter)
			3	obere Führungsebene (Geschäfts-, Bereichsleitung)
7	Größe des Unternehmens	Wie groß ist das Unternehmen, für das Sie arbeiten?	1	bis zu 10 Beschäftigte
			2	von 11 bis 49 Beschäftigte
			3	von 50 bis 249 Beschäftigte
			4	von 250 bis 1.000 Beschäftigte
			5	von 1.001 bis 10.000 Beschäftigte
			6	mehr als 10.000 Beschäftigte
8	Unternehmenstyp	Zu welchem Typ gehört Ihr Unternehmen?	1	B2B (Geschäfte mit Geschäftskunden)
			2	B2C (Geschäfte mit Endverbrauchern)
9	Zielmarkt	In welchen Märkten ist Ihr Unternehmen tätig?	1	lokaler Markt
			2	regionaler Markt
			3	nationaler Markt
			4	internationaler Markt

Appendix E: Questionnaire: Rating

Table E.1 Rating of soft skill 'Responsiveness to customers'—Hypothesis H1.1 (ENG)

Type of fact	Soft fact	Hypo-thesis	Question	Q.-no.	Rating						
Personal fact	Responsiveness to customers	H1.1	The following statements refer to the **responsiveness to customers**, i.e. how quickly a person/company reacts to changing customer needs (customer orientation). Please mark the one answer that applies most closely to your situation. Only one answer per statement is allowed.		Agree strongly 1	Agree moderately 2	Agree slightly 3	Disagree slightly 4	Disagree moderately 5	Disagree strongly 6	n/s not specified 7
			I frequently ask customers for information/feedback to better understand their product-/ service-related needs.	1							
			I make sure to immediately clarify any doubts our customers may have concerning our products/services.	2							
			My superior knows that I constantly try to reduce any information asymmetry between the customers and my company.	3							
			I constantly put in great efforts to better fulfill the product-/service-related needs of our customers.	4							
			My customers know that I always try to provide prompt solutions to their problems.	5							

Table E.2 Rating of soft skill 'Intelligence'—Hypothesis H1.2 (ENG)

Type of fact	Soft fact	Hypo-thesis	Question	Q.-no.	Rating						
Personal fact	Intelligence	H1.2	The following statements refer to the **intelligence**, i.e. the required brain power that is essential when dealing with customers. Please mark the one answer that applies most closely to your situation. Only one answer per statement is allowed.		Agree strongly 1	Agree moderately 2	Agree slightly 3	Disagree slightly 4	Disagree moderately 5	Disagree strongly 6	n/s not specified 7
			Customers who I deal with directly expect me to have intellectual qualifications/skills.	1							
			In my daily work, I have no problems to put scientific/ theoretical approaches for dealing with customers into practice.	2							
			Intelligence has a significant impact on the success of my daily work with customers.	3							
			I find it easy to make dedicated, aim-oriented use of newly acquired customer knowledge.	4							
			With the help of my customer knowledge, I can train new employees to work in my area of work without any restrictions.	5							

Table E.3 Rating of soft skill 'Motivation'—Hypothesis H1.3 (ENG)

Type of fact	Soft fact	Hypo-thesis	Question	Q.-no.	Rating						
Personal fact	Motivation	H1.3	The following statements refer to **motivation**, i.e. the intensity with which personal and organizational objectives are pursued. Please mark the one answer that applies most closely to your situation. Only one answer per statement is allowed.		Agree strongly 1	Agree moderately 2	Agree slightly 3	Disagree slightly 4	Disagree moderately 5	Disagree strongly 6	n/s not specified 7
			I share knowledge within the company in my own interest, because I'm aware of the significance of knowledge exchange.	1							
			I only share my knowledge, because I expect a benefit (reward, bonus payment, recognition).	2							
			I only share my knowledge, because I expect a possible punishment (breach of guidelines).	3							
			I only share my knowledge when I'm personally convinced that the knowledge transfer is an added value—no matter if I can expect reward or punishment from the company.	4							
			My colleagues think highly of me, because I gladly share my expert knowledge with them.	5							
			My superior sees me as a highly motivated coworker who shares knowledge without being asked.	6							

Table E.4 Rating of soft skill 'Competence'—Hypothesis H1.4 (ENG)

Type of fact	Soft fact	Hypo-thesis	Question	Q.-no.	Rating						
Personal fact	Competence	H1.4	The following statements refer to **competence**, i.e. the required emotional and moral qualities that are indispensable when dealing with customers. Please mark the one answer that applies most closely to your situation. Only one answer per statement is allowed.		Agree strongly 1	Agree moderately 2	Agree slightly 3	Disagree slightly 4	Disagree moderately 5	Disagree strongly 6	n/s not specified 7
			Colleagues on the same hierarchical level know that I always keep my promises.	1							
			Customers who I deal with directly know that I think out of the box and see the big picture.	2							
			Customers who I deal with directly regard me as a very cooperative partner.	3							
			My superior values me as a coworker who always strives to reach win-win situations (company + customer).	4							
			For me personally, customer focus is of paramount importance in my daily work.	5							

Table E.5 Rating of soft skill 'Knowledge Culture'—Hypothesis H2.1 (ENG)

Type of fact	Soft fact	Hypo-thesis	Question	Q.-no.	Rating						
Organiza-tional fact	Knowledge culture	H2.1	The following statements refer to **knowledge culture**, i.e. the in-company philosophy and policy that governs the handling of knowledge. Please mark the one answer that applies most closely to your situation. Only one answer per statement is allowed.		Agree strongly 1	Agree moderately 2	Agree slightly 3	Disagree slightly 4	Disagree moderately 5	Disagree strongly 6	n/s not specified 7
			The importance of knowledge is actively promoted at my workplace to improve the quality of what we do.	1							
			I'm aware of the processes for managing knowledge at my workplace.	2							
			We have staff who are specifically responsible for managing knowledge (e.g. CKO—Chief Knowledge Officer).	3							
			My company supports its staff in sharing lessons learned through the exchange of knowledge and experience.	4							
			Knowledge processes are routine processes in my company.	5							

Table E.6 Rating of soft skill 'Customer Learning'—Hypothesis H2.2 (ENG)

