REPUTATION MANAGEMENT FOR SCIENTIFIC ORGANISATIONS — FRAMEWORK DEVELOPMENT AND EXEMPLIFICATION

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Summary

Reputation Management deals with establishing, maintaining and strengthening a positive reputation for
an object in order to build trust, commitment and lasting relationships. Positive reputation is considered
a major intangible asset of companies as it contributes to their value creation. Reputation and reputation
management, therefore, are well-established perspectives in marketing theory. This paper examines
reputation in matters of scientific organisations. Drawing on conventional (commercial marketing) models
of reputation management and derived characteristics of scientific organisations, a modified framework is
deduced, named the Scientific Organisations Reputation Model (SORM). As this model widely fits the
specific requirements of this type of organisation it will be useful for the complex task of marketing scientific
organisations. Using the SORM framework, scientific organisations will be able to understand the formation
of their own reputation in a more comprehensive way and will be able to improve their reputation-relevant
management processes. The framework is exemplified and examined more closely using the case of
DHBW, the unique German cooperate state university as the interplay of stakeholder patterns and the
integration of multi-level marketing activities are carved out and main effects on reputation are
demonstrated.

Keywords: reputation management, typology of organisation, brand, image, university marketing,
scientific organisation
Introduction

Reputation has been established as a research area in management science over a long period, heavily advanced by the seminal work of Balmer (1997), Bromley (1993) or Fombrun (1996). The establishment of specialised international journals like "Corporate Reputation Review" might serve as a proof of how the topic has gained considerable importance.

While the construct reputation is well researched in a managerial-commercial context, only little work on reputation can be found that refers to its application to scientific organisations such as universities or research institutions. When addressing management questions of reputation from the perspective of scientific organisations, basically, no suitable research approaches are available. This is striking since reputation has been discussed to be of major importance to scientific organisations (Ressler/Abratt, 2009, p. 35; Alessandri et al., 2006, p. 259).

As scientific organisations are different to firms approaches and findings from existing research of (commercial) reputation management seem to be limited in its transferability to scientific organisation reputation management. That is why this paper aims at providing a framework tailored to understanding reputation from the view of a scientific organisation. The paper is organised as follows: First, features of scientific organisations are identified, and definitions for reputation and organisational reputation are presented. Additionally, a prevalent model of corporate reputation management is sketched against the background of different lines of research. Based on this, a specific framework for scientific-organisational reputation management will be deduced and exemplified using the case of a German university. The paper ends with a discussion of implications for further research.

Scientific organisations and their characteristics

Denotation of organisation

The term organisation can be used with different meanings: instrumental, functional and institutional denotation. Kosiol developed
the instrumental view as he defined an organisation as "integrative structure of entireness or as system" (Kosiol, 1962, p. 21). This means, that an institution has an organisation (Schreyögg, 2008) and needs an organisation to work successfully. The functional meaning was pointed out by Gutenberg who modified the instrumental perspective (Schreyögg, 2008). Gutenberg saw organisation as a special part of (corporate) management as the dispositive factor (Gutenberg, 1983) of a company.

The institutional perspective in business economics bases on the work of Grochla (1972) and means that every institution is an organisation (Schreyögg, 2008). It represents a structure that describes an institution.

Aware of the research of e.g. Musselin (2006) that scientific organisations in general and universities in particular are "specific organisations" the following chapter uses the institutional perspective to find characteristics of organisation and than describes specific features of scientific organisations.

Institutional Perspective

The discussion about the institutional perspectives already started in the organisation sociology (for example Mayntz, 1963). Furthermore, Kieser/Kubicek (1978) pointed out that every organisation is a social system. In the following research three main characteristics of organisations are important (Vahs, 2012):

(1) Open Social System
Luhmann founded the basic idea of social systems (Luhmann, 1987). Every system has a context that influences the system. Organisations are part of and are built out of the context. The open social system idea refers to the people that are working for an organisation. And the open system characterises the reciprocal relationship of system and environment.

(2) Goal-oriented
Every organisation has formal goals and/or area-specific objectives. A for-profit-organisation for example has goals such as increasing the shareholder value or optimizing the sustainable usage of water.
(3) Formal Structure
The members or participants of an institution work together having a structure in mind. These structures could be of formal or informal nature. The formal structures are business rules to reach the goals successfully. The informal structure expresses the companies’ culture (Kieser/Walgenbach, 2010).

