
Papers

Industry image: Its impact on the brand image of potential employees

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Abstract

Marketing science has so far devoted very limited attention to the determination of corporate brand images through industry images. Our research, therefore, addresses the question whether industry images determine corporate images and if so, which variables moderate the effect. To accomplish this, a conceptual framework is developed and evaluated in a quantitative, empirical research design. The results demonstrate that corporate brand image is indeed determined by the industry image, and that this determination is moderated by involvement and knowledge about the specific corporation. Journal of Brand Management (2008) 15, 157–176. doi:10.1057/palgrave.bm.2550112; published online 7 September 2007

INDUSTRY IMAGE IN THE CONTEXT OF CORPORATE BRANDING

The importance of industry images has recently increased, particularly in capital markets, where its influence is evident. During the boom-time of the new economy, for example, there was an enormous global interest to invest in the emerging internet industry, with hardly anyone taking the trouble to familiarise themselves with the respective companies. Interestingly, the phenomenon of being guided by industry image was not restricted to private investors. Institutional investors also seem to have based their decisions in many cases and to a large extent on industry images. This can serve as an explanation for several effects on the capital market, such as price-earning multiples that are

attributed to industry classification or IPOs which are postponed on account of current problems with the industry image.¹

It seems reasonable to assume that the industry image does not only have an impact on the perceptions of potential investors but also on other relevant stakeholders of corporate brand management. Based on this assumption, this paper draws attention to the question whether the industry in which a company operates can have a positive effect on the companies' attractiveness as an employer. A prerequisite to analyse this question is a thorough understanding of the influence of industry images on corporate brand images. In the current state the literature is lacking empirically proven answers with regard to the nature of this relationship. The aim of this

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paper is thus two-fold: Firstly, to add to the understanding of the influence of industry images on corporate brand image and secondly, to investigate the impact of industry image on the brand attractiveness for potential employees. Of course, corporate images can also have an effect on industry images. The industry image of a person, who knows a lot about one company in an industry and little about other companies, might be largely driven by the company that is well known. As this influence has less relevance for the management of corporate brands, it is not covered in this paper.

THE SIGNIFICANCE OF INDUSTRY IMAGE FOR THE DEVELOPMENT OF BRAND IMAGE

One of the fundamental tenets of marketing is that brand images are an important determinant of buying behaviour.²⁻⁴ The construct of brand image can be understood as the associations external target groups have in their minds about brands. These associations can be further divided into those concerning the functional attributes of a brand and those concerning the symbolic attributes of a brand.⁵ Due to the importance of brand images for the behaviour of various target groups, considerable attention has been paid to factors that possibly influence brand images. These influencing factors can be divided into three groups: (1) determinants that originate directly from the internal brand identity and can thus be directly influenced by brand management,^{5,6} (2) personal/individual determinants, for example, the motives and experiences of those who perceive the brand,⁷⁻⁹ and (3) external factors, that is determinants that affect the brand image from outside and which cannot be directly influenced by brand management, for example industry image.¹⁰⁻¹³

Up until now little research has been carried out regarding the significance of industry images. Accordingly, first of all a definition of industry image will be drawn up followed by a brief overview of the research carried out so far into the relationship between industry and corporate brand images. Afterwards a conceptual model on the effect of industry image on corporate brand image will be developed by integrating the findings of adjacent research areas. This model will then be empirically tested.

DEFINITION OF INDUSTRY IMAGES

In Gabler's Dictionary of Economics, industries are defined as groups of commercial institutions engaging in identical or similar commercial activity.^{14,15} This definition is somewhat hazy. Particularly, the question arises, how *identical or similar commercial activities* can be determined? Porter¹⁶ defines an industry as a group of companies that supplies products or services that are interchangeable (p. 27). This definition, however, does also appear imprecise since it considers different unspecified degrees of interchangeability. Abell's¹⁷ definition of a industry is more specific. He defines industries on the basis of the addressed customer group, the functions of products and services for customers and the technologies used to access these functions (p. 170ff). This definition highlights the extent to which industry classification is dependent on subjective perception, as it cannot be assumed that everyone will evaluate the used technologies, functions and customer groups in the same way. Based on this consideration and the definition provided by Abell,¹⁷ the term 'industry' is defined as follows:

'A group of companies that, from the point of view of one individual, supplies



the same customer groups with the same technologies for the fulfilment of the same customer functions.'

On the basis of this definition and the image definition provided by Meffert,^{5,18–20} 'industry image' is defined as follows:

'Industry image is a set of associations that is firmly anchored, condensed, and evaluated in the minds of people concerning a group of companies, which, from the point of view of an individual, supplies the same customer groups with the same technologies for the fulfilment of the same customer needs.'