Type of fact	Soft fact	Hypo-thesis	Question	Q.-no.	Rating						
Organizational fact	Customer learning	H2.2	The following statements refer to **customer learning**, i.e. the ability of a company to improve customer intimacy and customer sensitivity. Please mark the one answer that applies most closely to your situation. Only one answer per statement is allowed.		Agree strongly 1	Agree moderately 2	Agree slightly 3	Disagree slightly 4	Disagree moderately 5	Disagree strongly 6	n/s not specified 7
			I contribute to customer learning by sharing and using customer feedback.	1							
			In my daily work, I attach great importance to customer feedback.	2							
			My company has effective procedures in place to disseminate customer knowledge throughout the entire organization.	3							
			My company regularly conducts customer satisfaction surveys.	4							
			My company is always seeking for opportunities to learn more about our customers.	5							

Table E.7 Rating of soft skill 'Organizational Learning'—Hypothesis H2.3 (ENG)

Type of fact	Soft fact	Hypo-thesis	Question	Q.-no.	Rating						
Organiza-tional fact	Organiza-tional learning	H2.3	The following statements refer to **organizational learning**, i.e. the ability of a company to minimize knowledge gaps that may be critical for customer relationships. Please mark the one answer that applies most closely to your situation. Only one answer per statement is allowed.		Agree strongly 1	Agree moderately 2	Agree slightly 3	Disagree slightly 4	Disagree moderately 5	Disagree strongly 6	n/s not specified 7
			Databases in my company are always kept up-to-date.	1							
			The existing codification of information in my company makes work easier for the staff.	2							
			My company stores internal experience and knowledge in such a way that it can be easily used by the staff at a later date.	3							
			My company has no processes in place to ensure the exchange of best practices among the different business divisions.	4							
			My company offers opportunities to learn from other coworkers and business divisions (e.g. visits to other parts of the company, internal training programs).	5							

Table E.8 Rating of soft skill 'Customer Involvement'—Hypothesis H2.4 (ENG)

Type of fact	Soft fact	Hypo-thesis	Question	Q.-no.	Rating						
Organiza-tional fact	Customer involvement	H2.4	The following statements refer to **customer involvement**, i.e. the integration of customer knowledge into internal processes to improve the customer focus. Please mark the one answer that applies most closely to your situation. Only one answer per statement is allowed.		Agree strongly 1	Agree moderately 2	Agree slightly 3	Disagree slightly 4	Disagree moderately 5	Disagree strongly 6	n/s not specified 7
			My company strongly endeavors to involve the customers into new product-/service development.	1							
			My superior values me as a coworker who is strongly committed to involving our customers.	2							
			My colleagues on the same hierarchical level know me for my customer involvement.	3							
			Customers who I deal with directly have realized that I highly value their opinions.	4							
			Information obtained from customers is crucial for my daily work.	5							

Table E.9 Rating of soft skill 'Brain Gain/Brain Drain'—Hypothesis H3 (ENG)

Type of fact	Soft fact	Hypo-thesis	Question	Q.-no.	Rating						
Organizational + personal fact	Brain gain/ drain	H3	The following statements refer to **brain gain/drain**, i.e. on the one hand the company's ability to retain knowledge in the organizational memory and on the other hand the personal ability to maintain the quality of one's own knowledge. Please mark the one answer that applies most closely to your situation. Only one answer per statement is allowed.		Agree strongly 1	Agree moderately 2	Agree slightly 3	Disagree slightly 4	Disagree moderately 5	Disagree strongly 6	n/s not specified 7
			Every employee who is leaving or expected to leave has to undergo a proper knowledge transfer process.	1							
			All employees who are leaving or expected to leave are given sufficient time by the company to share their individual knowledge.	2							
			The company's knowledge about its customers is always kept up-to-date.	3							
			We have detailed processes in place for transfering individual employee knowledge into the organization.	4							

My company's information repository is continuously filled with all relevant information that is sufficient to do my job very well.	5	
My company regularly maintains and improves all existing systems.	6	
I always store new information compiled by me in the organizational database.	7	
I only share critical knowledge with my colleagues on request/when asked.	8	
I regularly review the acquired knowledge.	9	
On my own initiative, I attend training courses to enlarge my knowledge.	10	
I make practical use of my acquired knowledge in my daily work.	11	

Table E.10 Rating of 'Customer Focus' Intensity—Hypothesis H1.1-H3 (ENG)

Variable		Hypotheses	Question	Q.-no.	Rating						
Customer focus	Dependent variable	H1.1-H3	The following statements refer to **customer focus**, i.e. how strong the customer orientation is. Please mark the one answer that applies most closely to your situation. Only one answer per statement is allowed.		Agree strongly 1	Agree moderately 2	Agree slightly 3	Disagree slightly 4	Disagree moderately 5	Disagree strongly 6	n/s not specified 7
			I personally have a strong customer focus.	1							
			My company has a strong customer focus.	2							
			The customers of my company appreciate our customer focus.	3							

Table E.11 Rating of 'Customer Contact' Intensity (ENG)

Variable	Question	Q.-no.	Answer
Customer contact	Do you have customer contact in your daily work?	1	Yes
		2	Partially
		3	No

Table E.12 Rating of 'Other Facts' (ENG)

Variable	Question	Q.-no.	Open question
Other facts	What other factors, do you think, also play an essential role when dealing with customers and customer knowledge—provided there is a fully functional system (database)?	1	. . .

Appendix F: Overview of Selected Theories and Approaches of Recent Researches

Table F.1 Overview of selected theories and scientific approaches

Soft skill	Author	Titel of work	Year of publication
Brain gain/drain	Mishra, B., Bhaskar, A. U.	Knowledge management process in two learning organisations, in: Journal of Knowledge Management, Vol. 15, Issue 2, pp. 344-359	2011
Brain gain/drain	Levy, M.	Knowledge retention – minimizing organizational business loss, in: Journal of Knowledge Management, Vol. 15, Issue 4, pp. 582-600	2011
Responsiveness to customers	Sing, R., Koshy, A.	A new conceptualization of salesperson's customer orientation – Propositions and implications, in: Marketing Intelligence & Planning, Vol. 30, Issue 1, pp. 69-82	2012
Responsiveness to customers	Liew, C.-B. A.	Strategic integration of knowledge management and customer relationship management, in: Journal of Knowledge Management, Vol. 12, Issue 4, pp. 131-146	2008
Intelligence	Senapathi, R.	Dissemination and Utilisation—Knowledge; in: SCMS Journal of Indian Management, Vol. 8, Issue 2, pp. 85-105	2011
Intelligence	Walker, D. H. T., Christenson, D.	Knowledge wisdom and networks – a project management centre of excellence example, in: The Learning Organization, Vol. 12, Issue 3, pp. 275-291	2005
Motivation	Foss, N. J. et al.	Encouraging knowledge sharing among employees – How job design matters, in: Human Resource Management, Vol. 48, Issue 6, pp. 871-893	2009
Motivation	Gagne, M.	A model of knowledge-sharing motivation, in: Human resource management, Vol. 48, Issue 4, pp. 571-589	2009
Competence	Kosturiak, J.	Innovations and knowledge management, in: Human Systems Management, Vol. 29, Issue 1, pp. 51-63	2010
Competence	Smith, E. A.	Communities of Competence – new resources in the workplace, in: Journal of Workplace Learning, Vol. 17, Issue 1-2, pp. 7-23	2005
Knowledge culture	Cardoso, L., Meireles, A., Peralta, C. F.	Knowledge management and its critical factors in social economy organizations, in: Journal of Knowledge Management, Vol. 16, Issue 2, n. p.	2012

