TOWARDS SUSTAINABLE ORGANIZATIONS: WHAT DO PROSPECTIVE EMPLOYEES REALLY EXPECT? INSIGHTS FROM AUSTRIAN ENGINEERING COLLEGE STUDENTS

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ABSTRACT
Austria is facing a lack of skilled workers. Thanks to the demographic change of the Austrian society the so-called war for talents, particularly in the engineering and technical professions, will even get worse in the run up to 2025. This paper aims to gain a better understanding for labor market-related demands and needs of engineering college students. We present a trend study that identifies the 11 factors of corporate attractiveness, grouped into three different layers. These layers differ from each other in terms of perceived importance for prospective employees and differentiation potential of employers.

Keywords: Sustainable Organizations, Human Resource Management, Trend Study, College Students

INTRODUCTION
Background and Disambiguation
Early scholars rather described than defined sustainability. The descriptions were made from a socio-ecological perspective. Coomer (1979) for example, sees it as the nature of the quest for a sustainable society. The sustainable society is one that lives within the self-perpetuating limits of its environment and recognizes the limits of growth. IUCN, WWF and UNEP (1980) describe—in their World Conservation Strategy—sustainable development as the “maintenance of essential ecological processes and life support systems”. Finally Allen (1980, 23)—by summarizing the strategy—defines it as a “development that is likely to achieve lasting satisfaction of human needs, and improvement of the quality of human life.” The first to recognize sustainability not only from the ecological perspective was the UN chairperson at the time and former Norwegian Prime Minster Gro Brundtland. According to her, sustainability consists of many dimensions and the essence of sustainable development is the
savage of the system itself and not only of parts of the system. She very broadly mentions “economic growth” and “social and cultural development”. Following Brundtland’s words, the World Commission on Environment and Development presented a more holistic definition of sustainability in its “Brundtland Report” in 1987: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WEC 1987, 43). The problem with this definition, as Sathiendrakumar (1996) states, is that the term needs calls for further specification: Economics are concerned about “unlimited wants with limited means” (Sathiendrakumar 1996, 152).

The Neglect of Human Factors in Sustainability

Nowadays it is generally acknowledged that sustainability is “a concept of integrating social, economic and ecological dimensions of development and jointly addressing objectives, conservation and change” (Hediger 1999, 1120) or “the modality of development that enables countries to progress economically and socially without destroying their environmental resources” (Filho 2000, 10). It has recently been recognized that this definition does not only fit for countries, but also for other entities such as companies. As Steger, Ionescu-Somers, and Salzmann (2007) state, the view that companies should take into account—this “triple bottom line”—has recently become very fashionable. This so-called three-legged stool (Newport et al. 2003) presents a shift away from the traditional, environment only-focused approach of sustainability.

However, this shift still seems to have taken place on paper only. Up to the early 2000s, numerous studies were primarily concerned with the ecological part of the stool (see e.g. Shrivastava 1995; Jennings & Zandbergen 1995; Hediger 1999) highlighting “green management” as the prospective way of responsible business behavior. The social dimension—if dealt with—was mainly treated as social responsibility of an organization to its community and environment, that is, to its external stakeholders (Carroll 1999). Over the past few years, the triple bottom line approach has slightly gained more practical attention. Nevertheless, the “human factor” still seems to be widely neglected in organizational theory and practice. By human factor, we mean the considerations of management practices for every individual employee’s well-being within an organization according to its expectations. Unlike other studies, we follow an internal perspective of sustainability. Pfeffer (2010)—by pointing out this neglect of human factors in the sustainability discussion—asks a very provocative question: “Why are polar bears for instance, or even milk jugs more important than people,
not only in terms of research attention, but also as a focus of company initiatives?” (p. 35). Consequently, we want to draw attention to the human factor of sustainability and want to explain why social sustainability from an inner perspective is crucial for organizational practice.

**Rationale**

Austria is facing a lack of skilled workers. Thanks to the demographic change of the Austrian society (Statistik Austria 2011) the so-called war for talents (Chambers et al. 1998) will even get worse in the run up to 2025. This decline of young professionals and skilled workers will be fully noticeable already in the next four years, particularly in the engineering and technical professions. Organizations therefore compete against each other for these skilled workers. They pursue different strategies in order to find the most suitable workers. However, organizations tend to start offering jobs via job advertisements without ever having found out what potential employees in a certain industry really seek. However, how could an organization be socially sustainable without even knowing about the demands and expectations of their employees? Only with this knowledge, organizations will be able to facilitate a development from “high potentials” to “high performers” and make a step towards socially sustainable business.