INDUSTRY IMAGE AS A DETERMINANT OF CORPORATE BRAND IMAGE

Buyer behaviour can relate to different levels of the brand architecture of a company. In particular, it is necessary to distinguish between three levels: (1) corporate brands,^{21,22} (2) strategic business unit brands²³ and (3) product and service brands.^{24,25} Especially corporate brands have recently received a lot of attention in both theory and practice.^{22,26–40} On the one hand, this can be attributed to the fact that competition between companies is no longer confined to product markets but has now expanded to include procurement and labour markets as well. On the other hand, the corporate brand is generally of particular importance, as it is often used to support other brands within the portfolio (Meffert and Bierwirth,²⁸ p. 147ff). We therefore concentrate in the following on corporate brands. A benefit of this reduction is that, taken on a holistic perspective on brand management, no distinction needs to be made between corporate image and brand image, which was defined earlier as associations that external target groups have in their minds about brands.⁵ Consequently, this definition is similar to

Balmer's⁴¹ definition of corporate image, which he understands as the perceptions of an organization by individuals or groups.

There is general consensus in both literature on brand management and literature on corporate identity that corporate identity and corporate image, and brand identity and brand image, respectively, have a cause–effect relationship. That means, that an image can best be interpreted as the result of the external perception of an identity, may it be a corporate or a brand identity.^{5,41} A corporate identity is defined by He and Balmer⁴² as 'critical attributes and traits that make us distinctive and which defines who we are and what we are as an organisation' (p. 338). This definition shows apparent similarities to the understanding of the construct of brand identity by Burmann and Meffert,⁵ which they describe as the sum of all attributes that determine the essence and character of a brand from the point of view of the internal target groups (p. 53).

Therefore, in order to understand the relationship between industry image and corporate brand image, one has to start at an earlier stage, namely by looking at the relationship between industry identity and corporate brand identity. The term industry identity, sometimes also called generic identity or branch identity, can be understood as the common identity factors of the organisations operating in a particular industry (He and Balmer,⁴² p. 339). Balmer⁴¹ points out that a strong industry identity fosters similarities with regard to strategic plans and missions among companies belonging to that industry and is thus a determinant of the corporate brand identities, which leads to increased similarity among the respective companies.^{43,44} Several case studies, especially in the financial sector, support this point of view.^{42,45–47} In an attempt to find an explanation for this phenomenon,



Podnar⁴⁸ argues that customers have specific expectations regarding particular industries and the companies belonging to it. As a result of these general expectations companies are forced to develop similar competencies, processes or products and become thus more alike. This argumentation is already reflected in his understanding of the construct of 'branch identity' which he defines as 'those properties or characteristics demanded by customers and other stakeholders which are common to all companies inside a particular branch and which a particular company has to have in order to operate inside the respective branch or industry' (Podnar,⁴⁸ p. 378). Based on this consideration, he concludes that industry identity shapes the identity of those companies which are operating in it. It is clear that if the industry identity shapes the corporate brand identities of the companies belonging to it, there must be also a close relationship between the industry image and the corporate brand images. One could conclude that the influence of the industry image on the corporate brand images would be just a result of the similarities between industry identity and corporate brand identities. This paper is, however, solely focused on the relationships at the result stage, that is on the stage of industry image and brand image.

Up until now only a few studies have been carried out into the relationship between industry image and corporate brand image. Some authors, for example, Boyle⁴⁹ and Markwick and Fill,³⁶ point to the possible influence of industry image on corporate brand image, but then fail to theoretically work out this idea or to empirically test it. Besides these, there are a number of investigations that empirically determine the image of individual industries, for example that by Marten and Schmöller.⁵⁰ As these only claim that industry image influences

corporate brand image without empirically proving it, their importance for this investigation is limited.⁵⁰⁻⁵²

The most comprehensive conceptualisation of the connection between industry and corporate brand image to our knowledge is that of Dowling,¹³ whose book 'Creating Corporate Reputations: Identity, Image, and Performance' is explicitly dedicated to the creation and alteration of corporate brand images. He integrates industry image into a network consisting of country image, corporate brand image and product brand image, and claims that these four images all influence each other. Dowling points out that only a few studies have been carried out into the connection between industry image and corporate brand image; however, his work does also lack an empirical substantiation.

In addition to these studies, investigations on employer brand image and on the capital market also analyse the connection between industry image and corporate brand image. In the area of 'Employer Branding', Kirchgeorg, Lorbeer and Grobe established in three consecutive studies on employer image that 'industry sustainability' was of medium to high importance for students when it came to choosing a future employer.⁵³⁻⁵⁵ They also determine a high degree of variance with regard to the attractiveness of the examined industries.^{55,56} Teufer⁵⁷ conceptualises industry image using the two characteristics of environmental behaviour and industry growth prospects. While the environmental behaviour of an industry is of relatively low relevance, the growth prospects of an industry influence the choice of employer considerably and consequently the attractiveness of a corporate brand (Teufer,⁵⁷ p. 186). Fopp⁸ empirically records the images of individual industries in a highly differentiated manner, without, however, linking them with specific employer brands.



By doing this he demonstrates the strengths and weaknesses of individual industries and determines potential employees' wide-ranging intentions when applying to different industries.

Süß⁵⁸ adopts a similar procedure by asking his interviewees to assess individual industry images. In addition, he develops a model for job selection, which is divided into three phases (development of corporate brand images, creation of employer preferences and application to an employer). In each of these phases industry image is of importance (Süß,⁵⁸ p. 74ff). Süß concludes that industry images seem to hide the bulk of individual corporate circumstances (Süß,⁵⁸ p. 2) and considers industry images to be important determinants of corporate brand image (Süß,⁵⁸ p. 85). His analysis of industry image, however, goes no further than this. Like Fopp he refrains from linking the determined industry images with specific employer brand images.

