
TALENT AVE
ROAD TOWARDS
AN EXCITING
R&D CAREER

Talent Avenue

Road towards an exciting R&D career

8 July 2011

"Since we live in an age of innovation a practical education must prepare a man for work that does not yet exist and cannot yet be clearly defined."

Peter Drucker (1909-2005)
Writer, management consultant

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On the first of September 2010 I started an interesting adventure. Unilever R&D in Vlaardingen offered me an internship to learn about HR and the organization and to perform my research for graduation on my Master of Business Administration. It was a heart warming welcome in an open, productive and progressive environment.

Now, more than half a year later, I experienced a really challenging and instructive period. Unilever is a very dynamic organization with many changes. This makes it very interesting to move along with projects such as Wajong, Lamplighter, Campus Management and Agile Working. And more important: to continue my career in HR at Unilever.

Many thanks go to the people who supported me in this very intensive course towards graduation. In the first place, I would like to thank in particular my supervisors within Unilever: Roosmarijn Gerritsen and Marlies Kromjong. These ladies showed real talent and expertise in HR and challenged me in such a way that I really wanted to ensure great outputs.
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It was a very intensive period and I believe this thesis is a crown on the work I have done. The research focused on the basis question how a perfect match can be made between an employer and an applicant in a R&D context. In order to get to the bottom of this I had to penetrate in a precocious R&D community with a lot of dedication for their work. But the results are satisfying and I am very glad my successor will pick up where I leave.

I wish you a lot of pleasure with reading this thesis!

Warm regards,

Jorrit Bosselaar
8 July 2011

Management summary

For organizations in fast-moving consumer goods speed in innovation is the currency of success. To achieve bigger, better and faster innovations R&D centres need professionals with the right knowledge and skills as these are the greatest R&D assets. Central in this research is the question how R&D organizations can attract such experienced professionals. Therefore this research explores which work values characterize R&D professionals based on Unilever R&D in Vlaardingen and how communication channels can be used to reach potential new employees. Subsequently, it explores whether generational differences have an effect on the perception of these work values.

Earlier research provides several views on recruitment and employer branding in a R&D context. As a basis two theoretical concepts were used for this research. First of all, in joining the organization I used a model of organizational recruitment. This model addresses the question of the identification and location of the target group and which measures are taken in order to reach this target group. Secondly, I used two of three enablers for job seeker's actions, namely corporate image and job attributes for identification of the target group. The perception of job attributes is divided into working conditions and job practice.

In order to gain information on these subjects I launched a web-based survey on the Unilever R&D site in Vlaardingen. This site contains about 900 R&D professionals of which 671 are mid-career with a minimum of two years work experience. The respondents were asked to state the importance of variables in the topics corporate image, working conditions and job practice. A total amount of 239 valid surveys were returned which represents a response percentage of 35.6%.

As a main conclusion, data-analysis of the results delivered indications for the way how general recruitment messages can be aligned with the target group. The results have shown there are overall work values which are relevant to R&D professionals and work values specific to age, department, work level or home situation. Results showed the following basic work values for the three enablers: Corporate image (career, salary, employee satisfaction and innovation), for Working conditions (attractive compensation, career perspective, learning opportunities, challenges at work, and flexible working), and for Job practice (innovation, new idea proposals and updates on recent developments). Subsequently I found that age does have an influence on the perception of work values, but this only accounts for career, reward, innovation and international opportunities.
The basic preferences can be completed depending on generational background and the department, which reflects the phase in the process of research and development. For communicating with the labour market the findings of this research show that the personal network is the most important communication tool. Given all kinds of purposes for receiving information, this personal network is most important. Also traditional media, such as magazines and journals are still perceived as valuable sources. In addition, online sites in the R&D field have also won its place in the standard sourcing portfolio. In this perspective social media and events depend on generation and nature of research.

Concluding, I would recommend Unilever R&D Vlaardingen to set up a communication plan following the results of this research; which work values are of interest to the target group and which recruitment sources are we going to use to spread this message. Unilever can be proud of their research and development and it is time to show this to the rest of the world. But it all starts with a passion for R&D and therefore it is very important that Unilever supports initiatives such as Jet-Net actively to show young people in schools how wonderful R&D can be.

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I Introduction

As a world market leader, Unilever has a various and complex environment. In order to stay ahead of the competition specific human capital is needed. This part describes an overview of the need for professionals in research and development (R&D) and the difficulty to find and recruit the best talents from this group.

Run for R&D professionals

Unilever is the world market leader in the fast moving consumer goods. The business is continuously facing tremendous challenges in dealing with global developments, local characteristics and a changing environment. In HR perspective several issues arise, such as sharing knowledge, enabling flexible workplaces, facilitating global experiences in a local context and developing a worldwide network. The industry of fast moving consumer goods is characterized by a fast production of goods and a rapid development of market demand. For organizations in this industry speed in innovation is the key to success for staying ahead of the competition. To achieve radical or incremental innovations R&D centres need professionals with the right knowledge and skills. Particular to this group of R&D professionals is their specialty and high educational level. They form a market niche on the labour market, which makes it more difficult to win the battle in recruiting the most talented professionals. Moreover, highly educated specialists such as this group, have the ability to retrain themselves into new functions and expertise areas or move into management careers. Originally this is a group which is relatively more interested in development and education than their less educated counterparts. Kim & Cha (2002) cite Allen & Katz (1992) who found that R&D professionals with a PhD are more likely to prefer research work and to be interested in scientific and technical accomplishment than in getting promoted within their organization. Kim & Cha (2002) conclude in their research that people with higher education levels are more likely to have a technical dominant orientation, whereas those with lower education levels prefer to pursue other careers goals. However, this technical orientation can lead to horizontal career moves, or in other words, to other functions within R&D. However, starting with a high level of know-how they can also broaden to other functions such as production, distribution, marketing and sales. The Human Resources (HR) department needs to respond to this, because career moves diminish the total amount of R&D professionals who practice their profession on a day-to-day basis at a later age.

Han & Froese (2010) note from previous research (Chen et al., 2003; Kim & Cha, 2000; Manolopoulos, 2006; Hourquet & Roger, 2005) that R&D professionals are known as different than the most professions. “R&D professionals represent a unique type of employee in terms of their high educational levels, their independent and specific job content, not to mention the different nature of the job and different career orientations” (Han & Froese, 2010, p389). These professionals are exposed to new perspectives by experience or methods of others and develop continuously new insights that might enforce innovation. These mechanisms to exploit existing knowledge include induction, appraisal, training, contingent reward and team working. Shipton, West, Dawson, Birdi & Patterson (2006) found that all these mechanisms except for contingent reward mechanisms predict product innovation and innovation in technical systems for organizations. To exploit theses innovations, “knowledge-based organizations build their competitiveness on the market share of the products and services they offer and from the value perceived in them by their potential customers” (Cantú & Ceballos, 2010, p5273). This value derives from the organizations’ technology research and innovation areas and consists of an advanced supply chain of product development towards the market launch of new or improved products and services. The challenge for these teams is “to perform a creative match between the possibilities for technical advance and opportunities available to the firm for making use of them” (Dill, 1985, p228). To achieve this, R&D professionals lean on a strong skills portfolio in an organization with the power to be well-known on the market. It can be realized “by

extending their asset base while at the same time developing their contractual activities" (Paraponaris 2003, p98). This process contains combining the two typical worlds of opinionated R&D professionals and outgoing marketers, or in other words expertise on product development and go-to-market.
Scientists and technologists are able to create a great competitive advantage for innovative companies. Their "ideas, talents and skills are an R&D laboratory's greatest asset" (Badawy, 2005, p56). This derives from the knowledge that they have, obtain and develop. Extending R&D and globalizing business activities leaves its traces in managing R&D professionals. "In organizations whose most valued product is essentially ideas, the importance of effective utilization of human resources cannot be overemphasized" (Badawy, 2005, p56). To create and maintain technological competitiveness, organizations lean on the ability of its R&D technical professionals in developing new products and processes (Wu, 2009). According to Bailyn (1989) this critical role of R&D professionals stresses the importance of managing and organizing these assets integrally, just because of the link with the company's success. But then again, Lev & Sougiannis (1995) reminded that "a direct relationship between research and development (R&D) costs and specific future revenue generally has not been demonstrated" (Lev & Sougiannis, 1995, p134). Assuming the impact of an R&D project on organizational performance, HR has the challenge to provide a continuous mixed inflow of talented and experienced professionals to perform innovative excellence. This can be guaranteed by attracting the right person for the right job given the type of scientist the organization needs and how he will advance throughout the organization.