Scientific Organisations
The term scientific organisation allows to include a wide range of different types e.g. universities, universities of applied sciences, research association or scientific, educational and research institutions. With regards to this enormous variety of scientific organisations some particular characteristics have been discussed (e.g. Kotler/Fox, 1985; Finholt, 2003; Sojkin, 2015; Hoyle, 1982; Courtney et al., 1998; Musselin, 2006; Ressler/Abratt, 2009) of which some important ones are listed below:

- Slim but diversified product portfolio
- Predominant services as products/offerings, therefore complex and difficult to grasp value creation
- Often non-profit orientation, sometimes for-profit
- Governmental and non-governmental
- Complex group of stakeholders
- High dependency on legal regime and public finance combined with increasing competition between scientific organisations to receive research and grant funding
- Predominantly international target markets
- Democratic and political processes shape large areas of internal coordination, hence high impact of micro politics
- Functionally loose coupling of activities
- Ambiguous causal relationships between tasks and results
- Ever so often marketing and sales neither considered a main part of the value chain nor a core competency
- Reputation recognised as key to compete in the market

To simplify things, the focus, hereafter, will be on universities as the
main type of scientific organisations (Krem, 2012) discusses different organisational perspectives in detail). Below three main characteristics of organisations (see chapter 2.2) are applied to this important representative of scientific organisations:

(1) Open Social System

Scientific organisations are determined to create a system to serve their purpose. "... science has always both shaped and been shaped by society in a process that is as complex as it is variegated; it is not static but dynamic. ... Science possesses a variegated internal structure, made of vast number of communities or specialisms, each with distinctive forms of practice and specific modes of internal and external communication" (Gibbons et al., 1994, p. 22). The stakeholder model (Freeman, 1984) suits to describe the complex network of relationship. Stakeholders are "those groups without whose support the organization would cease to exist" (Freeman, 1984, p. 31). Erhardt (2011) developed the following stakeholder model for universities (see fig. 1).

Figure 1. Stakeholder of universities

(2) Goal-oriented
As mentioned above, universities are often non-profit-oriented. As the name indicates profit or shareholder value are not a main focus. Eichhorn (1991) differentiated between the formal goals and area specific objectives (see fig. 2). While the formal goals are more of quantitative nature the main goals of scientific organisations are area-specific objectives and therefore complex ones and mostly of qualitative nature. Additionally, universities have special formal goals: donors, grants, third party or national funding.

![Figure 2. Goals and objectives of (non)-profit-organisations](Eichhorn, 1991, p. 45.)

(3) Formal Structure
A scientific organisation has three main functions: research, teaching and administration (see fig. 3), which imply different structures. As a result scientific organisations are composed of up to three different formal and informal structures. Schimank (2000, p. 306 ff., 2001, 2002, 2003, 2007), Zechlin (2012) and also Müller-Jentsch (2003, p. 34 ff.) differentiated the working organisation in opposition to the interest
organisation. The first one has clear structures and hierarchies, whereas the second one is voluntarily loosely connected (Nickel, 2012). Furthermore Nickel assigned research and teaching to the interest organisation, as their organisational structures resemble each other, and the administration to a working organisation.

![](image)

Figure 3. *Trisection of universities*

Nickel, 2012, p. 280

**Defining organisational reputation**

Prevalently, the term reputation is discussed in the business context of corporate reputation: Corporate reputation as the sum of all relevant stakeholders’ perceptions and evaluations of culture and identity of a firm that lead to respect and potential support for the organisation (Fombrun/Wiedmann, 2001; Fombrun, 1996; Walsh/Wiedmann, 2004, p. 304). Following that understanding it is impossible to miss the highly aggregated nature of the concept (Wiedmann, 2014, p. 610). Also needless to mention that a variety of differently accentuated concepts has evolved
(for a rough overview: Sung/Yang, 2008, p. 363; Walker, 2010). However, Walker (2010) finds a comparatively high amount of congruence among the several definitions provided in the literature. Based on a review study of 54 papers and books, Walker (2010, p. 370) derives the following overall definition of corporate reputation: Corporate reputation is "a relatively stable, issue specific aggregate perceptual representation of a company’s past actions and future prospects compared against some standard", with a representation referring to the encoding of information that an individual can construct, retain in memory and use in diverse ways (Smith, 1998). A helpful and comprehensive overview of definitions of corporate reputation is provided by Walsh et al. (2009).

Apart from a business context, reputation issues are found to be discussed for other types of organisations, too (e.g. Yang/Grunig, 2005; Rao, 1994; Middelton/Hanson, 2003). For example, in the work of Theus (1993) and Alessandri (2006) the term reputation is applied to academic institutions, rep. universities. A broadened organisational perspective on reputation, however, requires raising the term reputation to a more abstract level. This is addressed by an interpretation of reputation as a pattern of cognitive representations of an organisation held by multiple publics, possibly including evaluative components (Grunig/Hung, 2002; Yang/Grunig, 2005, p. 308 and references there). Building on this, organisational reputation, for the purpose of this paper, is defined as the collective representation of an organisation that its multiple stakeholders hold over time and that lead to respect, trustworthiness, attraction and support for the organisation.