Soft skill	Author	Titel of work	Year of publication
Knowledge culture	Fong, P. S. W. et al.	The processes of knowledge management in professional services firms in the construction industry, in: Journal of Knowledge Management, Vol. 13, Issue 2, pp. 110-126	2009
Customer learning	Dessi, C., Floris, M.	When management and customers see eye-to-eye . . ., in: Journal of Small Business and Enterprise Development, Vol. 17, Issue 1, pp. 102-122	2010
Customer learning	Zack, M., McKeen, J., Singh, S.	Knowledge management and organizational performance – an exploratory analysis, in: Journal of Knowledge Management, Vol. 13, Issue 6, pp. 392-409	2009
Organizational learning	Javernick-Will, A. N.	Organizational learning during internationalization – acquiring local institutional knowledge, in: Construction Management & Economics, Vol. 27, Issue 8, pp. 783-797	2009
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Customer involvement	Lau, A. K. W.	Supplier and customer involvement on new product performance – Contextual factors . . ., in: Industrial Management & Data Systems, Vol. 111, Issue 6, pp. 910-942	2011
Customer involvement	Cross, M. E. et al.	Customer orientation and salesperson performance, in: European Journal of Marketing, Vol. 41, Issue 7-8, pp. 821-835	2007

Appendix G: Questionnaire: Explanation/Variables

Table G.1 Explanation of soft skill 'Responsiveness to customers'—Hypothesis H1.1 (ENG)

Soft fact	Hypothesis	Question	Q.-no.	Explanation	Involved party/ dependent party	Variable	Type of question
Responsiveness to customers	H1.1	I frequently ask customers for information/feedback to better understand their product-/ service-related needs.	1	Focus on customer needs; customer profiling; ensure customer satisfaction; contact duration	Personal	RESPONSIVENESS_1	Positive
		I make sure to immediately clarify any doubts our customers may have concerning our products/services.	2	In-time intervention; level of communication	Personal	RESPONSIVENESS_2	Positive
		My superior knows that I constantly try to reduce any information asymmetry between the customers and my company.	3	Keep knowledge up to date; fill information gaps	Superior	RESPONSIVENESS_3	Positive
		I constantly put in great efforts to better fulfill the product-/service-related needs of our customers.	4	Anticipate future customer needs; learn from customer needs	Personal	RESPONSIVENESS_4	Positive
		My customers know that I always try to provide prompt solutions to their problems.	5	Customer responsibility; maintain customer relationships; satisfactory cooperation	Customer	RESPONSIVENESS_5	Positive

Table G.2 Explanation of soft skill 'Intelligence'—Hypothesis H1.2 (ENG)

Soft fact	Hypothesis	Question	Q.-no.	Explanation	Involved party/ dependent party	Variable	Type of question
Intelligence	H1.2	Customers who I deal with directly expect me to have intellectual qualifications/skills.	1	Intelligence quotient (IQ); consider all points of view; ability to provide useful advice	Customer	INTELLIGENCE_1	Positive
		In my daily work, I have no problems to put scientific/theoretical approaches for dealing with customers into practice.	2	Practical use of methods; development of practical knowledge	Personal	INTELLIGENCE_2	Positive
		Intelligence has a significant impact on the success of my daily work with customers.	3	Intellectual requirements; sophisticated and sensitive use of customer knowledge	Personal	INTELLIGENCE_3	Positive
		I find it easy to make dedicated, aim-oriented use of newly acquired customer knowledge.	4	Ability to learn; exceptional understanding; the right use of knowledge; apply appropriate knowledge in changing situations	Personal	INTELLIGENCE_4	Positive
		With the help of my customer knowledge, I can train new employees to work in my area of work without any restrictions.	5	Ability to teach others; source of good advice	Personal, colleagues	INTELLIGENCE_5	Positive

Table G.3 Explanation of soft skill 'Motivation'—Hypothesis H1.3 (ENG)

Soft fact	Hypothesis	Question	Q.-no.	Explanation	Involved party/ dependent party	Variable	Type of question
Motivation	H1.3	I share knowledge within the company in my own interest, because I'm aware of the significance of knowledge exchange.	1	Intrinsic motivation; individual performance; intrinsic interest and values; positive attitude towards the job; enjoy the job itself; be free from pressure	Personal	MOTIVATION_1	Positive
		I only share my knowledge, because I expect a benefit (reward, bonus payment, recognition).	2	Extrinsic motivation; external stimulation; knowledge transfer across task forces/teams	Personal	MOTIVATION_2	Negative
		I only share my knowledge, because I expect a possible punishment (breach of guidelines).	3	Extrinsic motivation; external stimulation; knowledge transfer across task forces/teams	Personal	MOTIVATION_3	Negative
		I only share my knowledge when I'm personally convinced that the knowledge transfer is an added value—no matter if I can expect reward or punishment from the company.	4	Introjected motivation; confrontation with external regulations, but create and monitor own rewards/punishments	Personal	MOTIVATION_4	Negative
		My colleagues think highly of me, because I gladly share my expert knowledge with them.	5	Group orientation; knowledge carrier who can be consulted in case of need	Colleagues	MOTIVATION_5	Positive
		My superior sees me as a highly motivated coworker who shares knowledge without being asked.	6	Driver for knowledge sharing; active knowledge exchange	Superior	MOTIVATION_6	Positive

Table G.4 Explanation of soft skill 'Competence'—Hypothesis H1.4 (ENG)