Role of HR

To understand in which way organizations can attract their mid-career R&D professionals, we need to know what role the department HR plays in this case. Creating an environment in which employees can excel, making processes efficient, and searching for new opportunities to seize, can allow a company to become successful. Keeping in mind that long-time experiences in the industry and willingness to take risks are considered critical factors for success. At the moment HR has evolved from a support function to a function of strategic importance. "It is increasingly viewed as a crucial component of the firm's overall strategy" (Schuler & Rogovsky, 1998, p161). Many discussions suggest that HR contributes directly to the implementation of the operating and strategic objectives of firms. In that case we could expect a direct influence on the organizational performance. This new strategic role for HR activities has attracted interest in the subject beyond the former boundaries of human resource research. If we look at the entire evolution of the HR profession, we see a start with a HR professional focusing on terms and conditions of work so that employees would feel fairly treated. But the globalisation affects the business world with an enormous change and this also affects the work HR professionals must do. Ulrich (1997) stated that HR will need "to create models and processes for attaining global agility, effectiveness, and competitiveness" (Ulrich, 1997, p2). These ideas evolved and according to Ulrich et al. (2007) we can speak of an extension of the task range, where HR has to be downsized or functions should be automated or outsourced. HR practices need to be more integrated, aligned, and innovative and HR is therefore operating more like a business within the business with a clear strategy and channels of distribution (Results-Based Leadership group [RBL], 2010). This strategic role of HR, combined with operational output makes HR the ringleader in talent management. Following Pudelko & Harzing (2007), HR is captured into four major elements, namely: (1) recruitment and release of personnel, (2) training and development, (3) employee assessment and promotion criteria, and (4) employee incentives. These authors stress the importance of a dynamic HR organization in which all the elements are in line to reach their organizational performance. In contrary, Beer et al. (1984) outlines HR in a vertical way by describing human assets within a career throughout three flows: inflow, internal flow and outflow. Although these flows cover the same area as Pudelko & Harzing (2007), Beer et al. (1984) addresses it from another perspective. This raises the question to

what extent an HR professional should focus on the employers' perspective. As a matter of fact, it must be both. Delaney & Huselid (1996) state that "progressive HR practices, including selectivity in staffing, training, and incentive compensation, are positively related to perceptual measures of organizational performance" (Delaney & Huselid, 1996, p965). Does this account for every employee in the workforce or can there be made distinctions between for instance work level or industry? Given the strategic function of HR there should be a structural way to ensure the recruitment of needed human capital, unregarded work level or industry. According to Chambers et al. (1998) organizations need to ensure a continuous inflow and internal flow of their human capital. A structural approach towards this phenomenon is called talent management as in-house talent stands for future competitive advantage.

Problem definition

Ulrich (1997) stated that "operating managers and HR professionals must create new ways of thinking about HR practices in organizations. Amongst others this includes responding to the needs of employees nowadays. The global organization will be less concerned with geographic proximity and going to the same office every day than with the virtual leveraging of global resources" (Ulrich, 1997, p5). Now over a decennium later this pressures organizations, because the rapid development of technology and a changing environment demand a very advanced research and development to stay ahead. In order to have thorough foundation on which Unilever can build and fulfil its mission a well-organized research and development is needed. Therefore, Unilever R&D applies scientific capabilities and consumer insights to contribute to advances in nutrition, health and well-being. To do so, R&D is divided into six strategic R&D sites in the world, namely in Port Sunlight (UK), Colworth (UK), Trumbull (US), Shanghai (CO), Bangalore (IN) and Vlaardingen (NL). The Vlaardingen site was established in 1956 for focusing on margarine and detergents. Following the R&D continuum of Trott (2008) the chosen R&D strategy determines the degree and type of research, and also rules which part of the R&D budget will be dedicated to current and which part to future businesses. This decision will secure the outcome of the research activities in a range between survival and technological mastery. Long-term groundbreaking innovation, for example, derives from fundamental research. This is the path which is chosen by Unilever. As a market leader and major innovator in the innovation adoption cycle the company has to stay ahead with its technological innovation. The distinctions between research and development are according to Trott (2008) not clear cut, but involve a complete process: (1) Fundamental research, (2) Applied research and (3) Product development. These phases concur with the flows in the R&D process at Unilever, namely Discover, Design and Deploy, added with Define and Critical Functional Capabilities (CFC's). Discover performs the fundamental research which aims on innovation within 5-10 years. Applied research (2-5 yrs) and product development (0,5-3 yrs) provide the follow-up. So, in practice, Discover provides the new structures, whereas Design develops the product and Deploy translates this towards a consumer product. In addition, Define will prioritise the R&D programs in advance and the CFC's support the R&D sections with specialties. By integrating and aligning these ways of working and adapting to specific needs of the talented and experienced R&D professionals, it should be possible to use this extensive R&D program in order to secure a continuous flow with a high retention rate. In this way skills and knowledge can be developed and remained with the company longer. The next paragraph gives an answer to the question which role HR plays in this perspective.

It is within the task range of the HR organization to provide the people who are needed. The focus in the tight industry labour market is to recruit the most experienced R&D professionals, because these assets are able to drive competitive innovation and transfer knowledge to talented R&D professionals directly. At the moment Unilever is able to recruit the young talents from universities. The focus goes to R&D professionals who have

experience in the research field and are able to quickly flow into the organization to contribute to innovation.
The focus for this research lies in the strategy development part of the recruiting process where two levels of recruitment can be distinguished, namely direct recruitment and employer branding. According to Barber (1998) "recruitment includes those practices and activities carried on by the organization with the primary purpose of identifying and attracting potential employees" (Barber, 1998, p5). Armstrong (2006) adds costs and quality by stating that "the overall aim of the recruitment and selection process should be to obtain at minimum cost the number and quality of employees required to satisfy the human resource needs of the company" (Armstrong, 2006, p409). Maurer et al. (1992) follow the views of Schwab et al. (1987) and Wanous (1992) who "view recruiting as an interaction between the job search/selection activities of job seekers and the concurrent applicant attraction/screening efforts of employers" (Maurer et al., 1992, p807). Following all authors, recruitment focuses directly on activities that are undertaken to attract employees. Employer branding addresses the recruiting process from a broader perspective, because it can be defined as "a firm's efforts to promote, both within and outside the firm, a clear view of what makes it different and desirable as an employer" (Backhaus & Tikoo, 2004, p501). Similarly, Lloyd (2002) defines it as "the sum of a company's efforts to communicate to existing and prospective staff that it is a desirable place to work" (Lloyd, 2002, p60). In other words, it triggers a desire to work for the employer. Unilever's interest is in the development of a new employer branding approach, specifically aligned with the target group of experienced R&D professionals. It is of interest to the organization to recruit the best experienced R&D professionals and making sure that they will remain in the organization. Breaugh & Starke (2000) noted that research findings in the recruitment literature (Rynes, 1991; Barber, 1998) suggest that job seeker actions are influenced by beliefs regarding the company as a whole, the attributes of the job itself, and characteristics of people within the company. Therefore Unilever has to create a match between what an applicant is looking for in a job and what Unilever can offer as an employer, so that both parties can feel confident that they find what they want. These factors are summarized as work values and are defined as the conceptions of what is desirable that individuals hold with respect to their work activity (Kalleberg, 1977). In addition it is necessary to know what the ways are to communicate these work values to the target group.