Two aspects might be vital to note. First, built up reputation tends to be of enduring nature as it is reproduced over time. This led writers in this area to note a "stickiness" of reputation (Schultz et al., 2001). Second, reputation is, in general, regarded different from image: whereas an image is the mental picture of the company or organisation held by its audiences (Gray/Balmer, 1998) towards a certain object (e.g. a company or a product), reputation refers to the total of all stakeholders’ images and the resulting supporting behaviours (Wiedmann 2014, p. 609) — it includes the estimation of the company or organisation by its constituents (Gray/Balmer, 1998). Nevertheless, an image considered as representing a complex attitude construct (Redler, 2013, p. 30) might have some overlaps with the reputation concept.
Reputation management and its conceptualisation in business contexts

Since decades, the management of corporate reputation has attracted interest from a variety of academic disciplines. Literature from accountancy economics, marketing, sociology and organisational behaviour as well as strategy contribute to this field (Chun, 2005). Repeatedly authors (e.g. Walsh et al., 2008; Chun, 2005; Gibson et al., 2006) have emphasised the growing focus for this soft asset of a firm. In this sense, reputation management can be considered a core element of resource building and asset creation as it affects the way in which stakeholders behave towards a company. In management reality reputation is respected as a valuable intangible asset, as reflected by CEO statements (Institute of Directors, 1999).

As defined above, corporate reputation represents the sum of all relevant stakeholders’ perceptions and evaluations of culture and identity of a firm that lead to respect and potential support for the organisation (Fombrun/Wiedmann, 2001; Fombrun, 1996; Walsh/Wiedmann, 2004, p. 304). Consequently, a strong reputation reflects an organisation’s power to attract (Fombrun/van Riel, 2003). In the same way aspects of respect formation and creating important supporting momentum with stakeholders are relevant facets of the construct. Formation of reputation seems to be dependent on its situational context and stakeholder’s opinion formation processes (Wiedmann, 2014, p. 610). Likewise, reputation formation interacts with already existing reputation (Wiedmann, 2014, p. 610).

The basic model

In a basic conception reputation is examined as an outcome of firms’ signals and their interference with signals from external monitors. As informational asymmetries occur, each of a company’s multiple publics selectively attend to different informational fragments (Fombrun/Shanley, 1990, p. 234). Therefore, reputation building is about interpreting ambiguous signals. Furthermore, reputation is based on evaluations over time (Gotsi/Wilson, 2001; Walsh/Wiedmann, 2004). These essential interrelations can be visualized according to fig. 4.
Development and synthesis:
The Wiedmann perspective

Wiedmann (2015) presents a more detailed conceptual approach. As pictured in fig. 5 reputation is taken as an aggregated measure that results from *all stakeholders´* perception of the entire organisational culture. By that, the crucial aspect that several stakeholder groups are involved with each group capable of having different reputation values for the same firm (e.g. Gray, 1986) is underlined. Resulting reputation is prerequisite for an organisation´s value. This seems congruent to Barnett et al. (2006) or Fombrun (1996) who already pointed out that reputation is an assessment of a firm´s actions as well as a synopsis of a firm´s perceived standing against its competitors.

The model in fig. 5 also indicates that perception and interpretation of an organisation´s identity must be seen in the *context* of culture as an integrative part both of complex interactions and situational factors. The
importance of experiences, interactions and relationships for reputation formation is deduced by Terblache (2009). Moreover, reputation should be considered as being part of cybernetic feedback loops: already established reputation will influence future reputation chance (this reflects core ideas of the basic model); as mentioned, the dynamic nature of reputation has already been addressed by Fombrun (1996), Bromley (1993) or Gray and Balmer (1993). Reputation, in consequence, is also a result of past actions of a firm.