Soft fact	Hypothesis	Question	Q.-no.	Explanation	Involved party/ dependent party	Variable	Type of question
Competence	H1.4	Colleagues on the same hierarchical level know that I always keep my promises.	1	Moral intelligence (MQ); keep promises; sense of duty; act prudently	Colleagues	COMPETENCE_1	Positive
		Customers who I deal with directly know that I think out of the box and see the big picture.	2	Foresight and ability to see beyond the horizon	Customer	COMPETENCE_2	Positive
		Customers who I deal with directly regard me as a very cooperative partner.	3	Emotional intelligence (EQ); win customer's trust; deal honestly and fairly with people; mutual help and support; human potential	Customer	COMPETENCE_3	Positive
		My superior values me as a coworker who always strives to reach win-win situations (company + customer).	4	Moral intelligence (MQ); can be trusted to act in the best interests of the company and the customer; loyalty; right judgement; distinguish between right and wrong, good and bad; ethical and social considerations; principles and defined rules	Superior	COMPETENCE_4	Positive
		For me personally, customer focus is of paramount importance in my daily work.	5	Empathy; wisdom requires a soul; straightness	Personal	COMPETENCE_5	Positive

Table G.5 Explanation of soft skill 'Knowledge Culture'—Hypothesis H2.1 (ENG)

Soft fact	Hypothesis	Question	Q.-no.	Explanation	Involved party/ dependent party	Variable	Type of question
Knowledge culture	H2.1	The importance of knowledge is actively promoted at my workplace to improve the quality of what we do.	1	The factor knowledge is part of corporate policy; awareness of the value of knowledge	Organization	K_CULTURE_1	Positive
		I'm aware of the processes for managing knowledge at my workplace.	2	Awareness of internal knowledge processes; know where to find knowledge when needed; recognition of knowledge processes	Personal	K_CULTURE_2	Positive
		We have staff who are specifically responsible for managing knowledge (e.g. CKO—Chief Knowledge Officer).	3	Focus on the factor knowledge; level of defined in-house knowledge management	Organization	K_CULTURE_3	Positive
		My company supports its staff in sharing lessons learned through the exchange of knowledge and experience.	4	Facilitate the creation of new organizational knowledge; aim at knowledge sharing; knowledge resides in the company; analysis of mistakes to enrich knowledge; share and support work practices	Organization	K_CULTURE_4	Positive
		Knowledge processes are routine processes in my company.	5	Integrate the factor knowledge in standard procedures	Organization	K_CULTURE_5	Positive

Table G.6 Explanation of soft skill 'Customer Learning'—Hypothesis H2.2 (ENG)

Soft fact	Hypothesis	Question	Q.-no.	Explanation	Involved party/ dependent party	Variable	Type of question
Customer learning	H2.2	I contribute to customer learning by sharing and using customer feedback.	1	Willingness to improve customer service; awareness improvement within the company	Personal	C_LEARNING_1	Positive
		In my daily work, I attach great importance to customer feedback.	2	Recognition of customer knowledge as key element to successful business; customer knowledge development	Personal	C_LEARNING_2	Positive
		My company has effective procedures in place to disseminate customer knowledge throughout the entire organization.	3	Standardized and effective customer learning processes; develop a customer knowledge strategy for value creation	Organization	C_LEARNING_3	Positive
		My company regularly conducts customer satisfaction surveys.	4	Standardized customer feedback mechanism; continuous learning; in-time information to meet changing customer needs	Organization	C_LEARNING_4	Positive
		My company is always seeking for opportunities to learn more about our customers.	5	Learn more about customer needs; ability to identify customer preferences	Organization	C_LEARNING_5	Positive

Table G.7 Explanation of soft skill 'Organizational Learning'—Hypothesis H2.3 (ENG)

Soft fact	Hypothesis	Question	Q.-no.	Explanation	Involved party/ dependent party	Variable	Type of question
Organizational learning	H2.3	Databases in my company are always kept up-to-date.	1	Continuous information improvement; accuracy of information; effectivity enhancement	Organization	O_LEARNING_1	Positive
		The existing codification of information in my company makes work easier for the staff.	2	Easy interpretation; easy to use information; efficiency enhancement; contribution to a better organizational performance	Organization	O_LEARNING_2	Positive
		My company stores internal experience and knowledge in such a way that it can be easily used by the staff at a later date.	3	Easy access; understanding and satisfaction of user needs; prevention (low costs) instead of supervision or correction (high costs); organizational memory for future use	Organization	O_LEARNING_3	Positive
		My company has no processes in place to ensure the exchange of best practices among the different business divisions.	4	Possibility to exchange knowledge; transfer of best practices; promote information exchange	Organization	O_LEARNING_4	Negative
		My company offers opportunities to learn from other coworkers and business divisions (e.g. visits to other parts of the company, internal training programs).	5	Exchange of different approaches; improve quality of work; exchange skills; improve own knowledge basis; improve organizational knowledge	Organization	O_LEARNING_5	Positive

Table G.8 Explanation of soft skill 'Customer Involvement' - Hypothesis H2.4 (ENG)

Soft fact	Hypothesis	Question	Q.-no.	Explanation	Involved party/ dependent party	Variable	Type of question
Customer involvement	H2.4	My company strongly endeavors to involve the customers into new product-/ service development.	1	Aim to be close to customer needs; have the customer's best interest in mind; priority on customer satisfaction	Organization	C_INVOLVEMENT_1	Positive
		My superior values me as a coworker who is strongly committed to involving our customers.	2	Develop customer commitment; focus on opportunities to gain competitive edge	Superior	C_INVOLVEMENT_2	Positive
		My colleagues on the same hierarchical level know me for my customer involvement.	3	Respond appropriately to customer actions; search for solutions that are best suited to solve customer problems	Colleague	C_INVOLVEMENT_3	Positive
		Customers who I deal with directly have realized that I highly value their opinions.	4	Focus on customer value; aim that customers achieve their goals	Customer	C_INVOLVEMENT_4	Positive
		Information obtained from customers is crucial for my daily work.	5	Customer orientation; understanding of customer needs; encourage to share customer information	Organization	C_INVOLVEMENT_5	Positive

Table G.9 Explanation of soft skill 'Brain Gain/Brain Drain'—Hypothesis H3 (ENG)