As an intermediate summary it can be concluded that there is sufficient evidence for the importance of industry image when it comes to the evaluation of potential employers. The studies are, however, for various reasons, incomplete. First, none of the studies examines in a theoretical or empirical manner what influence industry image has on the various attributes of corporate brand image and under which conditions industry image exerts a high or low influence. Secondly, when it comes to the influence of industry image on corporate image, none of the studies are grounded in theory. Thirdly, employer brand image accounts for just a small part of the entire corporate brand image.

In the area of *capital market research*, Margulies^{59,60} has already noted how important industry image is for the perception and evaluation of a company by analysts, investors and other financiers. He shows how companies, based on their

original fields of activity, are associated with certain industries, and which positive or negative effects this classification can have. His investigations are backed by the works of Stancill,⁶¹ which were published subsequently. He also recognised the importance of corporate brand image on capital markets. Simon *et al.*¹ note that when evaluating companies, investors pay a great deal of attention to the industry and that this can influence their investment decisions either positively or negatively. According to Simon *et al.*, industry membership results in the creation of limits for the positioning of a company on the capital market. Tomczak and Coppert⁶² in a later publication support the statements of Simon *et al.* Common to all the capital market investigations is the fact that they represent purely conceptual work based on individual case studies rather than wide, quantitative examinations.

Accordingly, despite numerous studies involving various areas of business administration, there are no sound theoretical and empirical findings concerning the influence of industry image on corporate brand image. This leads to the basic hypothesis underlying this investigation, which is divided into two parts, initially to allow analysis of the fundamental relationship between industry and corporate brand image, and subsequently of the causality of this relationship:

- H_{1a}:** *There is a significant relationship between industry image and corporate brand image.*
- H_{1b}:** *Industry image has a significant causal influence on corporate brand image.*

Although scientific literature contains some supporting evidence for the fundamental existence of a connection, no information is available concerning whether industry



image influences all the characteristics of a corporate brand image, or whether the perceiving subject has characteristics that strengthen or weaken the connection. In order to clarify this question, other research areas need to be analysed which provide additional findings.

Brand origin research seems to be able to make a contribution to the field, as it also involves the examination of the effect of an image that is superior to the brand image.^{11,12,63–65} According to Blinda,¹¹ brand origin influences the subjectively perceived functional and symbolic use of a brand. For a brand's functional use this applies in particular when certain skills are associated with brand origin that facilitate fulfilment of brand use. Origin can influence perceived symbolic use by supporting the trust, identification and prestige aspects of brands. Brand origin is of particular relevance for customers who have limited knowledge of the respective product area. Limited knowledge can generally be understood as a lack of sufficient 'direct' information concerning the brand, which makes an evaluation impossible. This in turn can be the result of lacking skills or motivation to process the available information.^{66,67}

Following the application of these findings to the connection between industry image and corporate brand image, it can be concluded that industry image does have a causal influence on the functional and symbolic attributes of corporate brand image. This influence should increase as the knowledge of the respective target of the company decreases, resulting in the following hypotheses:

H_{2a}: *There is a significant relationship between the functional attributes of industry image and the functional attributes of corporate brand image.*

H_{2b}: *The functional attributes of industry image exert a significant causal influence on the functional attributes of corporate brand image.*

H_{3a}: *There exists a significant relationship between the symbolic attributes of industry image and the symbolic attributes of corporate brand image.*

H_{3b}: *The symbolic attributes of industry image exert a significant causal influence on the symbolic attributes of corporate brand image.*

H_{4a}: *The extent of knowledge about a company negatively influences the strength of the relationship between industry image and corporate brand image.*

H_{4b}: *The extent of knowledge about a company negatively influences the causal influence of industry image on corporate brand image.*

Hypotheses H_{4a} and H_{4b} show parallels to the elaboration likelihood model of Petty and Cacioppo.⁶⁸ The core suppositions of their model are two different routes of information processing. Central information processing sees all available information gathered and rationally processed before a brand image is created or altered. The quality of the information is considered much more important for this process than contextual factors such as industry image. In the case of peripheral information processing, an individual does not carry out a detailed and rational evaluation of the object (in this case the corporate brand). Instead, he relies on indirect stimuli and heuristics. Such indirect stimuli and heuristics can include the method of information presentation, the source of information or other images that



accompany the actual evaluation object, for example the industry image. Since a lack of information also limits the ability to process complex information, Petty and Cacioppo predict a dominance of the peripheral routes. This would in turn imply that industry image exerts a higher influence on corporate brand image. The knowledge of an industry is in this case a moderator of the relationship, as the variable changes the relationship between industry image and corporate brand image. It is not an intermediary variable that is dependent on the industry image and does not explain why an influence exists.