Figure 5. Reputation framework

Putting the presented key conceptualisations of reputation in a more formal way: A firm’s reputation (RepF) is the total of (a) the sum of the current evaluation of a firm by each stakeholder (EvaSHₜ) and (b) the sum of the past evaluation of a firm by each stakeholder (EvaSHₜ₋₁):

(I) \[ \text{RepF}_t = \sum \text{EvaSH}_t + \sum \text{EvaSH}_{t-1} \]
Dimensions of reputation

The integrative approach by Fombrun et al. (2000) assumed central corporate reputation dimensions, partly based on evidence from Reputation Quotient (RQ) research. These dimensions are: Emotional appeal, products and services, vision and leadership, workplace environment, social and environmental responsibility, financial performance. Country-specific dimensions should nevertheless be checked. For example, in their qualitative study Walsh/Wiedmann (2004) found some dimensions to be added for Germany: Fairness, sympathy, transparency and perceived customer orientation. With help of the dimensions managers are enabled to assess the overall situation across all stakeholders, to diagnose the reputational situation for a particular stakeholder or to compare reputation patterns between stakeholders. Vital to note: The dimensions will be perceived differently by different stakeholders.

Reputation effects

A specific facet to the view of reputation is the existence of supportive behaviour and attractive power. In case of a strong reputation they will help companies find staff, to acquire customers, support customer retention, open up investors and facilitate media relations which in turn improves probability of positive media (Wiedmann, 2014, p. 609; Fombrun/Shanley, 1990, p. 233). The pivotal role of trust should be highlighted, too. A positive reputation leads to being trusted which, in turn, will help people to have confidence in the firm’s integrity, abilities and plans for the future (Dowling/Moran, 2012, p. 27). By increasing the trustworthiness of a firm and the trust of the buyer, risk and transaction costs are reduced. This might be valuable as a source of a company’s competitive advantage as well as a guarantee for probity and longevity for stakeholders (Dowling/Moran, 2012, p. 27). Especially in markets characterised by uncertainty and information asymmetry corporate reputation should be considered most valuable (Dowling/Moran, 2012, p. 28) as in these environments decision makers struggle to make informed choices. Therefore, reputation will serve as an influential cue in choices that must base on heuristic rules.
In their customer-oriented studies, Walsh et al. (2009) find loyalty and word-of-mouth to be also important consequences of a high level of corporate reputation. They, in addition, prove that customer satisfaction and trust are major antecedents of reputation. For the German context, trust, loyalty, word-of-mouth and satisfaction have been identified to be main consequences of a positive reputation (Walsh/Wiedmann, 2004). Repeatedly research has supported a link between reputation and corporate performance (e.g. Brown/Perry, 1994; Deephouse, 2000).

In Context: Perspectives in reputation research

According to the number and quality of stakeholders mainly considered, Chun (2005) identifies three schools of thought in reputation management and research (see fig. 6). The evaluative school assesses reputation from its financial value and from performance impact. That is why reputation is seen as an intangible asset. Key audience are external stakeholders who have a financial objective: shareholders or investment advisers. The impressional school also considers implicit stakeholders. Its perspective on reputation is influenced by the relevant stakeholders’ impression of the company rather than the financial indicators. Typically conceptualisations that fall into this school are work of marketing or organisational researchers. Employees as well as customers are the focal audience groups. Within this school the organisational work has emphasized the relationship between organisation and its employees. Marketing work has stressed ideas relevant to customers and corporate image management. Finally, authors of the relational school consider a multiple stakeholder approach when dealing with reputation. Corporate reputation is seen as a collective and faceted construct; in consequence, a firm has many reputations rather than a single one. Following this approach, image is distinguished from reputation. While image solely represents an outside perception, reputation reflects both internal and external stakeholders´ assessments. The relational stream of research maintains the notion that there are differences between views of different stakeholders but it also emphasizes that internal and external evaluations are mutually linked.
Interim conclusion: The *evaluative school* and the *impressional school* are mainly concerned with single stakeholders whereas a *relational school* recognizes that there are different stakeholders with different expectations in regard to a firm. The relational school integrates both internal and external stakeholders and even contrasts them. Figure 6 summarizes main characteristics of the schools outlined by Chen (2005) by explaining the basic perspectives, by listing main interest in research and by addressing the stakeholder focus of each school. Obviously, the schools also differ in the tradition they stem from, just as their research concerns.

Another classification of corporate reputation approaches had already been presented by Fombrun/van Riel (1997). They subdivide according to the academic discipline that reputation is investigated from. In doing so, they find differences in the angle which reputation is looked at and, in consequence, the definition of reputation:

- **Strategy**: Reputation as asset and market mobility barrier. Difficult to manage as reputation is based on perception.
- **Accountancy**: Reputation as an intangible asset that can be given a financial worth.
• Sociology: Reputation as aggregate assessment of a firm’s performance relative to expectation and norms.
• Organisational behaviour: Reputation as sense-making experiences of employees.
• Economics: Reputation as trait or signal for external stakeholders.
• Marketing: Reputation as impressions formed by customers and target groups. Focus on process of reputation formation.