**AIM**

The aim of this study is to gain a better understanding for labor market-related demands and needs of engineering college students. What makes this study unique is that it does not only cover a one-year examination, but a period of five years (2008-2012). This five-year-period under consideration should also reveal potential changes in the views of young people and prospective employees over time.

Results should help to anticipate the future needs of high potentials in order to better overcome the “unlimited wants with limited means”-problem. Only with a better knowledge of the needs and demands of the employee target groups will companies be able to succeed in the war for talents and increase the retention of skilled workers sustainably. Moreover, we want to shed more light on what organizations have to fulfill in order to be socially sustainable related to internal human factors. As stressed by Daily and Huang (2001), clarity is still lacking here as past research has mainly focused on external drivers for sustainability such as environmental regulations, pressures from customers, suppliers, the society, or any other stakeholders.
METHODOLOGY

Explorative Research Framework

The representational research approach can be described rather explorative than confirmative. In order to identify trends in needs and demands of prospective employees and differentiation potential of employers, we set up a four-step research process:

First step: Developing of a comprehensive list of attractiveness items.
Second step: Deleting items from the comprehensive list that do not show a stable development in the observation period.
Third step: Bundling remaining items among their importance (mean values) and trend line directions.
Fourth step: Setting summarized trend lines of the bundled factors.

In the following section, we describe the measurement development and the questionnaire design before we expound the study design.

Measurement Development and Questionnaire Design

A critical element in organizational studies is the development of applicable measures. As Churchill points out, measurement misspecification is a main reason for poor quality in some empirical marketing literature (Churchill 1979). In order to develop stable measures, we applied a two-step development process. Firstly, we gathered a comprehensive list of items after a literature review. Secondly, our proposed measures for prospective employee expectations were specified during a number of roundtables with human resource managers in Tyrol in 2007. All items were measured with a Likert scale (Pedhazur & Pedhazur-Schmelkin 1991). Even though a nine or eleven point scale would provide us with more differentiation potential, we decided for the application of a five-point scale due to the fact that five point scales are cited to be more practicable (Alwin 1997). Our measures ranged from one to five where 1 is “absolutely important” and 5 “absolutely not important”. In order to test our survey instrument, we conducted a two-step pre-test in 2008 (Churchill 1995; Malhorta 1993). Since the target group of our study were prospective employees, the design and structure of our questionnaire is of enormous importance for understanding. In order to avoid comprehension problems resulting from structure and design, we followed the advice and recommendations of Dillman (2000).
**Study Design**

We initiated a longitudinal study in the form of a trend study. For analyzing attitude formation and change over a certain period, trend study as well as panel study methodology seem to be applicable. The advantage of a trend study in comparison to a panel study is firstly, that the panel mortality is omitted and secondly, serious biases that arise in panels and therefore limit the implications, are avoided (Gross-Sobol 1959). Thus, we decided to apply trend study methodology in order to examine a current trend and pattern. The fieldwork of our study is conducted by yearly repeated studies applying the same research instrument to different samples of subjects at different points of time over a period of five years during 2008-12. The method of distribution of the questionnaires varied with the wishes of the school principals of the engineering colleges. Some school principals took responsibility for the internal distribution of hard copies while the authors themselves distributed the others.

**Data and Sample**

For each year, the sample consists of students of final-year engineering and technical college classes. For reliable results, countable forecasts, and implications, we conducted a total population survey. In sum (up until 2012), 3600 questionnaires will be collected. Table 1 presents an overview of the samples to date:

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>n=688</td>
<td>819</td>
<td>800</td>
<td>802</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Male</td>
<td>90</td>
<td>87</td>
<td>88</td>
<td>89</td>
</tr>
<tr>
<td>% Female</td>
<td>10</td>
<td>13</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>Median Age</td>
<td>18</td>
<td>19</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Number of students HTL</td>
<td>n=343</td>
<td>344</td>
<td>445</td>
<td>397</td>
</tr>
<tr>
<td>Number of students FBS</td>
<td>n=345</td>
<td>475</td>
<td>355</td>
<td>405</td>
</tr>
<tr>
<td>Number of disciplines</td>
<td>11</td>
<td>12</td>
<td>11</td>
<td>13</td>
</tr>
</tbody>
</table>

It can be stated that there are no major differences pending on the method of distribution. Because students were allowed to fill out the questionnaires during lessons, there is no missing value problem existing.
PRELIMINARY RESULTS

Results so far (2008-2011) show different criteria of corporate attractiveness and slight changes in them over the years. After the deletion of instable factors, eleven factors remained. These eleven factors can be bundled among their mean values and their trend line directions into three layers, which we want to address in more detail now.