Within Unilever there is a lack of knowledge whether the used methods, such as event participations and advertisements, are appropriate for the target group. In today's increasingly fast-changing and highly competitive environment information becomes outdated very fast. Several factors could be due to this development. For example new magazines are established, social media are growing tremendously and new information technologies are developed. Also a changing environment can play a role in the search for a job. The type of company (i.e. industry, organizational structure, culture, span of control, etc.) which aligns with personal perspectives seems to be more important and the way how a job can be performed leaves its traces in being attractive as a company. Job applicants tend to make a selection of interesting organizations on basis of what they know of these organization. This results in a gap between what is known and what is reality. Hence it is extremely important for an organization to identify its target groups in the labour market and address them in the right way. This employer branding is especially necessary for the R&D labour market. The R&D business forms a market niche in this perspective. In 2008, 20% of all graduates in the Netherlands were beta and only one third of these worked in a typical R&D profession. There is also a trend of knowledge sharing with R&D centres abroad which makes exchange of employees possible (Central Bureau of Statistics [CBS]). This makes it very difficult to target this group. As the experience of HR BP's and Peoplelink clarify this unknown labour market, there is a need for a scientific foundation of the total employer branding approach.

To achieve their radical and incremental innovations R&D centres build on their resources and professionals with the right knowledge and skills. This knowledge and skills derive from learning and experience. By 'buying' talented R&D professionals Unilever is able to get quality immediately. The goal of this research is to explore which work values characterize these qualitative R&D professionals based on the mid-career population of Unilever R&D in Vlaardingen and how recruitment sources can be used to reach potential new employees. To achieve this, a theoretical framework is determined to set the boundaries of this research. This theoretical framework focuses on the supply chain perspective of talent management. This perspective addresses the process of attracting and retaining talented professionals. More specifically the framework focuses on the first employment phase, namely joining the organization. Within this phase Collins (2006) formulated three enablers for self-selecting by the potential applicant. For communicational purposes the framework describes sourcing concepts and their possible influence on the potential applicants. Finally, the theoretical framework delineates the specific R&D context in which this research is performed.

II Theoretical framework

This theoretical part provides a framework in which the topic talent management and more specifically joining the organization take their place. Talent management provides a strategic view on the attraction and retention of talented professionals, while this framework focuses on the attraction part of joining the organization. It is necessary to combine former issues and test earlier findings to stay updated on this topic in the field of research and development (R&D). Due to recent developments these issues are extended with hot topics such as new ways of working and sustainability. These themes belong to enablers of self-selection in deciding to apply for a job. Finally, this framework explores the broadening of information sources from traditional to modern internet sources. These sources can be used to communicate with the labour market. The understanding of the literature and experience from practice will form the foundation for the further development of this research.

Talent management

As HR is transformed into a strategic function, management has to develop a structural view on talent development within organizations. If organizations fail filling their talent pipeline, in the long term they will have a limited through flow of key talent for key roles. Several authors addressed this theme of talent management. Chambers et al. (1998) mentioned that "superior talent will be tomorrow's prime source of competitive advantage" (Chambers et al., 1998, p2). Therefore organizations need to focus on a continuous inflow and through flow of talent into the organization. Nowadays, talent management requires new ways of thinking with a balancing of interests of employees and those of the organization. From an organizational perspective there is a need for a continuous flow of new and potential talent or as Scarborough & Elias (2002) put it: "the recruitment of key individuals who will contribute significantly to the value-creating capacity of the firm is crucial to success" (Scarborough & Elias, 2002, p27). In order to align the supply and demand of talent Cappelli (2008) proposed a framework as a supply chain perspective on talent management. This framework relies on four principles, two that address the risks in estimating demand and two that address the uncertainty of supply. This framework consists of four principles: (1) Make versus Buy-decision, (2) Problem of uncertainty in talent demand, (3) Return on talent management investments, and (4) Managing an internal market to match talent to jobs. The first principle is relevant for this research as it suggests that an organization has to accept the unknown and use it in their advantage. Cappelli (2008) notes that there should be a balance between talent development (make) and external hiring of talent (buy). Managers who get out-of-stock by a lack of talent will loose profit. The idea is to minimize the costs and risks of hiring externally by having more talent onboard, since the costs of profit loss outweigh the costs of the overabundance of talent. On the other hand, redundant talents would not want to sit on a bench waiting for opportunities, which will increase the risk of leaving the organization. The best practice is to undershoot the talent demand and use external experience to make up any shortfall. By doing this the organization will have quality on the short and long term. Most important, talent management should be seen as an investment, not as an entitlement. This research reasons from the point that action on 'make' is necessary to complete the 'buy' perspective.

In order to gain skills and expertise in the organization on the short term, organizations need to look at a total overview of attracting and retaining experienced professionals. In this process it is necessary to centralize and manage the needs from both the organization and the recruit. A long tenure secures the recruiting investment and yields competitive advantage. To enable this into employment phases, I follow Beer et al. (1984) with their human assets flow of joining the organization, career advancement and retirement. While talent management addresses attraction and retention of employees, this research focuses

only on the first phase of employment, namely the joining of the organization, specified to mid-career professionals. In order to let the human assets flows work it is necessary to identify the work values of the target population. Resulting from the problem definition Unilever R&D signals difficulties in being attractive as an R&D centre. This leads to a focus on how this organization can build on an approach which leads to an increased attractiveness as an employer. Starting point for this approach ought to be what can be improved in identifying the target group in order to create a match between the needs of the organization and the applicant. The next paragraph explains the important factors in the process of joining the organization.

Joining the organization

Organizations has to compete with even more sophisticated and more aggressive recruitment techniques of traditional employers, and with new, and therefore compelling, propositions from the established organizations. This raises the question how companies can channel their recruitment efforts to create a competitive advantage towards others (Collins, 2006). “Employers do not play a waiting game, but simply choose the best applicant that is available” (Van Ours & Ridder 1991, p214). Therefore an organization has to determine its recruiting vision. Does an organization want to fill up the gaps or provide a continuous flow focused on the future? And what role do environmental changes such as reorganizations play in this case? Armstrong (2006) suggests that the aim is to develop and maintain a talent pool consisting of a skilled, engaged and committed workforce. This is very important for large organizations, mainly when it is acting in a fast moving business where the organization derives its legitimacy on her innovation. The need to respond quickly to changes in competitive environments is therefore rising.

Attraction policies lead to programmes for external resourcing, thus recruitment and selection of people from outside the organization. But there will always be the need to locate and attract highly qualified and specialised talents. To do so, recruiting practices should identify the target group and the way this group will be addressed. Carroll et al. (1999) reviewed recruitment literature and concluded four comprising stages: (1) an assessment of whether the vacancy needs to be filled, (2) a job analysis, (3) the production of a job description and (4) a person specification. These stages formulate the preparation in the recruitment process. According to Breaugh & Starke (2000) the entire process contains five stages from objectives to results (figure 1). These stages address the question of the identification and location of the target group and which measures are taken in order to reach this target group. Furthermore it shows how the translation to a job offer works. The entire model derives from the objectives of the recruitment need towards the second step. For this research this second step is most important as it is the phase of the settlement how the objectives will be achieved by identifying the target group (i.e. whom to recruit) and determining the ways to get there (where and when to recruit, sources and message content). The third step in the recruitment process deals with the activities which are undertaken to reach the objectives. These are processed in the fourth step by for example message credibility towards applicants’ behaviour. The final step deals with evaluating the entire recruitment process whether the outcomes match the objectives.

