
Collaborative Trend Management

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Abstract: A major challenge for innovation management is the systematic recording, structuring and evaluation of trends. Trend scouting information helps identify shifts in the corporate environment early on and enables companies to act and react in good time. This paper introduces processes in trend management and shows how trends can be recorded and communicated within a company in a structured manner. Trends are analysed, amongst other things, using methods such as crowdsourcing and this expands the basis for assessment. The approach set forth in this paper also permits trends to be visualised so as to assist with decision-making and improve a company's focus. Scout24 Holding GmbH is given as a case study to demonstrate the use of the methods in practice.

Keywords: trend management, collaboration, software, process, strategic foresight, case study.

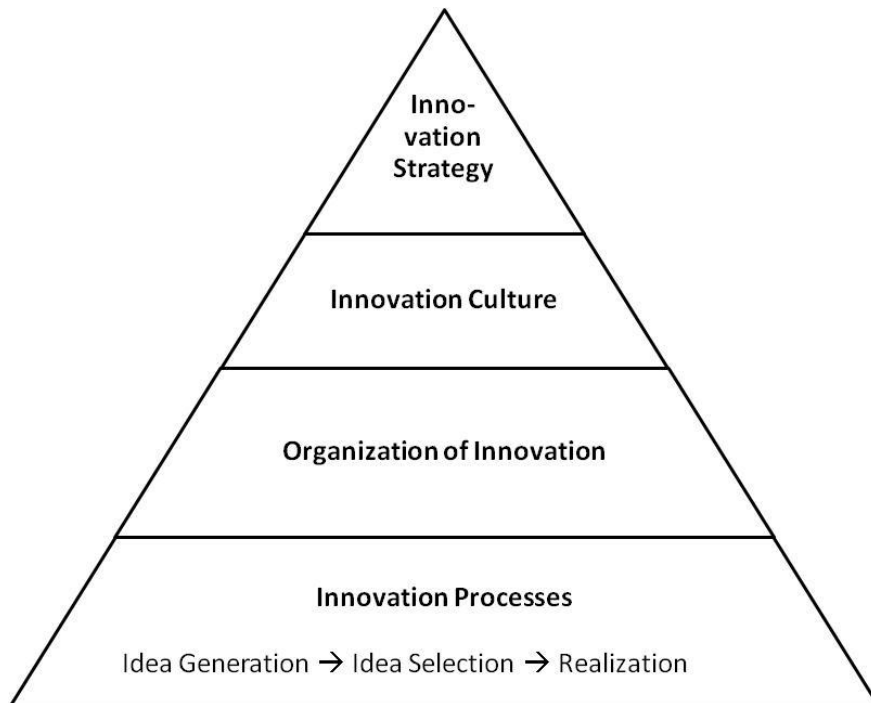
1 Commercial trend management

"Against the backdrop of increasing innovation in terms of technology and products, it is no longer sufficient for companies to react to changes in terms of a 'quick response'. Instead, they must be proactive in order to remain competitive. One must be able to respond even to weak signals and

make market adjustments and modifications in a proactive manner" [Bullinger & Schäfer 1997]. Missing a trend or acting too late can result in significant competitive disadvantages for a company. Thus, the goal of trend research is "to research and define the transformation processes of the present" [Pfadenhauer 2004]. Within a company, trend management aims to identify relevant trends, and record and analyse these in a structured manner so that suitable implementation or observation measures, which build upon these, may be taken. Trend researchers reach a verdict about a trend on the basis of early indicators, the opinion of other experts and their own judgement [Dömer & Junker 2009].

Criticism is often levied against trend research for its lack of a scientific foundation, relying instead on experiences and personal opinions [Rust 2008]. Within a company, outdated tools – such as hierarchical lists – are often used. "Social flows and technological trends are grouped together and [...] turned into 'megatrends'. And this does not exclude overdramatisations or reductions" [Theis 2008]. Often, there is not just a lack of stringent methods for recording trends, but also a lack of an overall approach to innovation management. Trend management is part of the innovation process and cannot be viewed as independent of it. A tried-and-tested multi-level model (see Figure 1) clearly shows the strategy, culture, organisation and processes involved innovation. Trend management should, therefore, be classified as an innovation process.