Soft fact	Hypothesis	Question	Q.-no.	Explanation	Involved party/ dependent party	Variable	Type of question
Brain gain/ drain	H3	Every employee who is leaving or expected to leave has to undergo a proper knowledge transfer process.	1	Established process of knowledge sharing; awareness of potential organizational knowledge loss	Organization	BRAIN_GAIN_1	Positive
		All employees who are leaving or expected to leave are given sufficient time by the company to share their individual knowledge.	2	Consider time-consuming knowledge transfer process; ensure that knowledge is kept in the company	Organization	BRAIN_GAIN_2	Positive
		The company's knowledge about its customers is always kept up-to-date.	3	Death spiral of KM; information quality improvement; continuous learning	Organization	BRAIN_GAIN_3	Positive
		We have detailed processes in place for transfering individual employee knowledge into the organization.	4	Knowledge transfer from tacit to explicit	Organization	BRAIN_GAIN_4	Positive
		My company's information repository is continuously filled with all relevant information that is sufficient to do my job very well.	5	Availability of necessary information; fundamental knowledge of customers/ products	Organization	BRAIN_GAIN_5	Positive
		My company regularly maintains and improves all existing systems.	6	Avoid data loss	Organization	BRAIN_GAIN_6	Positive
		I always store new information compiled by me in the organizational database.	7	Make knowledge explicit for others; availability for later use	Personal	BRAIN_GAIN_7	Positive
		I only share critical knowledge with my colleagues on request/when asked.	8	Make one's own knowledge available for others	Personal	BRAIN_GAIN_8	Negative
		I regularly review the acquired knowledge.	9	Repeat to avoid knowledge loss or a deterioration in knowledge quality		BRAIN_GAIN_9	Positive
		On my own initiative, I attend training courses to enlarge my knowledge.	10	Volition; willpower; realize one's intentions; transform targets into results; overcome activity barriers; knowledge upgrade	Personal	BRAIN_GAIN_10	Positive
		I make practical use of my acquired knowledge in my daily work.	11	Practical use of knowledge; transfer from theory into practice	Personal	BRAIN_GAIN_11	Positive

Table G.10 Explanation of 'Customer Focus' Variable—Hypothesis H1.1-H3 (ENG)

	Hypotheses	Question	Q.-no.	Explanation	Involved party/ dependent party	Variable	Type of question
Customer focus	H1.1-H3	I personally have a strong customer focus.	1	Personal existence of customer focus	Personal	C_FOCUS_1	Positive
		My company has a strong customer focus.	2	Organizational existence of customer focus	Organization	C_FOCUS_2	Positive
		The customers of my company appreciate our customer focus.	3	Appreciation of customer focus by customers	Customer	C_FOCUS_3	Positive

Table G.11 Explanation of 'Customer Contact' Variable—Hypothesis H2.1 (ENG)

Variable	Question	Answer	Q.-no.	Explanation	Involved party/ dependent party	Variable	Type of question
Customer contact	Do you have customer contact in your daily work?	Yes	1	Customer contact exists	Personal	C_CONTACT_1	Neutral
		Partially	2	Customer contact exists partially	Personal	C_CONTACT_2	Neutral
		No	3	No customer contact	Personal	C_CONTACT_3	Neutral

Table G.12 Explanation of additional important facts (ENG)

Variable	Question	Answer	Q.-no.	Explanation	Involved party/ Dependent party	Variable	Type of Question
Open question	What other factors, do you think, also play an essential role when dealing with customers and customer knowledge—provided there is a fully functional system (database)?	. . .	1	Identify additional important facts that need to be considered or have a significant impact	Personal	OTHER_FACTS_1	Neutral

Appendix H: Questionnaire: Demographic Data/Values/Variables (ENG)

Table H.1 Questionnaire of demographic data (ENG)

No. of question	Data	Questions	Answer	Values	Variables
1	Gender	Please select your gender	1	Male	GENDER_1
			2	Female	GENDER_2
2	Age	Please select your age from the following list	1	Drop down 15–99	AGE_CLUSTER_1
			2	. . .	AGE_CLUSTER_2 - AGE_CLUSTER_n
3	Location	Where are you located?—Please select from the following list:	1	Drop down all countries	LOCATION_1
			2	. . .	LOCATION_2 - LOCATION_n
4	Industry	In which industry does your organization (company) do most of its business?—Please select from the following list:	1	Automotive industry	INDUSTRY_1
			2	Construction industry	INDUSTRY_2
			3	Banks, insurances, financial services	INDUSTRY_3
			4	Consulting and professional services	INDUSTRY_4
			5	Chemicals and pharmaceuticals	INDUSTRY_5
			6	Electrical industry	INDUSTRY_6
			7	Energy and raw materials	INDUSTRY_7
			8	Food and agriculture	INDUSTRY_8
			9	Trade (import & export)	INDUSTRY_9
			10	Information technology and software	INDUSTRY_10
			11	Consumer goods	INDUSTRY_11
			12	Engineering, metal	INDUSTRY_12
			13	Aerospace industry	INDUSTRY_13
			14	Government organizations (e.g. federal, regional, local, ministries, agencies, municipalities)	INDUSTRY_14

			15	Media and film	INDUSTRY_15
			16	Paper, wood, glass, ceramics	INDUSTRY_16
			17	Telecommunications	INDUSTRY_17
			18	Textile, clothing, shoes, fashion	INDUSTRY_18
			19	Transport and tourism	INDUSTRY_19
			20	Others	INDUSTRY_20
5	Role in the company	What is your role in the organization (company)? Which area do you work for?	1	Consulting	ROLE_1
			2	Finance and controlling	ROLE_2
			3	Purchasing/materials management	ROLE_3
			4	Research and development	ROLE_4
			5	Top management	ROLE_5
			6	Information technology	ROLE_6
			7	Customer service	ROLE_7
			8	Marketing/sales	ROLE_8
			9	Human resources	ROLE_9
			10	Production	ROLE_10
			11	Quality management	ROLE_11
			12	Administration	ROLE_12
			13	Others	ROLE_13
6	Position in the company	Please select your hierarchical level	1	Staff member	POSITION_1
			2	Middle management (Head of Department, Team Leader, Group Leader)	POSITION_2
			3	Upper management (Executive Board, Strategy Management)	POSITION_3
7	Size of organization	What is the size of the organization (company) you work for?	1	Up to 10 employees	COMP_SIZE_1
			2	11–49 employees	COMP_SIZE_2
			3	50–249 employees	COMP_SIZE_3

(continued)

No. of question	Data	Questions	Answer	Values	Variables
			4	250–1,000 employees	COMP_SIZE_4
			5	1,001–10,000 employees	COMP_SIZE_5
			6	More than 10,000 employees	COMP_SIZE_6
8	Type of organization	Please select the type of organization (company) you work for	1	B2B (Business-to-Business)	COMP_TYPE_1
			2	B2C (Business-to-Customer)	COMP_TYPE_2
			3	B2B and B2B	COMP_TYPE_3
9	Target market	Please select the market where your organization (company) does its business	1	Local market	MARKET_1
			2	Regional market	MARKET_2
			3	National market	MARKET_3
			4	International market	MARKET_4