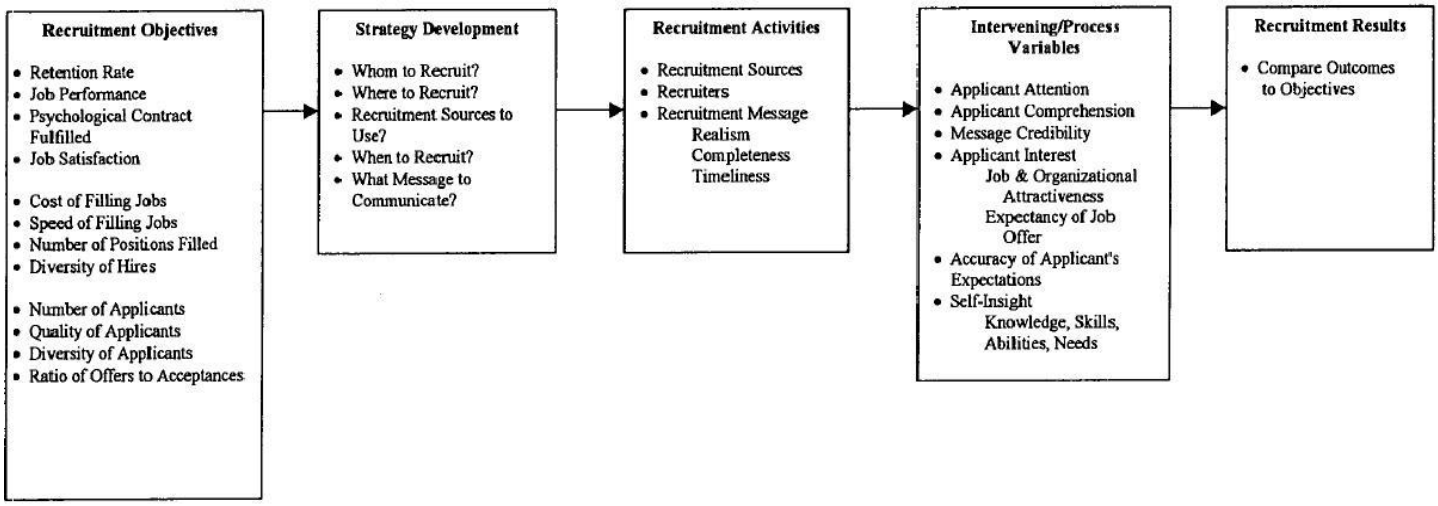

Fig 1. Model of organizational recruitment process (Breaugh & Starke, 2000)

Barber (1998) delineated similar stages, namely (1) certain recruitment activities, (2) certain organizational activities (e.g. professional treatment during inhousedays) and (3) certain recruitment actions. She stated that these activities have an influence on the number and type of applicants, the maintenance of applicant status and finally the acceptance of the job offer. In terms of generating applicants, it is critical that an employer's recruitment actions attract the attention of potential job applicants. When the right target group is addressed, the organization needs them to get and maintain their interest in the job. Finally, according to Barber (1998), the job applicant's intentions have to be translated to a final decision. When this process is clear, recruiting may be focused on topics such as the timing of recruitment actions, recruit site visits, and on-line recruiting.

Literature research on the recruitment process focuses on what an organization does to recruit talented and qualified job candidates. Many other authors focus their research on a part of this recruitment process, for instance on sourcing methods, applicant's selection or recruitment timings. Nevertheless, recruitment must also be seen as a mutual activity in which both parties (i.e. employer and applicant) perform their actions. Organizations spread information into the labour market, whilst potential applicants make themselves visible and need to respond. "Research findings in the recruitment literature suggest that job seeker actions are influenced by beliefs regarding the company as a whole, the attributes of the job itself, and characteristics of people within the company" (Collins, 2006, p6). Advancing, Cable & Turban (2001) drew on the consumer-based brand equity theory to identify three dimensions of employer knowledge which affects application behaviours: (1) employer familiarity, defined as job seekers' awareness of or ability to identify a company as a potential employer, (2) employer reputation, defined as job seekers' beliefs regarding how other individuals affectively view the company as an employer, (3) employer image, defined as job seekers' beliefs regarding attributes and associations connected to the company as an employer.

Job seekers may develop employer knowledge through exposure to recruitment practices or through non-recruitment sources of information such as product awareness (Barber, 1998; Cable & Turban, 2001). In this case, product awareness is defined as the extent to which job seekers are likely to be familiar with the company's products or services either through direct exposure or advertising efforts (Collins, 2006, p7). This means a great advantage for large organizations. On the other hand, we distinguish more direct recruitment sources, ranged between low and high. Low-information recruiting sources can be seen as more common measures such as posters, banners and small advertisements. The high-information sources are more specified on a larger target group by means of presence at recruiting

events or dispersion of brochures. All the information, whether it is intensive or less, provide a job seeker the possibility for self-selection. One of the explanations for the effects of realistic expectations is that "applicants are able to use the information to select themselves out of the hiring process if they believe they are not a good match to the job or the organization" (Zottoli & Wanous, 2000, p375).
Literature provides factors for job seekers' decisions, namely corporate image and job attributes. The following paragraphs explains these factors with which an employer branding strategy should enlighten why an organization is a great place to work and why the job fulfils any expectations.

Corporate image
Breaugh (2008) found that employer familiarity, reputation, and image (i.e., job information) each have significant and independent direct relationships with application intentions and decisions. Subsequently, Liang & Wei (2009) reviewed several studies and remarked common predictable variables, namely corporate image, organizational justice, job attitude, organizational attraction, employer knowledge, person-organization fit and person-job fit. They cite Fombrun & Shanley (1990) who indicated that the corporate image was a major antecedent of job seekers' intent to apply. "Corporate image, as the set of perceptions that people have of organizations" (Lemmink, Schuijf, & Streukens, 2003, p2), could create competitive advantage to the organization when this is utilized positively in society (Liang & Wei, 2009). "Creating a great place to work starts with developing the image of the organization so that it is recognized as one that achieves results, delivers quality products and services, behaves ethically and provides good conditions of employment. Organizations with a clear vision and a set of integrated and enacted values are likely to project themselves as being well worth working for" (Armstrong, 2006, p395). This sets the framework what the corporate image is, so we need to know what it includes. Gatewood & Gowan (1993) studied the influencing factors within the corporate image and ranked five variables, namely: (1) overall familiarity with the company ($r=.95$, $p<.01$), (2) knowing someone who works for the company ($r=.91$, $p<.01$), (3) using the products or services of the company ($r=.91$, $p<.01$), (4) having studied the company in class ($r=.90$, $p<.01$), and (5) frequency of contact with company advertisements ($r=.88$, $p<.01$). The authors concluded that "the overall corporate image ratings made by potential applicants, although moderately related to the image ratings made by executives, were most strongly related to the potential applicants' amount of exposure to a company" (Gatewood & Gowan, 1993, pp419-420).
Organizational practices fill the gap between what outsiders know about the company and what outsiders should know about the company. It is important for an employer to become and remain in a certain reference frame, in order to be seen as a desired employer. Therefore, an employer has to communicate clearly on what can be expected. "Perceived credibility consists of the perceived accuracy, appropriateness, and believability of the communicated information" (Van Hoye & Lievens, 2007, p373). This statement contains the simple message of being clear, realistic and honest within the reference frame you want to create. To do so, an employer needs to brand itself. According to Alan Reed employer branding is the concept of applying to the recruitment process the same marketing coherence used in the management of customers (cited in Armstrong, 2006, p395). In other words, it is the creation of a brand image of the organization by building a strategy towards the connection between talent inside and outside the organization. The talent inside the organization can play a major role in carrying out employer related messages. Moreover, Van Hoye & Lievens (2007) stated that potential applicants receive employment information from a broad array of different sources, both on and off the internet, including advertising, recruiters, publicity, and word-of-mouth. This information can be controlled as company-supplied information, but can also be information that is going around on the internet. Therefore, Breaugh (2008) notes that recruiters must be careful to select the recruitment practice strategy that best matches the extent to which job seekers are likely to be aware of