Figure 1: Components of structured innovation management [Engel 2007]



Within the innovation process, trend management serves to generate ideas. As a result, it should be assigned to the "early phases" of innovation management [Herstatt & Verworn 2007]. During the early phases, company needs are identified using strategic search fields. In the best-case scenario, trend management gives rise to new ideas and innovations which become competitive advantages in the product portfolio.

Crowdsourcing methods can also be used as part of trend management in order to identify, evaluate and document trends. By evaluating and appraising trends together – across departments and locations – crowd intelligence makes faster prioritisation possible.

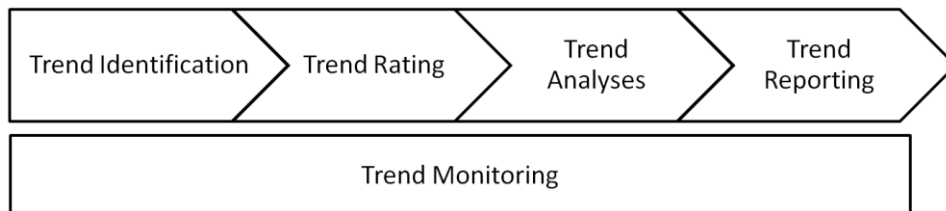
Web 2.0 provides software solutions that are suitable for establishing collaborative trend management. These allow trends to be recorded, structured and documented in a jointly edited wiki. A rating tool means trends can be evaluated together; comment boxes enable commercial ideas to be developed throughout the trend; and a complex evaluation matrix opens up the possibility for experts to make detailed assessments of trends.

The following sections deal with the software tools used as part of the trend management process and their integrated deployment in a trend management tool.

2 Processes in trend management

There is a lack of methodical approaches in the literature surrounding trend research and trend management. Presumably, this is due to the fact that trends can be derived more easily from subjective experiences and opinions than from a strict methodology. Fink and Siebe provide a model for trend management processes in their *Handbuch Zukunftsmanagement* [2006].

Figure 1: Trend management process (created by author cf. [Fink & Siebe 2006])



Based on this model, collaborative methods can be applied to the individual process stages.

2.1 Trend identification

Whilst trend research was, for a long time, a task neglected by the board of executives, today there are whole innovation departments dedicated to researching issues relating to the future. Even employees, customers and external experts are becoming increasingly involved in the trend identification process following the spread of the open innovation approach. Active employees and customers are the result of a paradigm shift linked to the boom in digital communication and self-taught, participatory user behaviour [Zerfaß & Möslin 2009]. This has created the framework conditions required for so-called crowdsourcing. The principle of crowdsourcing involves transferring a company's tasks to a crowd of internal or external resources, which will work on these tasks directly. According to Surowiecki, the resultant "crowd intelligence" can be explained because groups achieve better results than experts due to their decentralised decision-making structures, and the diversity and independence of their members [Kortzfleisch *et al.* 2008].

This phenomenon can be used in the trend management process to record trends in a collaborative fashion. Web 2.0 software components such as comment boxes offer simple and quick opportunities to participate without

the need for any explanation or training. After a trend has been identified, the next step is to record it using various criteria in a structured manner. The literature mentions the following criteria: "the trend's degree of influence on the company", "direction of influence (opportunity or threat?)", "likelihood" and "uncertainty of the trend" [Fink & Siebe 2006]. With software-based collaborative trend management, it is possible to expand this list of criteria to include "trend category", "affected business area" and, where applicable, "overriding megatrend". The term "megatrend" is used to describe particularly sustained trends which last several years and can influence the entire corporate environment. Megatrends have the potential to influence entire business models and redefine processes [Dömer & Junker 2009]. Using a development history, it is possible to determine who was involved in creating a trend. This aspect is particularly interesting because it means the evolution of trends within a company can be traced and shown transparently. All those involved in identifying the trend are called upon to examine internal and external sources (desk research, the Internet, conferences, etc.) and then input these into a form so that they can be considered and evaluated by the crowd.