Appendix I: Cronbach's Alpha (SPSS Calculation)

Table I.1 Results of Cronbachs's alpha calculation

Question block	Cronbach's alpha α	N of items
Responsiveness	0.767	5
Intelligence	0.749	5
Motivation	0.599	6
Competence	0.665	5
Knowledge culture	0.715	5
Customer learning	0.727	5
Organizational learning	0.776	5
Customer involvement	0.767	5
Brain gain	0.750	11
Customer focus	0.676	3

Appendix J: Survey Results

Table J.1 Survey results of soft skill 'Intelligence'—Hypothesis H1.2

Soft fact	Hypo-thesis	Question	Q.-no.	Rating								
Intelligence	H1.2			Agree strongly 1	Agree moderately 2	Agree slightly 3	Disagree slightly 4	Disagree moderately 5	Disagree strongly 6	n/s not specified 7	Rating average	Response count
		Customers who I deal with directly expect me to have intellectual qualifications/skills.	1	**147**	106	27	15	7	0	19	1.77	321
				45.8%	33.0%	8.4%	4.7%	2.2%	0.0%	5.9%		
		In my daily work, I have no problems to put scientific/theoretical approaches for dealing with customers into practice.	2	41	**107**	91	40	14	2	26	2.61	321
				12.8%	**33.3%**	28.3%	12.5%	4.4%	0.6%	8.1%		
		Intelligence has a significant impact on the success of my daily work with customers.	3	103	**122**	57	11	9	2	17	2.04	321
				32.1%	**38.0%**	17.8%	3.4%	2.8%	0.6%	5.3%		
		I find it easy to make dedicated, aim-oriented use of newly acquired customer knowledge.	4	82	**149**	58	8	2	0	22	1.99	321
				25.5%	**46.4%**	18.1%	2.5%	0.6%	0.0%	6.9%		
		With the help of my customer knowledge, I can train new employees to work in my area of work without any restrictions.	5	53	**112**	90	28	6	4	28	2.43	321
				16.5%	**34.9%**	28.0%	8.7%	1.9%	1.2%	8.7%		
		Answered question										**321**
		Skipped question										**3**

Table J.2 Survey results of soft skill 'Motivation'—Hypothesis H1.3

Soft fact	Hypo-thesis	Question	Q.-no.	Rating								
Motivation	H1.3			Agree strongly 1	Agree moderately 2	Agree slightly 3	Disagree slightly 4	Disagree moderately 5	Disagree strongly 6	n/s not specified 7	Rating average	Response count
		I share knowledge within the company in my own interest, because I'm aware of the significance of knowledge exchange.	1	**161**	118	27	6	1	1	7	1.63	321
				50.2%	36.8%	8.4%	1.9%	0.3%	0.3%	2.2%		
		I only share my knowledge, because I expect a benefit (reward, bonus payment, recognition).	2	4	13	23	63	79	**130**	9	4.89	321
				1.2%	4.0%	7.2%	19.6%	24.6%	**40.5%**	2.8%		
		I only share my knowledge, because I expect a possible punishment (breach of guidelines).	3	2	9	7	35	66	**193**	9	5.35	321
				0.6%	2.8%	2.2%	10.9%	20.6%	**60.1%**	2.8%		
		I only share my knowledge when I'm personally convinced that the knowledge transfer is an added value—no matter if I can expect reward or punishment from the company.	4	36	**68**	48	40	51	63	15	3.62	321
				11.2%	**21.2%**	15.0%	12.5%	15.9%	19.6%	4.7%		
		My colleagues think highly of me, because I gladly share my expert knowledge with them.	5	87	**173**	30	3	4	0	24	1.87	321
				27.1%	**53.9%**	9.3%	0.9%	1.2%	0.0%	7.5%		
		My superior sees me as a highly motivated coworker who shares knowledge without being asked.	6	90	**134**	44	11	3	1	38	1.96	321
				28.0%	**41.7%**	13.7%	3.4%	0.9%	0.3%	11.8%		
		Answered question										**321**
		Skipped question										**3**

Table J.3 Survey results of soft skill 'Competence'—Hypothesis H1.4

Soft fact	Hypo-thesis	Question	Q.-no.	Rating								
Competence	H1.4			Agree strongly 1	Agree moderately 2	Agree slightly 3	Disagree slightly 4	Disagree moderately 5	Disagree strongly 6	n/s not specified 7	Rating average	Response count
		Colleagues on the same hierarchical level know that I always keep my promises.	1	115	**170**	23	2	0	0	11	1.72	321
				35.8%	**53.0%**	7.2%	0.6%	0.0%	0.0%	3.4%		
		Customers who I deal with directly know that I think out of the box and see the big picture.	2	109	**145**	43	5	0	0	19	1.81	321
				34.0%	**45.2%**	13.4%	1.6%	0.0%	0.0%	5.9%		
		Customers who I deal with directly regard me as a very cooperative partner.	3	127	**152**	22	2	1	0	17	1.68	321
				39.6%	**47.4%**	6.9%	0.6%	0.3%	0.0%	5.3%		
		My superior values me as a coworker who always strives to reach win-win situations (company + customer).	4	82	**134**	47	7	5	1	45	1.99	321
				25.5%	**41.7%**	14.6%	2.2%	1.6%	0.3%	14.0%		
		For me personally, customer focus is of paramount importance in my daily work.	5	112	**119**	53	17	3	3	14	1.99	321
				34.9%	**37.1%**	16.5%	5.3%	0.9%	0.9%	4.4%		
		Answered question										**321**
		Skipped question										**3**

Table J.4 Survey results of soft skill 'Knowledge Culture'—Hypothesis H2.1

Soft fact	Hypo-thesis	Question	Q.-no.	Rating								
Knowledge culture	H2.1			Agree strongly 1	Agree moderately 2	Agree slightly 3	Disagree slightly 4	Disagree moderately 5	Disagree strongly 6	n/s not specified 7	Rating average	Response count
		The importance of knowledge is actively promoted at my workplace to improve the quality of what we do.	1	80	**126**	48	24	9	0	17	5.15	304
				26.3%	**41.4%**	15.8%	7.9%	3.0%	0.0%	5.6%		
		I'm aware of the processes for managing knowledge at my workplace.	2	73	**124**	62	18	9	3	15	2.22	304
				24.0%	**40.8%**	20.4%	5.9%	3.0%	1.0%	4.9%		
		We have staff who are specifically responsible for managing knowledge (e.g. CKO—Chief Knowledge Officer).	3	36	42	29	45	57	**69**	26	3.91	304
				11.8%	13.8%	9.5%	14.8%	18.8%	**22.7%**	8.6%		
		My company supports its staff in sharing lessons learned through the exchange of knowledge and experience.	4	40	**100**	74	51	15	12	12	2.78	304
				13.2%	**32.9%**	24.3%	16.8%	4.9%	3.9%	3.9%		
		Knowledge processes are routine processes in my company.	5	40	60	**84**	55	25	25	15	3.14	304
				13.2%	19.7%	**27.6%**	18.1%	8.2%	8.2%	4.9%		
		Answered question										**304**
		Skipped question										**20**