Lately, Chen/Otubanjo (2013) have proposed six paradigmatic perspectives that seem quite similar to those of Fombrun/van Riel (1997). Like Fombrun/van Riel (1997) they refer to the academic discipline that conceptualisations stem from. Inseparable from these conceptualisations, and therefore a notable aspect, are aims and instrumental value of reputation. Following that classification, their literature review finds the following paradigm-clusters:

• Public relations perspective: Reputation as a means of expressing a firm’s social responsibility to stakeholders, in order to attract employees and customers, build relations with the public and to raise capital.
• Marketing and strategy perspective: Importance of reputation in the purchase decision, as a means to achieve competitive advantage and as a value creating tool.
• Management perspective: Reputation as strategic resource, as a tool for attracting and keeping customers and as a performance driver.
• Economic perspective: Reputation as a means to understand customer and market behaviour and explain financial performance. It is considered as a factor affecting competitiveness and gaining assets, too.
• Sociological perspective: Reputation as a socially constructed phenomenon that is useful to establish relationships between stakeholders and firms.
• Financial perspective: Reputation as a tool for goodwill development and raising capital. It aims at creating valuable assets.
Problems with applying current (business) reputation management models to scientific organisations

Dominant models of corporate reputation mechanisms are well-fitted to firms in business environments (see above). From a scientific organisation’s point of view, however, they do not appear to be best suited. This might be demonstrated by help of the following aspects:

- For scientific organisations reputation is a key issue for future success. The importance of this construct for scientific organisations, therefore, needs to be valued higher than for commercial corporations. Undoubtedly, firms strive for reputation as an intangible resource for value creation. For most companies, notwithstanding, reputation will serve as one resource among others. Generally speaking, this might hold true for scientific organisations as well. But for this kind of organisation, reputation must be considered the focal resource, a kind of mega-resource or mediator construct. This is due to the fact that scientific organisations’ possibilities for action fundamentally depend on their reputation, e.g. funding via number of students or bidding for research projects. Even further, one might argue that for scientific organisations reputation is one goal in itself as it is the most important competitive advantage in research or teaching markets.

- Compared to firms, scientific organisations deal with a multiple number of stakeholders with the stakeholder structure being of different quality. This must lead to implications for reputation formation supposing that reputation is a kind of sum of all stakeholder’s evaluations. As a consequence of the increased complexity on behalf of the stakeholder level, network-like interactions of stakeholders and network effects of stakeholders require deeper consideration compared to a business context.

- Scientific organisations in wide parts are interest organisations (Nickel 2012) with a majority of members being voluntarily loosely connected (Zechlin 2012; Müller-Jentsch 2003) whereas structures of commercial companies tend to have clear structures and hierarchies.

- As Schimank (2000) or Zechlin (2012) highlight, scientific organisations are characterised by a trisection of formal and informal structures
(research, teaching and administration). This is not covered by commercial reputation approaches. Consequently, members of scientific organisations in many cases must switch between three different roles due to divergent requirements of their (mostly) concurrent affiliation to research, to teaching and to administration. This means that one person might be influencing reputation at different objects, potentially.

- Traditional stakeholder conceptualisations in commercial reputation approaches assume that types of stakeholders are separable groups or entities with only little reciprocal influences. Yet, looking at scientific organisations stakeholders might be overlapping objects as single persons or organisations might be part of several stakeholder groups. A student, for example, can simultaneously be part of the member group (when being a graduate assistant) and the client group (because of his/her status as enrolled student).

- Finally, the environment of scientific organisations seems to differ from that of firms. It might be realistic to point out that many scientific organisations face increased competition in their markets. But it is also apparent that the level of competition in research and teaching markets still is significantly below most commercial markets. Funding and finance might serve as further examples for differing environmental aspects: (public) funding plays a major role for research institutions whereas it is subordinate to most firm´s reality. Also, financing structures of scientific organisations and commercial companies differ. While companies are able to sell shares or to decide on taking a loan, numerous organisations do not have access to this financing opportunities and have to compete for research and grant funding, for funding from external sources or are in need to attract donations (Ivy, 2001). Consistent with this, qualitative results (like research success, level of qualification of graduates) are predominant rather than quantitative profit as a target. Moreover, the offered products or services (bachelor or master) might be seen more or less comparable to the products or services of other universities at least in Europe (Bologna Process, European Transfer System), notwithstanding, the enormous specialities and characteristics.
All in all, the highlighted "problems" hopefully were able to demonstrate that applying models of corporate reputation management to reputation issues of scientific organisations will not be fully appropriate. Namely, from a scientific organisation’s perspective, the conventional models suffer from some shortcomings. That is why the next section proceeds with the development of adapted approach.