The information processing method chosen by an individual depends on a number of different factors, such as their involvement and problem-solving ability. For the purpose of this paper the controversially discussed construct of involve-

ment is generally defined as the perceived importance of a stimulus to a person (Mittal,⁶⁹ p. 664). A high level of involvement and a correspondingly high problem-solving ability will result in the central route being chosen, while low involvement or low problem-solving ability will result in the peripheral route being chosen.^{68,70} In addition, two hypotheses on involvement as a moderating factor can be derived from this (cf. Figure 1):

H_{5a}: *The degree of involvement negatively influences the strength of the relationship between industry image and corporate brand image.*

H_{5b}: *The degree of involvement negatively influences the causal effect of industry image on corporate brand image.*

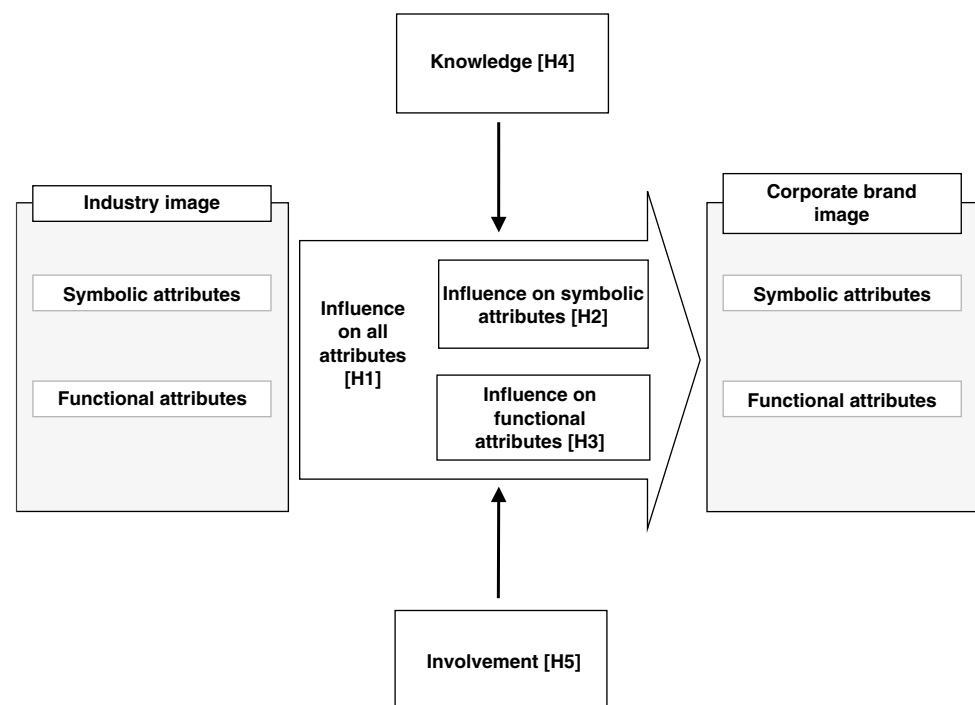


Figure 1 Illustration of the hypotheses within the frame of reference for the empirical examination
Source: Own illustration



The involvement is also a moderating variable in this case, as it is—as the knowledge of an industry—not dependent on the industry image and does not explain why the influence exists.

EMPIRICAL STUDY

Study design

For the empirical study of the hypotheses, real corporate brands and industries are used to ensure the greatest possible degree of external validity. Industries and corporate brands are chosen according to the following criteria: (1) manufacturing and service industries, in order to ensure high industry heterogeneity; (2) familiarity of the corporate brands and industries; (3) at least two known corporate brands per industry and (4) companies with clear and unclear industry classifications. Based on these criteria, nine industries and 27 corporate brands were chosen. The industries and corporate brands chosen are shown in Table 1. It additionally shows how the interviewees classified the corporate brands to the different industries (cf. Table 1).⁷¹

The scholarship holders at e-fellows.net (a programme that sponsors high potential undergraduate and postgraduate students with internet access, access to research facilities and especially targeted events etc) were chosen as an *interviewee sample*. These scholarship holders include a mixture of undergraduate and postgraduate students from wide-ranging fields of study who, on account of their above-average performance, have been selected by e-fellows.net as worthy of a scholarship. This sample was deemed preferable to one that would be representative of the population as a whole, as the scholarship holders, on account of their high qualifications, possess the largest possible choice

of future employers, and are also of particular interest to companies for the exact same reason. A total of 3,368 interviewees completed the questionnaire between January and February of 2005. This corresponds to a response rate of 29 per cent. An internet-based questionnaire was used as a recording instrument, as this represented the best way to reach the interviewees (all scholarship holders receive free internet access as part of their scholarship).

The individual attributes for the operationalisation of the *corporate brand images* were chosen from the studies of Kirchgorg and Lorbeer,⁵³ Grobe,⁵⁴ Süß⁵⁸ and Sutherland *et al.*,⁷² and selected on the basis of their importance therein. In addition, symbolic corporate brand image attributes were added from the study of Aaker⁷³ in order to ensure a sufficient number of symbolic attributes. This selection of corporate brand attributes was chosen, as it includes the widest range of well-tested brand attributes and integrates attributes, that were successfully used in international as well as German studies. This was regarded important due to the set-up of the study which was only in Germany. The attributes were measured on a six-point scale from 'true' to 'not at all true' and include, for example, 'co-operation with colleagues', 'fun to work' and 'training possibilities'.