Joint tagging of trends is a further collaborative component of trend management. Tagging is where users assign simple keywords to their content in order to make it publicly accessible as part of trend management. Available content is enriched using meta-information in the form of keywords, which classify the content. This gives rise to a tag cloud, with size denoting the most common terms. As a result, this tag cloud reflects the most relevant terms connected to the trends which have been inputted, and at the same time it serves as a semantic navigational tool for trend management.

2.2 Trend evaluation

Collaborative trend management permits all employees and, where applicable, external experts as well to analyse a trend (e.g. using "thumbs-up/thumbs-down" or a "5-star rating"). An algorithm calculates the average rating and displays this in the trend view. Even such a rudimentary opinion as "I think it is relevant for our company" or "I don't think it is relevant for our company" can serve as an indicator for which trends should be dealt with in greater detail.

2.3 Trend analysis

Following a collaborative assessment of a trend, a committee of experts then analyses that trend in more detail. This allows selected participants to evaluate trends on the basis of various criteria. The following criteria have

shown themselves to be helpful for making an assessment: "competitive advantage", "customer acceptance", "fit with corporate strategy" and "fit with business model". Each criterion can be scored on a scale of one (very low) to five (very high). An algorithm calculates the average score and plots this on a radar chart.

The results are then discussed by an expert committee. The next steps can be derived from the results of the trend analysis. In so doing, Fink and Siebe draw a distinction between six courses of action:

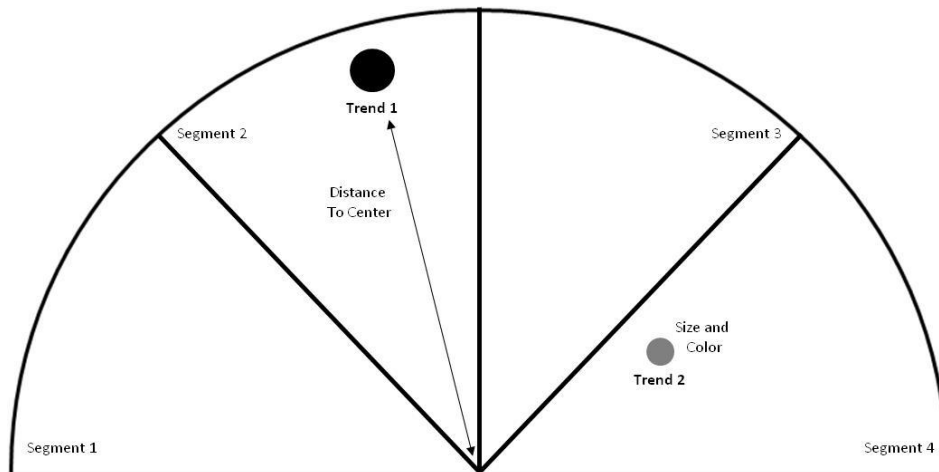
1. Deal with trends immediately
2. Proactively address trends
3. Be prepared for surprising trends
4. Observe trends
5. Observe and integrate trends
6. Do not commit resources unnecessarily

The various courses of action can be plotted in a two-dimensional trend portfolio against the axes "influence on the company" and "likelihood". The trends requiring the most action are transferred to the portfolio management department and dealt with in greater detail [Finke & Siebe 2006].