The Scientific Organisation Reputation Management (SORM) approach

Based on core models of corporate reputation management (see above), some adaptions and adjustments seem relevant, in order to adequately conceptualise reputation formation in the context of scientific organisations. This will be described in the following section. A framework model called the Scientific Organisation Reputation Management (SORM) will be developed. First, as a central idea the network interactions of stakeholders will be discussed. Then further components will be explained, intra and extra effects of the components will be expounded.

As argued above a reputation mechanism for scientific organisations seems to be more complex in comparison to that of firms. To better point out the specialities for scientific organisation and for delineating SORM the focus will be on universities.

Trisectional organisation

As mentioned above, university organisation is split up in three parts: administration, research and teaching. The organisation differs between the three areas as outlined in fig. 3. Therefore each area contributes a perception by the stakeholder standalone (reputation of administration (RepA), of research (RepR) and of teaching (RepT) and combined, if a staff member (e.g. professor) works in or is part of more than one area. Precisely, a professor has to meet administrative tasks, holds lectures and researches in a specific discipline. Each individual scientist is an agent in a network (Latour (1987), e.g. research groups, databases, publications or institutions. Therefore scientists cause three different kinds of reputation
(RepProf = f (A, T, R)). Even if reputation is in this case a personal one, the university’s reputation is influenced via reputation spill overs.

Therefore, organisational reputation could be represented as a first intermediate step:

\[(\text{II}) \text{ RepSO} = \text{RepA} + \text{RepT} + \text{RepR} + \Sigma \text{RepProf}\]

**Stakeholders as networks**

Further, the differentiated network of stakeholders (RepSH) should be considered a main component, too, as it supports and advances the reputation as well. This network refers to the manifold stakeholders that a university has, and its complex interplay. To illustrate the increased complexity with internal and external stakeholders, arguments from Middleton/Hanson (2003) might be used emphasising that in regard to scientific organisations’ reputation individual reputation of persons like researchers or lecturers and their embedding in the scientific community play an important role. Again it were Middleton/Hanson (2003, p. 147, p. 149) to note that, especially in a scientific context, reputation does not reflect objective results or an overall picture based on objective performance measures, compared to "objective" expectations regarding the significance of an object. Rather, object’s reputation will be biased as subjective evaluations are perpetuated by a multiplicity of participants. This can be explained using the Actor Network Theory (ANT). ANT offers a suitable approach to analysing and understanding social network effects in reputation formation, perpetuation and erosion (Middleton/Hanson, 2003, p. 152, p. 155) and seems a well-established approach in social network research (e.g. Law, 1992; Callon, 1991). The theory is characterized by its superior capability to question granted situations and evaluations by defamiliarizing patterns (Calas/Smircich, 1999). This is done by exploring and delineating local processes of patterning (Law, 1992) without overemphasizing the human, which means that not only human “actants” of a network are considered but as well technology, institutions or ideas. Case studies done by Middleton/Hanson (2003) show that ANT has the power to understand reputation construction with plausibility. ANT helps to analyse how a particular reputation of an object evolves by examining its network relationships (see fig. 7).
Within ANT size and scope of a network, interaction patterns and their intensity are main dimensions to describe a specific network and allow for a mapping. Building on that, (comparative) analysis of the network is conducted in order to develop a rolling hypothesis of cause and effect. In that respect well-founded hypotheses are a main vehicle to carve out overall results. In the reputation context those findings may refer to reach, routines of stabilisation, information diffusion or feedbacks to explain reputation formation. Likewise, ANT is applicable to provide insight into the emergence of external effects of networks.

Ambiguity of stakeholders

Remarkably, in this context different stakeholders are also part of the organisation. To illustrate the situation: stakeholders of a university,
sometimes, are part-time members of the university, e.g. as a staff member, lecturer or during bachelor or master thesis in cooperation with companies. Therefore, stakeholders and the reputation of related stakeholder as well influence university reputation — stand-alone (student as lecturer) or combined (student working together with a company at the bachelor thesis). This is congruent with the argumentation of Middleton/Hanson (2003) in the paragraph above. To consider the ambiguous roles of stakeholders in regard to reputation as well as the network effects, organisational reputation must be complemented by the factor RepSH:

\[(\text{II})\ \text{RepSO} = \text{RepA} + \text{RepT} + \text{RepR} + \sum \text{RepProf} + \sum \text{RepSH}\]

Figure 8 illustrates the overall framework of the above outlined arguments. It also accounts for different organisation members and stakeholders, identity, culture and context of the scientific organisations that influence reputation.