Table J.5 Survey results of soft skill 'Customer Learning'—Hypothesis H2.2

Soft fact	Hypo-thesis	Question	Q.-no.	Rating								
Customer learning	H2.2			agree strongly 1	agree moderately 2	agree slightly 3	disagree slightly 4	disagree moderately 5	disagree strongly 6	n/s not specified 7	Rating Average	Response Count
		I contribute to customer learning by sharing and using customer feedback.	1	83	**128**	53	17	3	2	18	2.07	304
				27.3%	**42.1%**	17.4%	5.6%	1.0%	0.7%	5.9%		
		In my daily work, I attach great importance to customer feedback.	2	81	**112**	64	22	7	2	16	2.19	304
				26.6%	**36.8%**	21.1%	7.2%	2.3%	0.7%	5.3%		
		My company has effective procedures in place to disseminate customer knowledge throughout the entire organization.	3	28	56	**75**	64	30	25	26	3.31	304
				9.2%	18.4%	**24.7%**	21.1%	9.9%	8.2%	8.6%		
		My company regularly conducts customer satisfaction surveys.	4	67	**70**	47	32	28	28	32	2.88	304
				22.0%	**23.0%**	15.5%	10.5%	9.2%	9.2%	10.5%		
		My company is always seeking for opportunities to learn more about our customers.	5	61	**91**	72	37	15	8	20	2.57	304
				20.1%	**29.9%**	23.7%	12.2%	4.9%	2.6%	6.6%		
		Answered question										**304**
		Skipped question										**20**

Table J.6 Survey results of soft skill 'Organizational Learning'—Hypothesis H2.3

Soft fact	Hypo-thesis	Question	Q.-no.	Rating								
Organizational learning	H2.3			Agree strongly 1	Agree moderately 2	Agree slightly 3	Disagree slightly 4	Disagree moderately 5	Disagree strongly 6	n/s not specified 7	Rating average	Response count
		Databases in my company are always kept up-to-date.	1	34	86	**102**	50	15	6	11	2.81	304
				11.2%	28.3%	**33.6%**	16.4%	4.9%	2.0%	3.6%		
		The existing codification of information in my company makes work easier for the staff.	2	23	**93**	88	64	18	11	7	2.98	304
				7.6%	**30.6%**	28.9%	21.1%	5.9%	3.6%	2.3%		
		My company stores internal experience and knowledge in such a way that it can be easily used by the staff at a later date.	3	21	73	**85**	69	29	15	12	3.20	304
				6.9%	24.0%	**28.0%**	22.7%	9.5%	4.9%	3.9%		
		My company has no processes in place to ensure the exchange of best practices among the different business divisions.	4	19	**57**	54	45	56	35	38	3.63	304
				6.3%	**18.8%**	17.8%	14.8%	18.4%	11.5%	12.5%		
		My company offers opportunities to learn from other coworkers and business divisions (e.g. visits to other parts of the company, internal training programs).	5	30	**91**	71	40	34	17	21	3.03	304
				9.9%	**29.9%**	23.4%	13.2%	11.2%	5.6%	6.9%		
		Answered question										**304**
		Skipped question										**20**

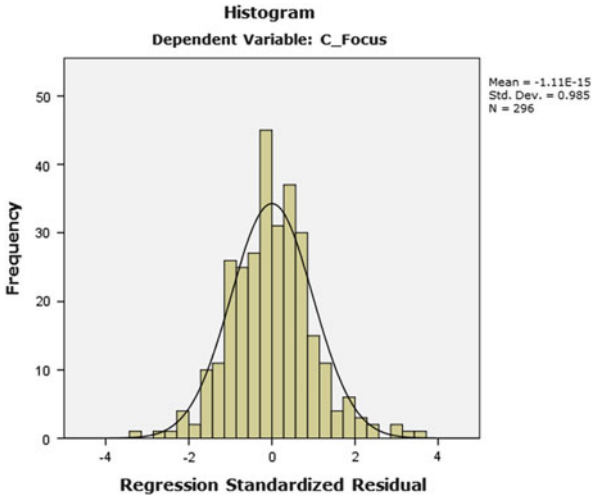
Table J.7 Survey results of soft skill 'Customer Involvement'—Hypothesis H2.4

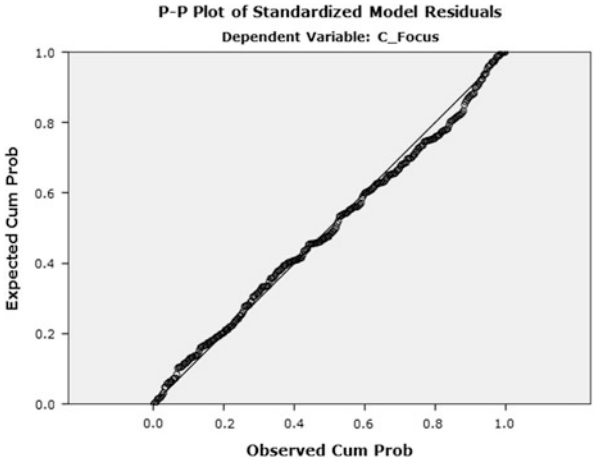
Soft fact	Hypo-thesis	Question	Q.-no.	Rating								
Customer involvement	H2.4			Agree strongly 1	Agree moderately 2	Agree slightly 3	Disagree slightly 4	Disagree moderately 5	Disagree strongly 6	n/s not specified 7	Rating average	Response count
		My company strongly endeavors to involve the customers into new product-/service development.	1	34	**91**	85	49	17	3	25	2.76	304
				11.2%	**29.9%**	28.0%	16.1%	5.6%	1.0%	8.2%		
		My superior values me as a coworker who is strongly committed to involving our customers.	2	36	**103**	53	34	10	4	64	2.55	304
				11.8%	**33.9%**	17.4%	11.2%	3.3%	1.3%	21.1%		
		My colleagues on the same hierarchical level know me for my customer involvement.	3	34	**104**	62	30	14	3	57	2.57	304
				11.2%	**34.2%**	20.4%	9.9%	4.6%	1.0%	18.8%		
		Customers who I deal with directly have realized that I highly value their opinions.	4	71	**124**	69	9	1	0	30	2.07	304
				23.4%	**40.8%**	22.7%	3.0%	0.3%	0.0%	9.9%		
		Information obtained from customers is crucial for my daily work.	5	**127**	99	42	18	3	1	14	1.88	304
				41.8%	32.6%	13.8%	5.9%	1.0%	0.3%	4.6%		
		Answered question										**304**
		Skipped question										**20**