Indicating Factors

First, we identified the diminishing factors “company size”, “internationality” and “image” (Fig. 1). These factors show homogeneous trend lines and close mean values. The data shows that these factors have become less important over the last years. They generally have indicative character only, that is, students notice them but show relatively indifferent feelings. In order to understand this, the way students seek job information is of high importance. The empirical data shows that students get their information about potential employers mostly from family, friends (constantly high importance of app. 70% over the years) and the internet (with an increasing importance). Once they have decided to seek further information about a company, they surf corporate websites, where they primarily find company-related information like size, turnover, number of employees, or countries of operation. This information then enacts image building and makes the students aware of a particular company. However, whether the company is also interesting to the students and if he or she considers it as an employer of choice, is determined elsewhere. The following figure displays the development of the three identified factors.

![Figure 1: Companies’ Indicating Factors (own illustration)](image-url)
**Attracting Factors**

The attracting factors (see Fig. 2) we mainly want to put emphasis on are salary, career prospects, and further education. As the figure shows, wages have been a constant criterion of attractiveness over years. The slight increase in desired salary can be explained by regular inflation. We see a correlation between desired salary and the contentedness of the discipline chosen. While electrical engineering, mechanical engineering and mechatronics students are most self confident and have the highest desired salary, automotive engineering, glass engineering and chemistry students expect the lowest wages. The impact of social benefits has also been stable over the past years (2008-2010). Beside the salary, students appreciate any kind of voluntary additional benefits, like on-the-job training, canteens, or insurance. Another steady attracting factor is the location (2008-2010). Students prefer employers in urban regions, in order to be able to better connect working time and spare time. Companies that offer attracting factors are generally perceived to be employers of choice. What is observable, however, is the fact that social benefits and location have experienced a decrease in importance among the students in 2011. These factors seem to develop towards indicating factors.

![Figure 2: Companies’ Attracting Factors (own illustration)](image)

**Distinguishing Factors**

The empirical data shows that there are three factors with a high importance with comparable mean values and a relatively homogeneous trend line. Top companies do not only want to attract young professionals, they want to retain them in the company. Therefore, they have to distinguish themselves as a top-employer of choice. Thus, companies have to bear the
distinguishing factors in mind—these are organizational climate, job security and a balanced working life (Fig. 3). Those factors have been acting at a constantly high level of importance.

![Graph showing factors over years](image)

**Figure 3: Companies’ Distinguishing Factors (own illustration)**

Apparently, the so-called soft factors of corporate attractiveness are experiencing an increased importance among young professionals and are in vogue again. While more career-oriented factors determined the attractiveness of a particular company 15 years ago, a shift in thinking seems to have taken place. Although already at a constantly high level, our research shows clear evidence of an increased importance of those three factors for prospective employees.

**Aggregated Factors and Trends**

Finally, figure 4 shows the identified factors aggregated as summarized trend lines for the respective corridor. It becomes clear that the corridor of attracting and the corridor of distinguishing factors are rather small ones compared to the corridor of indicating factors. As the aggregated trend lines show, a possible future scenario could be a decrease in importance of the corridor of indicating factors. Without the relatively stable trend line of the factor “image” the decrease would be even more dramatic.

The corridor of attracting factors gives valuable insights. On the one hand we see strong losses in the importance of two factors (namely location and social benefits), while on the other hand the remaining factors of this corridor are relatively equipollent. Thus, we implemented two separate aggregated trend lines for the attracting factors corridor. Trend line
“attractive 2” shows a more or less stable development, while trend line “attractive” indicates that the attracting factors corridor macerates downwards. The two rapidly decreasing factors move more and more towards the indicating factors corridor. This clearly shows that factors could lose their impact on differentiation potential and importance of prospective employees in such a way that they shift their factor corridor.

The corridor of distinguishing factors shows a smoothly increasing trend line. All three factors manifest a relatively homogeneous stable positive development. The data shows an increasing importance of the distinguishing factors corridor concerning the differentiation potential and the importance for future employees.

![Figure 4: Aggregated Factors with Trends (own illustration)](image)

**DISCUSSION**

We identified 11 different factors with a relatively stable development and groups of comparable mean values which we categorized into three different layers of corporate attractiveness (Fig. 5). The layers differ from each other in terms of their perceived importance for prospective employees and in terms of differentiation potential for employers.
The first layer represents basic factors; we call them indicating factors. These indicating factors provide the lowest differentiation potential for employers. Furthermore, the perceived importance for prospective employees is quite low, because these factors are taken for granted. The indicating factors procure to company related issues. The items that describe these factors are “company size”, “internationality” and “image”. Companies are able to manage and control these factors quite easily.