The SORM framework can be interpreted as follows: Scientific organisations mostly set qualitative goals, profit or shareholder orientation are less common. Therefore, culture and the identity must be considered key factors in a SORM framework. As pointed out above, administration, research and teaching have different organisational structures: Administration is seen as a working organisation using business rules, including hierarchy — it is formally structured. Teaching and research, however, are more informally structured, as they are loosely connected interest organisations. Therefore, the specific culture of a university influences, whether and in what manner research or teaching becomes established practice. That is why establishing reputation management in scientific organisations is to be considered an extraordinary challenge, but not impossible. As a derision, reputation management should be developed on a voluntary basis involving administration, research and teaching staff resp. organisation who necessarily need to be convinced participants within the process.
The trisectional organisation interacts in manifold ways with a complex network of stakeholders. The evaluation of the stakeholders and the reputation of the actants lead to a recursive process that will generate three different reputations (teaching, research and administration) as fundamental factors for scientific organisational reputation. Together with the relevant context it leads to outcomes for scientific organisations. Important reputation outcomes for scientific organisations are e.g. more applicants, better funding opportunities or increased attractiveness for lecturers.

**Interim conclusion:** Drawing on conventional (commercial marketing) models of reputation management and derived characteristics of scientific organisations, a modified framework was deduced, named the Scientific Organisations Reputation Model (SORM). This model fits the specific requirements of this type of organisation and can be considered for the complex task of marketing scientific organisations. Core elements of SORM are organisational parts, stakeholder network interactions, culture and the multidimensionality of reputation of scientific organisations.
Example: Some insights into reputation management at DHBW

Baden-Wuerttemberg Cooperative State University combines on-the-job training and academic studies. By doing so, it achieves a close integration of theory and practice. Although focusing up to now on teaching DHBW steadily expands its research activities. With a combination of 34,000 enrolled students, over 9,000 partner companies, approximately 650 full-time lectures and 6,500 freelance lectures spread over eight DHBW locations and campuses it organises studies in small groups covering 30 to 35 students — an ideal size to hold seminar-style lectures and another unique characteristic of the DHBW.

For studying at the public university DHBW a student has to apply to a firm (partner company) and to sign a studying contract, which in turn is necessary for the student to be enrolled. The bachelor program starts normally at the 1st October. During the six semesters the student studies approximately three months per semester at DHBW (theoretical phase). After the semester exams she or he returns to the partner company to work in accordance with the practical training plan (on-the-job-phase), which has been agreed with the SGL (in German Studiengangsleiter = head of programme).

Every group of students is assigned to a supervising SGL. The SGL has a special role in the organisation of DHBW in addition to the role of supervising one group as mentioned above. On the hand, the SGL have to work in a governmental administration and in this role e.g. the relationship to the partner companies has to be fostered or the syllabus has to be developed. Likewise the SGL coordinates all administrative topics regarding the students as well as to support them. As freelance lecturers hold a main part of the course program, finding experts in certain topics with didactic qualifications and coordinating the lectures belong to the administrative part, too. As a full-time lecturer the SGL teaches as well and therefore serves as part of the teaching organisation. The duties include also preparing the lessons or assessing students. For improving the quality of apprenticeship continuing trainings in the didactic of higher education is recommended. Needless
to say, to improve the own professional qualification and to keep oneself informed about new trends and developments in a special discipline, research activities (e.g. active/passive participation at conferences or publishing papers/articles together with colleagues or alone) are compulsory.

In consequence, DHBW stakeholder model is therefore more differentiated compared to the SORM framework as the stakeholder model is split in two parts (see fig. 9): the narrow and the wider stakeholder shell.

Figure 9. Stakeholder model of DHBW

The wider stakeholder shell is equivalent to the original stakeholder model of Erhardt (2011).
The *narrow stakeholder shell* covers stakeholders that influence DHBW on the one hand, but are connected in a stronger relationship or are rather in interrelations. This shell also includes the specific network of the SGL with the different roles. This narrow stakeholder shell covers three different kinds of lectures, students and also partner companies, too. Figure 10 illustrates this micro network "SGL" which represents a "reputation influencer combination" that affects the DHBW reputation in an informal way.

A main part of the lectures are held by *freelance lecturers* (up to 80 %). The freelance lecturers from other universities are experts on a certain subject and engaged at other universities or scientific organisations. Actually, because of the close partnership with partner companies qualified managers of the partner companies are engaged as freelance lecturers, too. Not least because of the close relationship during the bachelor program, the
SGL hires excellent *students* as future lectures after they have graduated. These different kinds of lectures are part-time members of DHBW and therefore "reputation influencers".