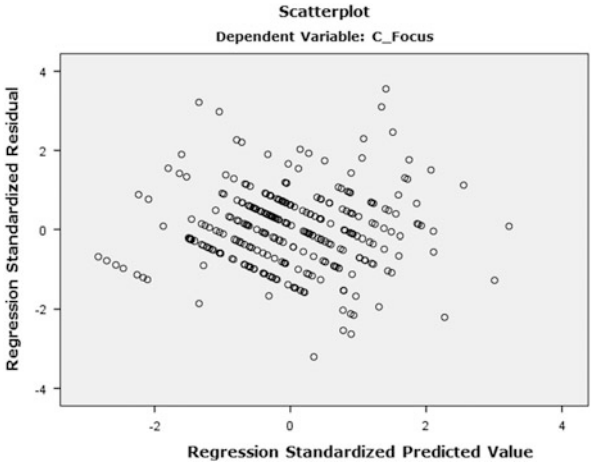
Table J.8 Survey results of soft skill 'Brain Gain/Brain Drain'—Hypothesis H3

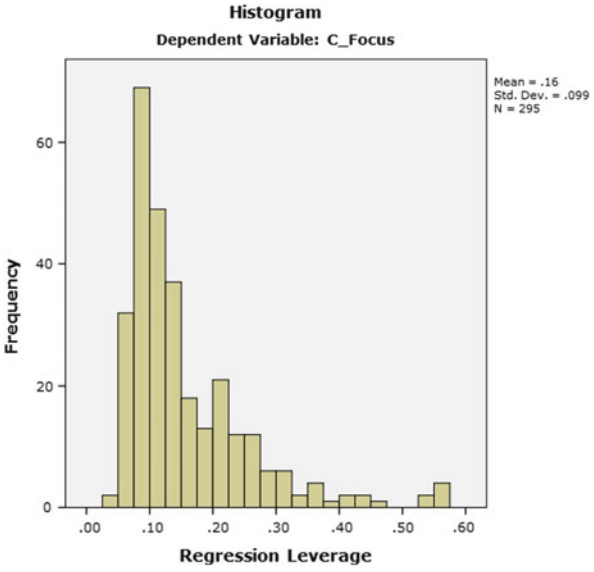
Soft fact	Hypo-thesis	Question	Q.-no.	Rating								
Brain gain/ drain	H3			Agree strongly 1	Agree moderately 2	Agree slightly 3	Disagree slightly 4	Disagree moderately 5	Disagree strongly 6	n/s not specified 7	Rating average	Response count
		Every employee who is leaving or expected to leave has to undergo a proper knowledge transfer process.	1	10	35	44	**58**	54	54	41	4.07	296
				3.4%	11.8%	14.9%	**19.6%**	18.2%	18.2%	13.9%		
		All employees who are leaving or expected to leave are given sufficient time by the company to share their individual knowledge.	2	7	31	61	**66**	51	41	39	3.96	296
				2.4%	10.5%	20.6%	**22.3%**	17.2%	13.9%	13.2%		
		The company's knowledge about its customers is always kept up-to-date.	3	22	74	**98**	61	17	9	15	3.01	296
				7.4%	25.0%	**33.1%**	20.6%	5.7%	3.0%	5.1%		
		We have detailed processes in place for transfering individual employee knowledge into the organization.	4	8	35	62	**83**	57	28	23	3.84	296
				2.7%	11.8%	20.9%	**28.0%**	19.3%	9.5%	7.8%		
		My company's information repository is continuously filled with all relevant information that is sufficient to do my job very well.	5	14	54	**83**	61	44	19	21	3.45	296
				4.7%	18.2%	**28.0%**	20.6%	14.9%	6.4%	7.1%		
		My company regularly maintains and improves all existing systems.	6	33	**87**	84	41	19	17	15	2.92	296
				11.1%	**29.4%**	28.4%	13.9%	6.4%	5.7%	5.1%		
		I always store new information compiled by me in the organizational database.	7	31	78	**81**	46	34	8	18	2.99	296
				10.5%	26.4%	**27.4%**	15.5%	11.5%	2.7%	6.1%		
		I only share critical knowledge with my colleagues on request/when asked.	8	6	28	38	66	**92**	53	13	4.30	296
				2.0%	9.5%	12.8%	22.3%	**31.1%**	17.9%	4.4%		
		I regularly review the acquired knowledge.	9	9	96	**110**	48	18	3	12	2.93	296
				3.0%	32.4%	**37.2%**	16.2%	6.1%	1.0%	4.1%		
		On my own initiative, I attend training courses to enlarge my knowledge.	10	86	**104**	68	21	8	6	3	2.25	296
				29.1%	**35.1%**	23.0%	7.1%	2.7%	2.0%	1.0%		
		I make practical use of my acquired knowledge in my daily work.	11	111	**140**	35	7	1	0	2	1.80	296
				37.5%	**47.3%**	11.8%	2.4%	0.3%	0.0%	0.7%		
		Answered question										**296**
		Skipped question										**28**

Appendix K: Histogram (Standardized Residuals), p-p Plot, Scatterplot and Histogram (Leverage) for H1-H3






Scatterplot
Dependent Variable: C_Focus
Regression Standardized Residual
Regression Standardized Predicted Value
4
2
0
-2
-4
-2
0
2
4


Histogram
Dependent Variable: C_Focus
Mean = .16
Std. Dev. = .099
N = 295
Frequency
Regression Leverage
60
40
20
0
.00
.10
.20
.30
.40
.50
.60

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Silvio Wilde, MBA, studied International Strategy and Sales Management and International Entrepreneurship in Düsseldorf at the University of Applied Sciences in Economics and Management. Thanks to his previous employments at Siemens, BASF, Bayer and Lanxess, he can look back on a broad range of experience in different corporate knowledge cultures. He currently works as a sales expert, including direct interaction with customers. This enables him to be close to customers and their knowledge and to gain insights into the management of this customer knowledge day by day.

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