The second differentiation layer—the attracting factors—influences the prospective employee at an individual professional level. What all five factors have in common is that they concern the individual prospective employee, but on a professional level. This relation can be expressed by the layers’ underlying factors: salary, social benefits, career prospects, location, and further education. As shown in the figure above, the perceived level of importance for prospective employees and the differentiation potential for employers is significantly higher than with indicating factors. Beside these differences, what both layers have in common is that companies are widely able to control and manage them. Somewhat surprisingly, “social benefits” and “location” have drastically developed towards indicating factors in the last year (2011). This is interesting in so far as those factors have also been stable attracting factors over the past years. A final interpretation of this development is not to be done before the final year of the study.

The distinguishing factors deliver the highest differentiation potential for employers and make companies attractive for prospective employees at an individual personal level. As the
underlying factors show, it is not the career prospects that make employers distinguishable, but rather factors that are related to a private individual level. As the factors “balanced working life” and “organizational climate” show, the expected personal individual interrelationships at work and in spare time seem to create value for prospective employees. The long-term factor “job security” shows that safety and a predictable future have a high significance for prospective employees. Even though the distinguishing factors offer the most valuable differentiation potential for employers, they are less controllable and manageable.

What does this all mean to internal social sustainability in organizations now? First, companies have to understand that the war for talents will be fought within those small corridors of attracting and distinguishing factors. As the distinguishing factors are less controllable and manageable than all the other factors, they cannot be displayed plausibly in a glossy brochure or on a corporate website. Consequently, a shift in thinking is necessary, as already proposed by Smith and Sharicz (2011): The development of distinguishing factors is a long-term process. Communication of those factors cannot be “one way” in order to be credible. It seems that a long-term sustainable development of the distinguishing factors can only be transported and communicated through organizational members, as they seem to be more credible than corporate communication channels. Thus, distinguishing factors can only be put into action if these factors are a common practice in an organization and not only top-down buzz phrases. Changes in organizational culture might become inevitable.

For engineering college students our research shows relatively strong evidence that there is a trend back towards more conservative values: an increasing number of college students do not strive primarily for career, but rather for a secure job in comfortable surroundings, which leaves them enough time and room for individual, non-entrepreneurial goals and spare time. Here we propose a shift in the view of the traditional work-life-balance: we deliberately use the term balanced working life, as we do not see “work” and “life” as opposites to balance. An up-to-date employment, that is to say, considers different needs.

Moreover, global economic developments like the financial crisis of the years 2008-2009, currency fluctuations, or the current instabilities on the stock exchanges seem to have an impact on the attitudes of the young professionals.

**LIMITATIONS**

Although we have already allocated four years to our study, one year is still pending. The data of the final year will be available in summer 2012 only. Therefore, we are not able to predict the development of the two strong decreasing factors (location & social benefits) reliably.
Next year’s development will show whether the two factors remain as attracting factors or whether they will fall in the corridor of indicating factors. Thus, we have to question whether all trend lines predict future trends in a reliable way. Furthermore, one should take into consideration, that there is a lack of external control variables in our study. External influences could change the attitudes of prospective employees. It could be possible that the economic crisis has changed the attitudes of prospective employees towards a more conservative perspective. Our study design premises no causal inference on such external effects. A third methodological limitation is subject to our applied survey method. The future development of the survey participants’ opinion is not taken into consideration. Therefore, we have to point out that our results are limited to one point of time per participant. Our study does not capture future changes in the attitudes and in the importance valuation of the participants. In order to gather such information, a panel study would be a more adequate method. These inherent bias problems notwithstanding, we decided for a trend study in order to give insights in the attitudes of prospective employees who are about to enter the labor market.

Finally and from a theoretical point of view, the present study says nothing about how to best implement distinguishing factors in organizational practices—a lack already noticed by Daily and Huang (2001). The layers identified in this study are another indication that corporate sustainability is a multifaceted concept, similar to the concept of organizational culture (Schein 1985). Cultural change requires adoption on different levels (Linnenluecke & Griffiths 2010) and changes of distinguishing factors are most difficult as they are least controllable and manageable.

**CONCLUSION**

We conclude by stating that the attractive employer of the 21st century spends a reasonable amount of time in researching their employees’ target group in order to find out its needs and desires. Engineering college students—the focus of our study—have a very clear picture of their employers of choice. Some criteria are imperative in order to attract while others are appropriate to single out the top employers from the mass. Especially companies, which have limited resources in the identified basic factors (SMEs, rural hidden champions), have to focus even more on the distinguishing factors than others. Companies that not only refer to these factors in their glossy brochures, but also are able to offer them throughout the career planning will be more likely to attract skilled workers and succeed in the war for talents than others. Of course, this step is not easy to put into action as factors get more difficult to control
with increasing importance for prospective employees. At this point companies might start rethinking their organizational cultures. Organizational culture is one of the pillars of sustainability in organizations. How this change is manageable could be matter of further research.

REFERENCES