their company, based on its products or services. And different practices may have varying levels of success depending on the level of company product awareness.
Employer branding literature provides several best practices for successfully performing organizational promotion. First of all, Armstrong (2006) suggests defining "the features of the brand on the basis of an examination and review of each of the areas that affect the perceptions of people about the organization as a great place to work" (Armstrong, 2006, p395). The way people are treated, good compensation, growth potential, work-life balance, leadership, the quality of management, involvement with colleagues and how and why the organization is successful. Secondly, he recommends to establish how far the core values of the organization support the creation of an attractive brand and to ensure that these are incorporated in the presentation of the brand as long as they are values in use (lived by members of the organization) rather than simply desired. Breaugh (2008) found that companies' early recruitment practices are significantly related to three dimensions of employer knowledge which, in turn, are significantly related to application intentions and decisions. This stresses the importance of performing a good employer branding and following Armstrong (2006) this requires the knowledge in what you are and what you want to be as an employer. This approach needs to be honest and realistic, because "if the employer has been honest with the individual during the recruitment process, even though he or she may not like the new position, the person should not feel that the organization has failed to live up to its side of the employment contract" (Armstrong, 2006, p395). Subsequently, Wanous (1992) found that first-year retention rate may be positively affected by individuals having had accurate job information during the recruitment process, even when the labour market does not allow for self-selection. Following these statements I now focus on what is important to job seekers in terms of the corporate image. It leaves the question whether these values are the same in an R&D context. More specifically this leads to the question to what extent generational differences have an influence on the perception of these values.
To assess age-related differences, the item 'Year of birth' is divided into three generations, namely < 1960, 1960-1980 and > 1980. The demarcation of the three or four generations is a subject of discussion. Eisner (2005) notes that, for example, generation X is born between 1965 and 1980, Strauss & Howe (1991) bounds it to 1961 and 1981, and according to Broadbridge et al. (2009) generation X ends in the mid '70s. Because there is no exact agreement on the boundaries of generations, I chose < 1960, 1960-1980 and > 1980 to somewhat reflect generations Babyboom, X and Y. It is expected that the generations Babyboom, X and Y differ from each other in the way they perceive corporate image. Significant life events, such as growing up during the major reconstruction after WWII or in a time with easy access to an extensive range of information sources, play an important role. Several authors wrote on how generations differ from each other in their work values. Finegold et al. (2002) found that especially younger employees are retained more easily by increasing pay for individual performance than their older co-workers. Hall & Mirvis (1996) stated that younger employees prefer a faster growth than their older counterparts. The same study also reveals that older generations value job security more than the youngest generation. This might be due to the fact that older generations experienced periods of economic downfall and are familiar with job insecurity and the consequences of unemployment. Besides, if laid off, the older workers are less likely to find new jobs on a short term because organizations prefer workers of younger generations with higher education who are more interesting to invest in. Subsequently to the study of Finegold et al. (2002), Smola & Sutton (2002) found that younger generations want to promote faster than their older counterparts. They also found that the younger generations were less loyal to the organization and more me-oriented than generation Babyboom. Work plays a less important role in the lives of the younger generations. They value a particular balance between work- and private life. The authors also state that generation X is not as me oriented as generation Y. Generation X value working hard even without supervision. They seek a balance between

meaningfulness of work and individual needs. In addition, Smola & Sutton (2002) found that as workers grow older, their view of work becomes less idealized.

This research focuses on the items in the dimensions which were most important in the original research. Corporate image is defined as “the set of perceptions that people have of organizations” (Lemmink, Schuijf, & Streukens, 2003, p2). In case of corporate image I took from the research of Maurer et al. (1992) the items with a minimum score of 4.00 on a 6-point scale and added items which were brought up by Unilever. Maurer et al. (1992) measured with a 6-point scale and found the following results (Mean/SD): career/advancement opportunities (4.47/1.36), approximate salary offered (3.22/1.54), potential employer reputation (4.60/1.37), employee benefits of the firm (3.62/ 1.52), financial stability of firm (4.27/1.34), growth potential of employer (4.00/1.45), current employee satisfaction (3.62/1.74). I used Career/advancement opportunities, Potential employer reputation and Financial stability, and added Sustainability of the company Social involvement and Innovation by the company for my hypotheses. Finegold et al. (2002) cited from other studies that individuals at the most senior career stage have been found to have both lower aspirations for advancement and satisfaction with promotion opportunities (Raelin, 1985), and many are likely to have plateaued as advancement opportunities decline at higher levels of the organization (Dalton, 1989). Following these statements it is expected that younger employees value the career opportunities as more important than their older counterparts. Gatewood & Gowan (1993) provide empirical support for Rynes's (1991) suggestion that image is highly related to potential job applicants' intentions to pursue further contact with a firm. They studied employer reputation amongst students and found that students perceive reputation as highly important. Maurer et al. (1992) also studied students and cited from Rynes & Boudreau (1986) that results revealed that employers who must compete for scarce talent can ill afford the little attention and low priority status accorded recruiting processes noted among Fortune 1000 firms. So, employer reputation is seen as important and brings competitive advantage for those companies that are known. I expect that generation Y is less known at the labour market en there depend on popular companies of companies they already know. Older employees have a broader perspective on the market by their work experience and therefore are better able to estimate companies on their real values. Therefore, I assume that they are less influenced by potential reputation. The other way around I expect that older employees value financial stability more than their younger counterparts, because they have more interest in security at their age. Subsequently, Finegold et al. (2002) noted that there is cohort effect which reinforce life-stage differences, since young people are traditionally more willing to take risks and to change firms, and thus less likely to value job security. In contrast, more senior employees are likely to have greater community ties and financial responsibilities that may make them less mobile, and consequently more likely to value employment security. For sustainability I follow Macnaghten, Grove-White, Jacobs and Wynne (1995), who stated that people generally are unfamiliar with the idea of 'sustainability' in its environmental sense. These authors stress that once people understand it, they appear to identify positively with its values and priorities. This sustainability, added with social responsibility was tested as an influencing factor by Montgomery & Ramus (2003) amongst American and European Business students. They found that both are perceived as important and stated that if candidates choose organizations based on people-organization values fit there is a strong argument for firms to become more ethically and socially responsible in order to attract MBA candidates. But following Macnaghten et al. (1995) people first need to understand the urge for sustainability and social involvement. I expect that older employees are better able to understand this urge due to their life experience. In other words, they are able to see and understand the big picture and value this more than their younger counterparts. Relating the item Innovation by the company I expect that this is also valued as more important by older employees that the younger ones. Hall & Mirvis (1996) noted that ongoing skill development

is likely to be important for today's technical workers of all ages, as they recognize that their value in the labor market depends on their capacity to keep up with new technology and shifting skill requirements. Individuals who have just entered the workplace have the greatest need for development, as they seek to identify and build competencies. Younger employees have been found to be more willing to engage in self-development and other forms of training than their older counterparts (McEnrue, 1989, cited by Finegold et al., 2002). As younger employees lean on skills development, it is important to them that the company can provide an environment in which innovation is a strong asset. This offers the opportunity to learn form job experience, leading to the hypothesis that innovation is perceived as more important by generation Y than generation X and Babyboom. All taken together the items lead to the following hypotheses:

H1a: Career/advancement opportunities is increasingly perceived as more important by generation Y than generation X and Babyboom.