2.4 Trend reporting

One method of structuring trends and making the results of crowdsourcing transparent is to use a visualisation tool such as a radar, referred to hereinafter as a trend radar. The aim of the trend radar is to simplify the decision either to pursue or ignore a trend in the last phase of the trend process. Just as with the radar screen used by air-traffic controllers, the human eye perceives objects that are closer to the centre as more relevant than those further away from it. The radar suggested here can depict four dimensions clearly: distance from the centre, placement in a segment, size and colouration of an object.

Figure 2: Dimensions of the trend radar (created by author)



For example, distance can be used to show the time frame during which a trend is expected to occur: the centre of the radar represents the current date (i.e. access date) whilst the outermost edge of the radar is a specific date (31/12/2019) or the date of a trend, which is expected to occur the furthest in the future. The radar categories are divided into segments and these can be chosen freely and modified over time. Ideally, they should represent the strategic search fields from innovation management. The size of the trend object (text or symbol) can, for example, be derived from the frequency with which its related entry is accessed. This gives an indication of how much interest there is in a particular trend. On the other hand, the colour can relate to an entry's rating and, therefore, indicates how employees and experts view a trend's potential. By using the trend radar, the results of collaborative trend management are visible to all users. Thus, the trend radar is a tool to support management decision-making.

2.5 *Trend monitoring*

Trend monitoring serves to consolidate the key performance indicators (KPI) in trend management. The KPI cockpit displays information which was disseminated at the beginning in a consolidated form as KPIs. Amongst other things, the following KPIs can be identified and displayed as part of trend management:

- Number of recorded trends
- Number of trends considered important by users

- Number of trends recommended for further investigation by experts
- Number of new trends identified within a particular period
- Number of trend management users
- Number of ratings for a particular trend
- Number of trends that are expected to occur before 2012, for example

Trend monitoring provides results which enable better operative or strategic decisions to be taken with regard to pursuing trends, making it part of "business intelligence". By using the results achieved, companies can back up the successes of trend management with figures and communicate convincingly.

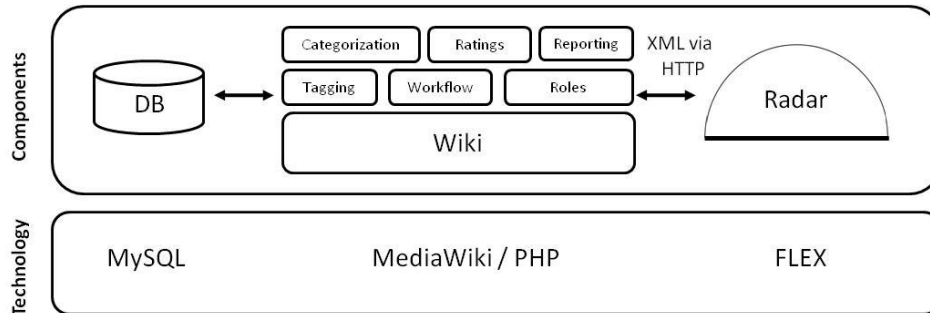
3 Software aids

A wiki modified to include extra components is a suitable software basis for collaborative trend management. A wiki article is used to describe a trend in trend management, and categories are used for megatrends. The wiki also includes a search field, tags and segments. A rating function and rich-text editor simplify participation when recording and evaluating trends. Workflows can support time-controlled trend evaluation phases, and a reporting/monitoring tool formats the data for export to the radar. Roles and access rights can be used to differentiate between "employees", "experts" and "moderators" within the system.

The "trend radar"¹ solution that is presented here is based on MediaWiki, a piece of open-source software. The radar was designed in FLEX, and data are exchanged between the trend wiki and the radar using XML (see Figure 4).

¹ A test version of the solution described in this article can be accessed at <http://www.trend-radar.de>.

Figure 3: Collaborative trend management architecture (created by author)



The architecture described in this paper has proved successful in practice in the following example, though other technologies can also be easily used with the radar.