Industry image, like corporate brand image, is also recorded on the basis of symbolic and functional attributes. In order to ensure the content-related comparability of the attributes of both industry and corporate brand images, the same operationalisation method and the same attributes were chosen as for corporate brand image.⁷⁴ This appears reasonable as Keller⁷⁵ has already noted that industry images can be specified using attributes common to all the companies



Table 1 Industry classification of the companies included in the study

Company	Industry classification by interviewees									
	Vehicle manufacture	Pharmaceutical	Chemical	Banks	Management consultancy	Investment banking	Accountancy	Electrical and technology industries	Insurance	
Audi	504	—	—	—	—	—	—	—	—	—
BMW	502	—	—	—	—	—	—	—	—	—
Volkswagen	501	—	—	—	—	—	—	—	—	—
DaimlerChrysler	499	—	—	—	—	—	—	—	—	—
Novartis	—	419	54	—	—	—	—	—	—	—
Roche Diagnostics	—	408	44	—	13	—	16	—	—	13
Aventis	—	377	64	—	11	—	—	—	—	—
Bayer	—	296	203	—	—	—	—	—	—	—
BASF	—	30	436	—	—	—	—	—	—	—
Postbank	—	—	—	480	—	17	—	—	—	—
Deutsche Bank	—	—	—	478	—	25	—	—	—	—
HypoVereinsbank	—	—	—	452	—	44	—	—	—	—
UBS	—	—	—	248	—	126	—	—	—	—
BCG	—	—	—	—	486	—	—	—	—	—
McKinsey	—	—	—	—	480	—	—	—	—	—
Roland Berger	—	—	—	—	471	—	—	—	—	—
Bain	—	—	—	—	436	—	—	—	—	—
Accenture	—	—	—	—	404	—	—	—	—	—
Goldman Sachs	—	—	—	61	49	339	16	—	—	—
JP Morgan	—	—	—	38	70	332	25	—	—	—
KPMG	—	—	—	—	130	—	326	—	—	—
Ernst & Young	—	—	—	—	183	—	283	—	—	—
Deloitte	—	16	20	—	150	—	260	—	—	—
Siemens	—	—	—	—	—	—	—	495	—	—
Bosch	38	—	—	—	—	—	—	459	—	—
Allianz	—	—	—	11	—	—	—	—	—	492
AMB Generali	—	—	—	56	—	11	—	—	—	361

Number of citations; all companies included where the number of citations was above 10.

Source: Own illustration.



in an industry as well as those specific to individual companies. He also states that both functional and symbolic attributes should be included in a industry image evaluation.^{58,75,76}

The interviewees also assigned each company to an industry (cf. Table 1). As no sufficiently validated scale for Company knowledge was available for German respondents, *Company knowledge* was assessed using a six-step Likert scale starting with 'I know the company very well' and ending with 'I know nothing about the company'. This scale was then validated for the purpose of this study by using the individual brand contact points. Each company contact, it was believed, should lead to an increase in the level of knowledge, if the scale was valid. This assumption was empirically confirmed to a significant level in our study.⁷⁷

Involvement was measured by closely following the example of Kapferer and Laurent,⁷⁸ who record it in five different dimensions, all of which are independent of each other. The measurement indicators for the five involvement dimensions were selected from the scales of Kapferer and Laurent and translated into German.⁷⁹ These translations were then checked by experts for comprehensibility. To determine the degree of individual involvement, all of the indicator values were used. As, according to Laurent and Kapferer, all dimensions are equally important, no differentiated weighting of the individual items was carried out.⁷⁸ The five dimensions are: interest, fun, probability of mistakes, sign value of behaviour and importance of mistakes.

This operationalisation treats involvement as a formative construct, with the dimensions representing different facets of the construct.⁷⁸⁻⁸⁵ Therefore, instead of the traditional criteria like Cronbachs

alpha, a MIMIC model was used, which was preceded by a multi-collinearity analysis.^{82,83,86}

The adjustment parameters of the MIMIC model (RMSEA (0,046), GFI (0,995), AGFI (0,968) and CFI (0,960)), were estimated using the ADF procedure^{87,88} and they achieved very good values, which almost entirely fulfilled the criteria developed by Homburg and Baumgartner.⁸⁹ Only the χ^2 test failed to provide a satisfactory result ($\chi^2/df = 8,026$). This is not a serious problem, as it is not necessary that all the quality measures are fulfilled.⁹⁰

The analysis was carried out in two steps. In a first step, of all the hypotheses marked with 'a' were examined using simple regressions and moderated regressions. In order to allow an overall evaluation of the connection for all image attributes, they were first of all *z*-standardized. For each brand attribute '*n*' in the newly created data set, an own case in which the respective corporate brand image evaluation was entered into the new variable U_n and the industry image evaluation into the new variable B_n was created. The correlating variables, for example U_1 and B_1 , are synchronous, that is the evaluation of the corporate brand image attribute 'happy' correlates with the same attribute at industry level.

To examine H_{1a} , regression was carried out with the entire data set using the variable U_n as a dependent variable and the variable B_n as an independent variable. Individual regressions were subsequently carried out for each corporate brand attribute in order to examine hypotheses H_{2a} and H_{3a} . Moderated regressions were carried out for the examination of hypotheses H_{4a} and H_{5a} as per Aiken and West.⁹¹ For this purpose, both the moderating variables and the industry image variable were centred and multiplied with each



other. The resulting variable is the moderator in the regression equation.