H1b: Potential employer reputation is increasingly perceived as more important by generation Y than generation X and Babyboom.

H1c: Financial stability is increasingly perceived as more important by generation Babyboom than generation X and Y.

H1d: Sustainability by the company is increasingly perceived as more important by generation Babyboom than generation X and Y.

H1e: Social involvement is increasingly perceived as more important by generation Babyboom than generation X and Y.

H1f: Innovation by the company is increasingly perceived as more important by generation Y than generation X and Babyboom.

Job attributes

The most important factor for a job seeker is the job itself. Literature on job attributes is unanimous on the significance of specifying the job to expect. “Realistic job previews (RJP) providing realistic job information are important for meeting job expectations, role clarity and individuals perception towards the organization” (Breaugh & Starke, 2000, p415). Moreover, “the failure of an organization to provide sufficient information is an indicator of sloppy, disinterested recruiting practices” (Barber & Roehling, 1993, p853). Breaugh & Starke (2000) acknowledge the RJP by providing three explanations from Greenhouse et al. (1983): (1) Value attainment, which provides more variance in facet satisfaction than realistic expectations, (2) Reactions, which will be more negative when the RJP is incorrect compared to a changed RJP, and (3) RJP effects, which would be stronger if the RJP information addressed aspects of a job that were seen as particularly important by job candidates. This explanation stresses that a job preview should be composed carefully. By means of value attainment, it remains to what extent the job preview contains a match between a persons’ job, the following employment values and the job expectation. Negative discrepancy will have a larger impact, simply because a job seeker can be pleasantly surprised by the job design. The same accounts for the deviating RJP. Job seekers would feel misled when the job preview is incorrect, in contrary to the fact that it was changed during the process (Breaugh & Starke, 2000, p417). In addition, Bailyn (1984) quoted from his research: “*when I was hired, the department head tried to oversell the job. He did not make it clear that this was a development area, not only research. My first year was very disappointing*” (Bailyn, 1984, p3). And finally, it was stressed that the job preview should provide information what a job seeker finds interesting. Hence, we should know what kind of specific information is

important for job seekers as it is necessary as indicator on the job applicant's decision whether to accept a job offer. Subsequently, Armstrong (2006) recommends to analyse what ideal candidates need and want, and take this into account in deciding what should be offered and how it should be offered. In this light Maurer, Howe & Lee (1992) found that engineering students who were job hunting reported they lacked information about such issues as starting salary, how raises are determined, benefits, and the success of new hires. Moreover, the lack of this information had a significant influence on the job decision. To draw this conclusion the authors studied information which was provided before and during the interview. Maurer et al. (1992) found the significant importance of 'approximate salary offered' and 'employee benefits of the firm' in the pre-interview phase. This indicates that job seekers want to speak about the organization and the job itself during an interview, because it is assumed that employers will offer competitive compensation packages. But still, 'compensation/benefits' is significantly related to the 'likelihood of job acceptance', so it remains important to inform job seekers about this. Next to the compensation package, Van Ours & Ridder (1991) studied the job requirements 'work experience' and 'education' and showed that 25% of all vacancies are filled by employees that do not meet one of these requirements. Moreover, education and work experience are not substituted, when hiring employees, i.e. an applicant that does not have the minimally required level of education, cannot compensate this by having more work experience (and vice versa). They state that large firms do not 'solve' monitoring problems by setting high hiring standards, but rely on the offer of possible training for new employees. For this a certain educational level is required. The authors also stress that in common employers put more weight on educational requirement than on the level of work experience. Concluding, it is important that the attributes of the job contain both job seekers' and employers' interests. The employers' interest is determined in the job requisition, so the question is how this can be used to trigger the (potential) applicant for self-selection which can lead to the decision to apply for a job. This process is based on a match between what both the employer and the applicant is looking for. The employer finds its right candidate and the applicant fits to the job. To bridge the gap between what is offered and expected we need to know what role the working conditions and the job practice play. And subsequently to what degree these variables are important to job seekers. Following the sub hypotheses for the dimension corporate image it is expected that both the perception of working conditions and job practice is also influenced by generational differences. Working conditions are defined as the work environment in which the employee is able to excel. Han & Froese (2010) found that Attractive compensation (98%) and Career perspective (96%) are the most important working conditions for R&D professionals in Taiwan. Relating the attractive compensation Finegold et al. (2002) cited that young employees tend to have a shorter time horizon and view themselves as more likely to change firms (Fox, 1989), and thus are likely to be more committed to organizations that tie pay to their own performance. They also cite from Tsui, Pearce, Porter, & Tripoli (1997) who view their employment relationship as shorter term or less certain in nature are likely to place a greater premium on receiving the full market value for their individual performance. As older employees value job security as more important it is likely that both statements apply more to the younger employees. Therefore I expect that attractive is more important to the younger ones. This is also in line with H3b, which focuses on the economic advancement. The career perspective follows from the plateauing as mentioned for H1a which addresses the career advancement as more important to generation Y than to generation X and Babyboom. The higher an employee gets on the hierarchical ladder, the smaller the career perspective will be. This will be more often the case for older than for younger employees.

Scandura & Lankau (1997) found that individuals who perceive their companies to offer employees greater support for balancing family and work life issues, through policies like flextime and telecommuting, report significantly higher levels of organizational commitment (cited in Finegold, 2002). Subsequently, early career employees, in contrast, generally have

the fewest responsibilities outside work and have been found to place the greatest focus on career over non-work issues. Generation X is at the age that they now have a small family I expect that this generation has the most responsibilities outside work. I expect that the same accounts for working abroad. For this item I expect that going abroad is more applicable to the younger employees, because they still have the time and freedom to set foot everywhere. For the most people the next life phase will include settlement for a longer period. I suspect that generation Babyboom, who mostly are at the end of their careers value knowledge transfer in their own country and therefore lack the international ambition. Concluding all rationales I propose the following hypotheses for working conditions:

H2a: Attractive compensation is increasingly perceived as more important by generation Y than generation X and Babyboom.

H2b: Career perspective is increasingly perceived as more important by generation Y than generation X and Babyboom.

H2c: Flexible working within the company is perceived as more important by generation X than generation Y and Babyboom.

H2d: Working abroad is perceived as more important by generation Y than generation X and Babyboom.

The dimension job practice deals with the way how the job is practiced and is based on Watson & Meiskens (1993). These authors found on a three-point scale (ranging not very – somewhat – very) that To innovate and propose new ideas (2.63), To advance economically (2.63) and To keep abreast of new developments (2.62) are the most important items to engineers for the way the job is practiced. In deliberation with Unilever the item To interact with external environment is added to the research focus. As mentioned earlier, given their recent experience as students, younger employees may place greater value on skill development and thus have higher expectations for development. While older employees require development for job changes, they make every step with accumulated skills, and are therefore likely to perceive less need for development and therefore place less emphasis on whether firms are providing good training (Colquitt, LePine, & Noe, 2000) or have a high degree of innovation. Maurer et al. (1992) note from a number of studies (Shepard 1957; Marcson, 1960; Shepherd 1961; Bailyn, 1980) that scientists fit the professional model better than do engineers, whose socialization and work role create a value system influenced by, although not identical to, that of management. Scientist are thus more committed to their profession. But subsequently Maurer et al. (1992) conclude that when employees become older they become increasingly accustomed to and accepting of the realities of bureaucratic culture and look to their employing organization for their principal rewards. Due to their experience older employees have a more realistic idea of new innovation, leading to the assumption that younger employees have more need for translating their new skills into concrete results. Because scientists are committed and trained for their specific profession developments in the field become very important. I expect that whilst skills development is most important to the younger employees at the beginning of their careers, the older the scientist gets the more he can lie his focus on additional skills developments and the interaction and knowledge sharing with colleagues outside the company. Following H2a I assume that the same accounts for economic advancement. All together, I propose the following hypotheses for job practice:

H3a: To innovate and propose new ideas is increasingly perceived as more important by generation Y than generation X and Babyboom.