The students take on different roles: during the theoretical semester they are more customers of the DHBW, whereas they are a connecting link during their practical time at the partner company. The know-how, the soft skills, the various competences etc. they have learned at DHBW influences the reputation of the DHBW, too.

The *partner companies* are in a close relationship with DHBW by signing an apprenticeship contract. As the partner company is in charge during the practical study phase (e.g. corresponding practical training plan, that fits to the curricula), the partner companies are as well "reputation influencers".

The so far outlined ideas and conceptions refer to the informal mechanism of reputation establishment which account for a large extent of DHBW reputation. In addition to these informal key components, several formal activities or instruments are established to improve the reputation of DHBW (see fig. 11), too:

<table>
<thead>
<tr>
<th>Stakeholder Group</th>
<th>Reputation Instruments and activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prospective Students</td>
<td>Career days at schools, educational fairs, school-corporations, Open House Day</td>
</tr>
<tr>
<td>Current Students</td>
<td>Quality of Teaching, Quality of Administration, Quality of Infrastructure</td>
</tr>
<tr>
<td>Alumni</td>
<td>Friends for life, Open House Day</td>
</tr>
<tr>
<td>Partner Companies</td>
<td>Company days, Co-advertisements, Open House Day</td>
</tr>
<tr>
<td>Lectures</td>
<td>Lecturer Days, Centre of life long learning, Open House Day</td>
</tr>
</tbody>
</table>

The combination of the formal and informal reputation influencers is sketched in fig. 12.
The outlined example hopefully serves to illustrate the complexity and the mechanisms of reputation establishment. Furthermore, it might be used as another argument not to focus on conventional (commercial) reputation models when dealing with scientific organisations' reputation.

Conclusion and further research

The idea of this paper was to explore reputation management in the context of scientific organisations. Conceptualised as the collective representation of an organisation that its multiple stakeholders hold over time and that lead to respect, trustworthiness, attraction and support for the organisation, reputation is a promising construct in regard to
scientific organisations’ strategic marketing issues. However, published models of reputation management do not adequately meet the reality of scientific organisations. Therefore, a first draft of a Scientific Organisation Reputation Management (SORM) model was presented which can serve as a framework for further research in this topic. It integrates main aspects of corporate reputation models but also takes account of particular conditions regarding the organisation itself as well as the environment.

As this paper is intended as a starting point to research in the field much discussion and further conceptual development and empirical testing will be needed. A main point will be to investigate relevant elements more precisely in order to progress on the elaboration of the framework. Further, cause-effect-relations must be modelled in more detail. Likewise, the formal modelling of the contained ideas needs to evolve. To take decisive steps forwards more case-based research might be a suitable approach. Also, differences between several kinds of scientific organisations should be considered more extensively. As modelling has progressed first empirical tests of partial relations or partial effects should be carried out.

Another issue concerns reputation measurement. Existing measurement models for corporate reputation are to be critically evaluated in regards to their application to scientific organisations’ reputation. Possibly, existing measures like RQ or RepTrak (Wiedmann, 2014) need to be adjusted, in order to capture for reputation. Needless to say that this is a relevant grounding to evaluate reputation efforts, reputation improvement and therewith efficacy and efficiency of the organisation. In another step, too, outcomes of reputation are to be further researched. This implies finding ways to measure the value of a scientific organisation.

Though reputation is seen as a key factor for success, importance of reputation to scientific organisation should be investigated from a strategic marketing perspective as well as from a value-based management perspective.

During the argumentation different schools of thought in reputation research were traced. It might be an interesting exercise to attempt for combining different thematic focuses and goals, esp. an integration of aspects from the relational school with ideas of the evaluative school seems
promising (but challenging). It can be argued, indeed, that this paper might be a first step in this direction. An even more interdisciplinary view on this topic is to be encouraged, of course.

Finally, seen from a marketer’s angle, a decision-oriented management model for effectively establishing reputation for scientific organisations is still pending. This might be another important stream of research to be taken up. As it is important to (empirically) explore what activities work best (under which circumstances) in regard to reputation formation, strategy-related and activity-related deductions should serve to hypothesis generation.

References

1. The university is a complex example of scientific organisations. The three areas of administration, teaching and research are relevant. Research community might have reduced or no activities in the teaching area.

2. As defined in formula (1) reputation is a recursive concept. To reduce complexity the time dimension is neglected.

3. Here, the qualitative nature of ANT is obvious.

Bibliography


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