These regressions were used to verify the existence of a connection and not its direction. As a result, another procedure had to be used to examine the 'b' causality hypotheses which separated the effect of the corporate brand image on the industry image from the effect of the industry image on the corporate brand image. In order to achieve this, the 13 companies classified as belonging to different industries by the interviewees were selected and the interviewees were then allocated to each study group in accordance with their industry classification. As the interviewees could not be allocated at random to the study groups, as is required by traditional experiments,^{92,93} it had to be ensured that no distorting self-selecting effects influenced the corporate brand evaluations.

Three possible distorting effects (company knowledge, sex and field of study) were examined in order to prove sample equivalence. For the interval-scaled variable, company knowledge, a *t*-test for average differences was carried out. The two nominally scaled variables, sex and field of study, were examined using χ^2 tests.

Since sample equivalence could only be ensured for five of the 13 companies selected for this part of the study ($N = 2,527$ corporate brand image evaluations), only these five companies were included in the subsequent empirical examinations. For these five companies, the differences in corporate brand image evaluations in the case of differing industry classifications were analysed.

As a second step, industry images were analysed after having been adjusted for corporate brand image. The reason behind

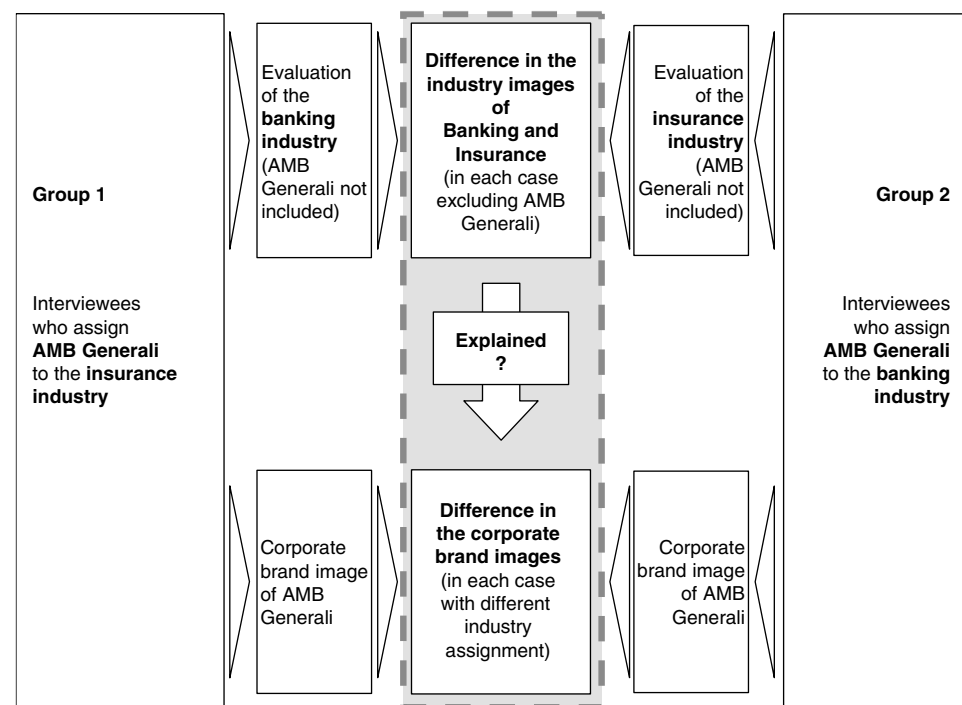


Figure 2 Procedure for determining the causal influence of industry image on corporate brand image using the example of AMG Generali

Source: Own illustration

Table 2 Determination coefficients for the individual image attributes (H_{2a} , H_{3a})

Image attribute	R	Adjusted determination coefficient	F-statistic of the variance analysis	Sig. 2-sided
<i>Functional attribute</i>				
Good opportunities for advancement	0.27	0.07	53	0.00
Good prospects on the job market	0.27	0.07	61	0.00
Good cooperation with colleagues and superiors	0.27	0.07	37	0.00
Good opportunities for further training	0.31	0.10	40	0.00
Rapid growth and guaranteed future	0.31	0.10	42	0.00
Company size	0.31	0.10	88	0.00
International	0.33	0.11	110	0.00
Quick transfer of responsibility	0.38	0.14	96	0.00
Challenging tasks	0.40	0.16	133	0.00
Work is fun	0.43	0.18	96	0.00
High degree of job security	0.45	0.20	81	0.00
Social responsibility	0.46	0.21	37	0.00
High wage increases	0.46	0.22	172	0.00
High starting salary	0.49	0.24	141	0.00
Innovativeness	0.51	0.26	406	0.00
Balance between professional and private life	0.63	0.40	333	0.00
<i>Symbolic attributes</i>				
Charming	0.32	0.10	42	0.00
Cheerful	0.31	0.10	78	0.00
Well-mannered	0.33	0.11	73	0.00
Reliable	0.33	0.11	71	0.00
Authentic	0.34	0.12	61	0.00
Distinguished	0.38	0.14	194	0.00
High standing among friends and acquaintances	0.39	0.15	65	0.00
Intelligent	0.40	0.16	51	0.00
Robust	0.40	0.16	61	0.00
Spirited	0.40	0.16	177	0.00
Honest	0.41	0.17	71	0.00
Freedom-loving	0.42	0.18	120	0.00
Enterprising	0.42	0.18	251	0.00
Passionate	0.43	0.19	180	0.00
Imaginative	0.45	0.20	279	0.00
Solid	0.47	0.22	168	0.00
Employees are like me	0.52	0.27	38	0.00