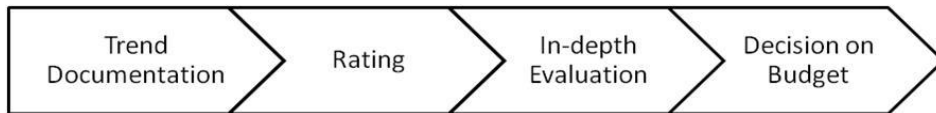
4 Case Study: Scout24 Holding GmbH

The practical example presented here is based on a project to introduce a piece of commercial trend management software at Scout24 Holding GmbH (hereinafter referred to simply as Scout24) in 2009. The company was founded in 1998 and has been a subsidiary of Deutsche Telekom AG since 2006. Scout24 operates seven online market-places (AutoScout24, ElectronicScout24, FinanceScout24, FriendScout24, ImmobilienScout24, JobScout24, TravelScout24) as well as two portals (Jobs.de and Local24). It employs around 1,000 people. In mid-2008, Scout24 created a department to oversee innovation management. The department is responsible, amongst other things, for collating, analysing and evaluating trends, ideas and innovations and presenting its findings to the group and individual business areas. The short-term objectives of the innovation management department include creating and deploying a piece of trend management software (known as "Trend Platform"), which is supposed to systematise, visualise and archive future trends in an engaging way.

Prior to the launch of "Trend Platform", there were no software aids for trend management at Scout24. Trends identified from internal and external sources were recorded in an Excel sheet and discussed with experts from specialist departments. Since the end of 2009, the "Trend Platform" solution has enabled trends to be recorded, edited, evaluated, searched and visualised at Scout24. Internal and external experts can edit and evaluate trends, and every employee has access to the platform, meaning they can see what the future has in store.

Besides the innovation management department, third parties are also responsible for entering new trends into the system at Scout24. After a trend has been entered, it is then rated by an innovation team as part of the first evaluation phase with a simple "thumbs-up/thumbs-down" scoring system (see Figure 5). The next stage of the process involves individual assessments of the trends by experts drawn from every area of the business. The average score indicates the trend's potential using a 5-star system and forms the basis for the next stage in the process, which is reserved for trends that score three stars or more, and are thus considered important. These trends are evaluated by a committee of experts that discusses which trends should be presented to management and which trend has the potential to be incorporated into Scout24's product portfolio.

Figure 4: Trend process at Scout24



The landing page of Scout24 Trend Platform provides an overview of the newly recorded trends, the most popular megatrends, and explains the trend process (see Figure 6).

Figure 5: Scout24 Trend Platform homepage (created by author)



User-friendliness plays an important role within the so-called "collaborative web". Only if online tools are intuitive and fun to use will they be accepted by the mainstream. The software solution outlined here is based on well-known components (wiki) and expands these using rating tools, intuitive interfaces and a clear overview (trend radar). The barriers to using Trend Platform are low, and even users with relatively little experience can use it easily. Use of Trend Platform in the medium-term will show whether or not the culture of innovation within the company has changed to become more open and cross-hierarchical. It also remains to be seen whether crowd intelligence increases the quality of trends and whether product innovations that result from trend management lead to significant competitive advantages.

From an organisational perspective, trend management should be integrated into innovation management: trends become ideas; ideas become innovations; innovations become competitive advantages; and these translate into profits. The entire innovation value chain must be modelled, organised and measured in such a way as to generate competitive advantages in perpetuity. To achieve this, it is necessary to integrate tools, such as those described in this paper, within the overall corporate environment: Web 2.0 methodologies in combination with workflow and document management systems can encourage employees to collaborate on the one hand, and channel crowd intelligence on the other. The oft-cited development of Enterprise 2.0 envisages employee participation via a central online platform, which ideally replaces the classic Intranet structure on a step by step basis. Here employees can discuss trends, products and problems, rate them, share knowledge via wikis and blogs, and connect to each other. Every individual can collaborate easily and spontaneously in order to improve their social status within the company and make an individual contribution to the company's success. Collaborative trend management can be seen as the first step along the road to Enterprise 2.0.

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