H3b: To advance economically is increasingly perceived as more important by generation Y than generation X and Babyboom.

H3c: To keep abreast of new developments is increasingly perceived as more important by generation Babyboom than generation X and Y.

H3d: To interact with external environment is increasingly perceived as more important by generation Babyboom than generation X and Y.

Following the recruitment literature on job seeker's actions a research model can be drawn (figure 2). This model shows the direct relations of the hypothesized influencing factor generational differences on the perception of corporate image, working conditions and job practice. This results in the knowledge what is important to the mid-career R&D professional in terms of their work values.

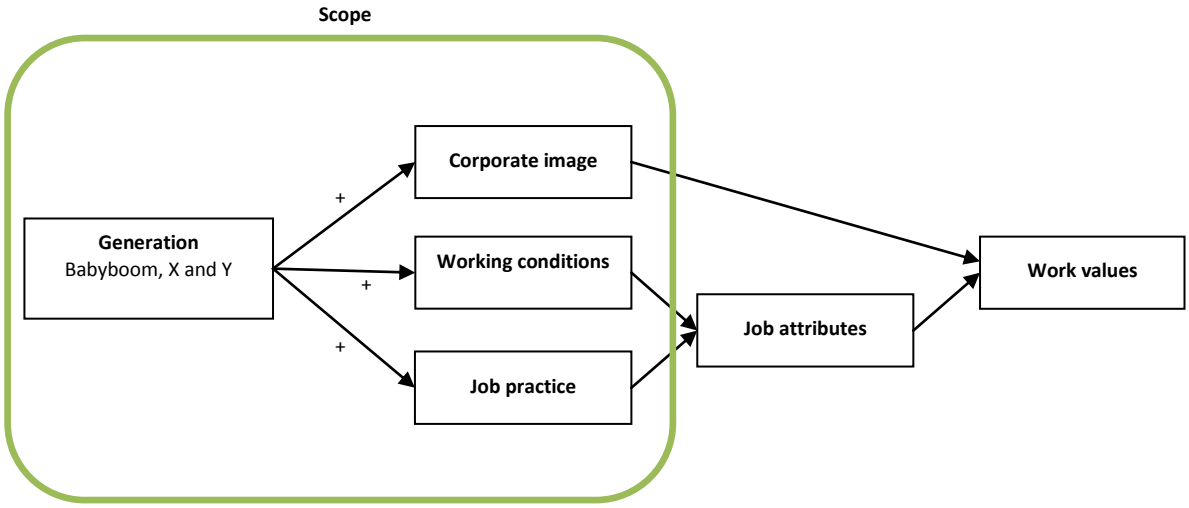

Fig 2. Research model

Recruitment sources

Now we have discussed the two dimensions which are expected to have an (indirect) effect on job seekers decisions, the next phase in the strategy development is the identification of recruitment sources. This identification is needed to actively brand employer's relevant characteristics. "Any information source, ranging from company's brand advertisement to friends' word of mouth, has the potential to affect job seekers' employer knowledge" (Cable & Turban, 2001, p132). So a robust sourcing strategy is crucial. That means "being clear about the kinds of people that are good for your organization, using a range of innovative channels to bring them in, and having a complete organizational commitment to getting the best" (Chambers et al., 1998, p5), which is in line with the message that is used to communicate. In this research the concept of sourcing is being used to support the self-selection process. The fundament of this research hinges on this self-selection, while sourcing provides possibilities to carry out the message.

In choosing a strategy the size of the organization plays a major role as with the size the amount and impact of available sources increase. Carroll et al. (1999) point out that small firms are less able to sustain internal labour markets. As a consequence, they may struggle to retain key staff and are more vulnerable to changes in the external labour market. This works also vice versa as a competitive advantage for large firms. But, the authors also emphasize that along with a certain size it is suggested that more formal procedures might need to be adopted in order to cope with the greater number of recruitment events. The distinction between formal and informal recruiting sources depends mainly on what an

organization wants to achieve with its sourcing. Regarding this, Rynes (1991) gave two theoretical explanations: the realistic information hypothesis which proposes that persons recruited via certain sources are likely to have more accurate information about what a job entails and the individual difference hypothesis which is based on the premise that sources differ in the types of individuals they reach, and that these differences result in different outcomes. This stresses the importance of the right sourcing or way to address by identifying the target group and what they need to know. To do so, amongst others Van Hoye & Lievens (2007), Carroll et al. (1999) and Blau (1994) based a key distinction on company-dependent (formal) and company-independent (informal) recruitment sources. Company-dependent sources such as advertising are part of the organization's recruitment activities and can be directly controlled to communicate a positive message to potential applicants. Conversely, company-independent sources such as word-of-mouth can be influenced only indirectly through other recruitment activities and can contain positive as well as negative information (Van Hoye & Lievens, 2007; Blau, 1994). The formal recruitment methods comprise press advertisements, job centres and other agencies, whereas more informal methods include recommendations from existing staff. The other way around Blau (1994) mentions that employers have a levelled approach, namely direct and indirect. All authors make a split in the way sources need to be addressed, which can be divided in what an organization can do for its reference frame and what an organization endures. By making ingeniously use of the supply of sources organizations can respond to what job seekers know about the organization. And in addition, it is necessary to know which impact sources can have for spreading a message.

As mentioned before, job seekers have access to a wide range of sources, of which many cannot be controlled by the employer. To stress, Van Hoye & Lievens found that informal sources might be perceived as providing more credible information than formal sources, because they do not have the explicit purpose to promote the organization. In the past, job seekers had to consult newspapers or contact acquaintances to locate a suitable job opening. Nowadays job seekers can immediately search through thousands of available job openings. The word-of-mouth can be provided through all sorts of media such as face-to-face or the telephone, but also via the internet, the so called word-of-mouse. The power of this source is, that word-of-mouse can be a credible and influential recruitment source and word-of-mouth can influence organizational attraction for potential applicants. Hence, "the effectiveness of web-based word-of-mouth can be increased by providing information about the organization as a whole instead of about employees" (Van Hoye & Lievens, 2007, p380). In that case the source gets two birds with one stone.

Next to the type of sourcing, organizations need to choose with which intensity sourcing measures are applied. According to Collins (2006) the intensity can be divided into high- and low-information recruitment practices. He mentions one strategy that companies can follow to influence job seekers' application behaviours, namely to implement low information recruitment practices. "These practices can be general recruitment advertisements (e.g., recruiting posters, banner ads) or sponsorship activities (e.g., donating money for naming rights, sponsoring campus events) and provide general positive cues and signals regarding the company as an employer" (Collins, 2006, p7). The other strategy of high-information recruitment practices contains detailed specifications and arguments regarding the job and company. In marketing terms, the choice of intensity depends especially on the need for response. Low-information sources would be appropriate when an organization wants to brand its name, while an actual need for quick response demands high-information sources. Furthermore, an organization needs to decide how it is communicating. "A high-credibility source is more persuasive than a low-credibility source in both changing attitudes and gaining behavioural compliance. Moreover, the interaction effects, because some of them can dramatically affect the superiority of a high-credibility source such that a low-credibility source turns out to be more influential" (Eisend (2004), pp22-24). To stress this, Eisend (2004) drew a framework in which the components 'inclination toward truth', 'potential of

truth' and 'presentation of truth' interact. The interaction within this framework provides a dynamic view on what a recruiting source can tell, is willing to tell and the extent to which the message is delivered as it should be. Subsequently, the outgoing message should draw attention from the target group. A review of research suggests attributes which are likely to generate attention, such as vividness, unexpected and personally relevant information. This attention is necessary to generate the initial interest from potential job applicants. "Such interest is more likely to be forthcoming if a job opening (e.g., the job itself, the organization, the location) is viewed positively" (Breaugh & Starke, 2000, p410) and reaches the prospected target group. Han & Froese (2010) mention that "organizations rely on a well-established portfolio of recruiting channels to address potential candidates, such as public advertisements (newspaper, magazines), the internet, job fairs, campus recruiting, head hunters, governmental employment service providers etc." (Han & Froese, 2010, p398). In the search for talent multinationals tend to use several recruiting channels at the same time, however, these channels could be used more effectively if there is a fit between the message, channels, other resources and, most importantly, the target group.
All taken together, the recruitment cycle functions as a web of related factors, which has to be aligned properly to become competitive in the labour market. The following paragraph describes the specific actor in this labour market: the R&D professional.