Source: Own illustration.

this is to avoid that the industry image is influenced by a particular corporate brand image. This is achieved by only selecting evaluations by interviewees who did not assign the company in question to the evaluated industry. This means, for example, in the case of AMB Generali and the evaluation of the banking industry,

that the only evaluations to be included were those by interviewees who did not assign AMG Generali to the banking industry, and similarly for the insurance industry that the only evaluations to be included were those by interviewees who did not assign AMG Generali to the insurance industry. It is thus assured that the



Table 3 Regression results for the analysis of hypotheses 4a and 5a

Analysis of H_{4a}: Involvement as a moderator						
R	Adjusted determination coefficient	Standard error of the estimator	Durbin-Watson			
0.393	0.16	0.91	1.843			
	Sum of squares	d.f.	F	Sig.		
Regression	29670	3	12037	0.000		
Residual	162138	197336	0.822			
Nonstandardised coefficients						
	Standardised coefficients	t	Sig.	Multicollinearity		
B						
	Beta	Tolerance	VIF			
(Constant)	0.01	0.002	2.69	0.007		
Involvement main effect	0.01	0.002	3.38	0.001	1.000	1.000
Moderator variable involvement	0.01	0.002	4.20	0.000	0.998	1.002
Industry image	0.38	0.002	189.61	0.000	0.998	1.002
Analysis of H_{5a}: Knowledge as a moderator						
R	Adjusted determination coefficient	Standard error of the estimator	Durbin-Watson			
0.401	0.161	0.92	1.85			
	Sum of squares	d.f.	F	Sig.		
Regression	31735	3	12605	0.000		
Residual	165603	197336	0.839			
Nonstandardised coefficients						
	Standardised coefficients	t	Sig.	Multicollinearity		
B						
	Beta	Tolerance	VIF			
(Constant)	0.00	0.002	0.06	0.952		
Industry image	0.39	0.002	189.91	0.000	1.000	1.000
Moderator variable knowledge	0.01	0.002	3.36	0.001	1.000	1.000
Main effect corporate knowledge	-0.08	0.002	-38.17	0.000	1.000	1.000

Source: Own illustration.

Table 4 Result of the examination of hypotheses H_{1b}, H_{2b}, H_{3b}, H_{4b} and H_{5b} using regression and group comparisons

Model	Adjusted determination coefficient	Standard error of the estimator	F	Sig. 2-sided
H _{1b}	0.27	0.15	38	0.000
H _{2b}	0.45	0.16	20	0.000
H _{3b}	0.19	0.14	13	0.001
H _{4b}				
Low involvement	0.35	0.24	54	0.000
High involvement	0.00	0.22	1	0.281
H _{5b}				
Low knowledge	0.26	0.23	25	0.000
High knowledge	0.00	0.22	1	0.439

Source: Own illustration.

corporate brand image of AMG Generali does neither affect the image of the banking industry nor the one of the insurance industry.

Following this, the differences between the industry image evaluations were calculated for the industry images not distorted by corporate brand image. These values are used in a linear regression to predict the differences between the corporate brand images (depending on industry classification) (cf. Figure 2). The only attributes included in the analysis are those for which the industry images differ significantly.

Results of the empirical study

The regression used to examine H_{1a} showed that 16 per cent of the variance in corporate brand image can be explained by the respective industry image.

This result is highly significant ($p=0.000$). Following this, regressions were carried out for each individual corporate brand attribute in order to examine H_{2a} and H_{3a} (cf. Table 2). For each regression there is at least an adjusted determination coefficient of 0.07, which represents a weak to medium effect

(Cohen,⁹⁴ p. 79f). All the regressions are highly significant. The presumed connection can, therefore, be proven for both symbolic and functional image attributes. The differences between the determination coefficients can primarily be explained by the differing discrimination of the industry images. The more the industry image attributes in the sample discriminate, the higher their explanatory contribution to corporate brand image.⁹⁵ The moderated regressions in the case of H_{4a} and H_{5a} provide less clear-cut results. Even if the moderator variable is significant, no significant improvement in the explained variance component is achieved compared to the nonmoderated regression, and hence hypotheses H_{4a} and H_{5a} cannot be confirmed (cf. Table 3).

The analysis of the causal influence of industry image on corporate brand image is illustrated in Table 4. The hypotheses H_{1b} ($p=0.000$), H_{2b} ($p=0.000$) and H_{3b} ($p=0.001$) can be confirmed. The determination coefficients are, at the 0.01 level, highly significant, that is the differences in the industry images make a significant contribution to the explanation of the overall differences in corporate brand images. Comparison of the regression



equations for interviewees with low and high involvement shows a highly significant effect. While the regression for interviewees with low involvement is highly significant, and 35 per cent of the variance of the corporate brand image differences are explicable, these values are lower for individuals with high involvement. The regression is not significant ($p=0.28$) and it explains only 1 per cent of the total variance.

The same applies for corporate knowledge. While the regression for interviewees with low corporate knowledge is highly significant ($p=0.000$) and 26 per cent of the variance of corporate brand image differences can be explained by industry image, regression with high corporate knowledge is not significant ($p=0.44$) and explains only 1 per cent of the total variance.

DISCUSSION OF THE RESULTS

This study proves that industry image has a significant influence on corporate brand image. Both a highly significant connection between corporate brand images and industry images (H_{1a}) as well as a significant connection for each individually analysed brand image attribute (H_{2a} , H_{3a}) could be established. Moreover, the causal influence of industry image on corporate brand image for all industry image attributes could be proven (H_{1b} , H_{2b} , H_{3b}). The moderating effects of involvement and corporate knowledge are only significant for the sub-samples, which were used to examine the causality of the connection between industry image and corporate brand image. These are the samples where the industry images were not distorted by the corporate brand image (see section 'Study design'). The results for the total sample were in line with the hypotheses, but did not lead to

an increase in the determination coefficients, and hence the hypothesis could not be confirmed. There could be a number of reasons for this. For example, it could be the case that corporate knowledge and involvement are only of significance when the industries to which a company can be assigned are significantly different. Implications for further research and management as well as limitation of the study are detailed in the next section.

PRACTICAL AND THEORETICAL IMPLICATIONS FOR FURTHER RESEARCH AND MANAGEMENT

Despite the confirmation of most of the hypotheses, the study does provide further indicators for future research. These are also the main limitations of this research. For example, the results were all gathered using a sample of students who were asked about their career choice. Still to be examined is the degree to which the results could be confirmed for other target groups of corporate brands (eg investors and employees). Furthermore, the results were gathered using only a limited selection of companies and industries. This applies, in particular, to the causal influence of the industry image on the corporate brand image as for the evaluation of this hypothesis out of the total group of 27 corporate brands, only five could be evaluated as only for those sample equivalence could be proven.

Next to that, it remains open to what extent industry image also affects the images of a company's other brands (eg product brands, strategic business unit brands), and what kind of influence this represents. What degree of freedom remains for the management of a corporate brand, if a large percentage of the variance of the individual attributes of corporate brand images are determined



by the industry image? The opportunities for brand management activities, it would seem, are much more limited than is often assumed.

Therefore, the relatively strong influence of industry image on corporate image has wide-ranging implications for companies. These implications depend, on the one hand, on whether the industry image has a positive or negative influence and, on the other hand, on the importance of the brand attributes that are influenced by the industry image. A positive industry image influence on important attributes of the corporate brand image can help a company to differentiate itself from competitors or from other industries. A negative industry image, on the other hand, in particular, if it involves important corporate brand attributes, can lead to competitive disadvantages. In such a case the negative influence can be reduced by altering the image of the industry itself. This can be done by initiating and contributing to voluntary industry self-commitments or through strengthening the public relations work carried out by industry associations. Concrete results in this case, however, are only to be expected in the long term and only if consistent industrywide measures are implemented.

Furthermore, a company can alter its actual membership of an industry or the subjective perception of its membership of an industry. For example, the alteration of its strategic business unit portfolio can influence the industry to which it belongs. Likewise, the perception of industry membership alone can be altered in the long term by deliberately managing the brand architecture, clever co-branding or emphasising individual industries within the framework of corporate communications.

What significance does this study, therefore, have for the questions asked at the beginning of the article? As far as employer

desirability is concerned, a number of straightforward conclusions can be drawn on the basis of this study, as the influence of industry image was determined using the example of employer selection. It was shown that employer desirability very much depends on being in the right industries. This applies, in particular, if applicants have little knowledge of the company or low involvement with respect to employer selection.

With regard to brand management practice and to the findings of He and Balmer,⁴² this study provides a strong argument for industry collaboration. It is undoubtedly a mutual task to positively influence the industry image. This is of particular relevance for industries and companies that are under public scrutiny and suffer from weak images such as the oil industry or, in many economies, also the banking industry. Drawing on the argumentation of Podnar,⁴⁸ a useful first step for a single company could be to analyse the necessary points of parity with the other companies in the industry and, in many cases perhaps more important, to identify relevant points of difference. This process should result in a clear and differentiating positioning.

From a practitioner's perspective, it would be particularly interesting to learn more about possibilities to either make corporate brand images more independent of industry image or to influence the industry image by changing the corporate brand image of one prominent player in the industry. It seems reasonable to assume that certain industries are heavily influenced by the image of just a few companies. Microsoft and Apple are surely examples of corporate brands that shape the industry image strongly. The question arises as to what extent the causal relationship analysed in this paper works the opposite direction as well. Moreover, it

would be interesting to investigate how strong and differentiated a brand image has to be in order to reduce the effect of the industry image to a minimum. Future research should seek for insights into these areas.

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