R&D professionals

Following the talent management process, attracting talented professionals is an investment for the long term. Especially in the research field where projects last long and new discoveries take time. Hence, a R&D laboratory needs an appropriate mix of talented R&D professionals which calls for different personal characteristics, knowledge, and skill competencies. "Effective staffing in technical organizations thus requires identifying different staffing categories" (Badawy, 2007, p57) and the ability to develop according to both the employers' and employees' interest. However, Bailyn (1989) stresses that it is difficult to "describe, learn, or teach the best way to meet the requirements of the tasks to be performed, since such knowledge is characteristically tacit and depends on understanding and manoeuvring in the informal organization" (Bailyn, 1989, p13). Therefore, he states that "to function effectively in such an amorphous setting, with its unclear signals and ambiguous criteria to guide behaviour, requires knowledge of existing networks and sources of information, as well as an awareness of the distribution of resources and the paths of access to them" (Bailyn, 1989, p13). In simplest terms, what does an organization need and how can it be reached? Moreover, "in order to maintain technical competitiveness, companies have an ongoing need to identify and foster core competencies for technical professionals in the area of R&D" (Wu, 2009, p9574). Theses core competencies are lists of required competencies that employees are required to possess in order to accomplish high performance in individual jobs or roles and determine the employees' potential. For example, Dill (1985) noted that if an engineer's early work is extremely challenging in terms of using knowledge and skills to the fullest, the individual is stimulated to demonstrate good performance and competence throughout a career. However, he mentions that the job challenge must be complemented by social support, supervisory attention and on-the-job training. While Wu (2009) and Paraponaris (2003) focus on the needed competences to perform the job, Dill (1985) stresses the importance of how the job is endured. This study bounds to the employment facets due to the fact that competence testing is a part of selecting the talents who have the desired competencies.
According to Lam (2004) R&D professionals differ in the way how they move throughout an organization, and "an increasingly important part of their role is to transfer technology and deliver value to the company" (Lam, 2004, p12). As the role of R&D professionals have an impact on organizational performance, it differs how these professionals are moving within the organization or have the ambition to grow in the organization in a specific way. Bailyn

(1989) formulates four ways of career advancement, namely (1) the managerial route, (2) the technical route, (3) the project route, and (4) the technical transfer route. All these routes contain the knowledge which is taken with while continuing. These knowledge transfers can be seen externally, such as collaboration between the technology-based corporations and research universities, but also internally within the R&D site itself. “For the individual scientists, the increased overlap between industry and academia creates opportunities for developing new competences, and pursuing alternative career options outside their own research communities” (Lam, 2004, p31). Lam (2004) mentions that as firms move away from centralized R&D and increasingly depend on distributed knowledge sources, a growing part of the scientist's role is to engage in a diverse range of internal and external knowledge networking activities. “Essentially in this process of fine sifting is the involvement of identifying reliable sources for outstanding talent, and dimensioning an information network with those sources, and maintaining and monitoring the network” (Dill, 1985, p228). In other words, maintain visibility in the wider research community, because within the business context it is difficult to maintain a high level of scientific expertise. There are three categories of researchers who perform the role of 'linked scientists' in bridging the interface between science and business. “The first concerns the 'entrepreneurial’ professors who have on-going collaborative links with firms but retain their full university positions. The second concerns the 'joint appointments' or post-docs who are formally affiliated to the university but work on collaborative projects with firms. And the third concerns the doctoral students who are selected and funded on the basis of criteria negotiated between the firm and its academic partners, some of whom may subsequently be employed by the firm” (Lam, 2004, p26). These categories entail a knowledge network which connects the corporate R&D activities with the academic world. Because working together creates the opportunities for the industry to attract their experienced and talented R&D professionals, while at the same time knowledge can be shared in a collaborative environment. And after all, the knowledge is the most important asset of the R&D professional. The only question that remains is to know what exactly is important to the R&D professional and what the possible ways are to share this with them. By knowing this Unilever can perform more focused sourcing on self-selecting R&D professionals.

Research questions

There is a standard procedure for recruiting the right person for the job. Job requisitions are determined by Unilever itself and the searching procedure is outsourced to Accenture. Accenture will start to source candidates through appropriate channels and delivers candidates for face-to-face interviews. In the end a suitable candidate receives a job offer. This recruitment model is raised from the input of several stakeholders around this process and provides a complete insight in the way new talent is attracted. In turn, for the HR team at URDV the model is divided in two components, namely influential and not influential. The research focuses on and acts within the components that can be influenced, but take non-influential parts into account to provide a broader knowledge expansion. Therefore, the major goal of this research is to build a recruitment strategy towards mid-career R&D professionals. This goal will be achieved throughout some sub goals: (1) to explore which work values are considered important by R&D professionals, (2) to acknowledge the influence of age, and (3) to determine which recruitment sources can be used to address the target group. In order to achieve these research goals the main research question is as follows:

What are the work values of mid-career R&D professionals and how can these be communicated to the labour market?

This main research question is to find out how Unilever can get their qualitative R&D professionals. To substantially provide an answer to this main question, the following sub questions are studied:

1) Which work values in terms of corporate image and job attributes characterize the mid-career R&D professional?
2) What influence do generations have on the perception of work values?
3) Which recruitment sources can be used to communicate with mid-career R&D professionals?

The next chapter describes the research environment and design to get the desired knowledge.

III Methodological framework

Han & Froese (2010) recommended creating and using the corporate image and selecting potential employees carefully. To do so, an organization has to perform its actions integrally. This section elaborates on the research environment, which provides an overview of where we stand and where we want to go, followed by the research design which determines how this research is performed.

Data for this research will be collected from several resources; literature, documentation, handouts and a survey in a focus group. By performing a literature review the existing theory will be explored for useful theories about research and development, employer branding, recruitment, and talent management. Documentation, literature and rules of conduct will complete the composition of the theoretical framework. The theoretical framework leads to an insight of the recruitment and sourcing process from a theoretical and practical view. In this way a link can be made between theoretical approaches and best practices. With this knowledge we can create an approach in which the sourcing of realistic job information for R&D professionals fit or should fit. The creation of this approach can be seen as the preparation towards the quantitative research with the actors of the recruitment process: the R&D professional itself. A web-based survey will provide the practical side of the process, but in turn can be used to confront the actors with the theoretical or 'ideal' situation. The model will first be discussed with a focus group of experts from human resources, mainly the HR Business Partners and Directors from the business. By following this path of gathering data, we can present a conceptual change with the survey when necessary. The actors then will be challenged to provide their points of view from expertise or experience. The recommendations will be presented in this thesis. To conclude, all facets of this research are presented in figure 3.

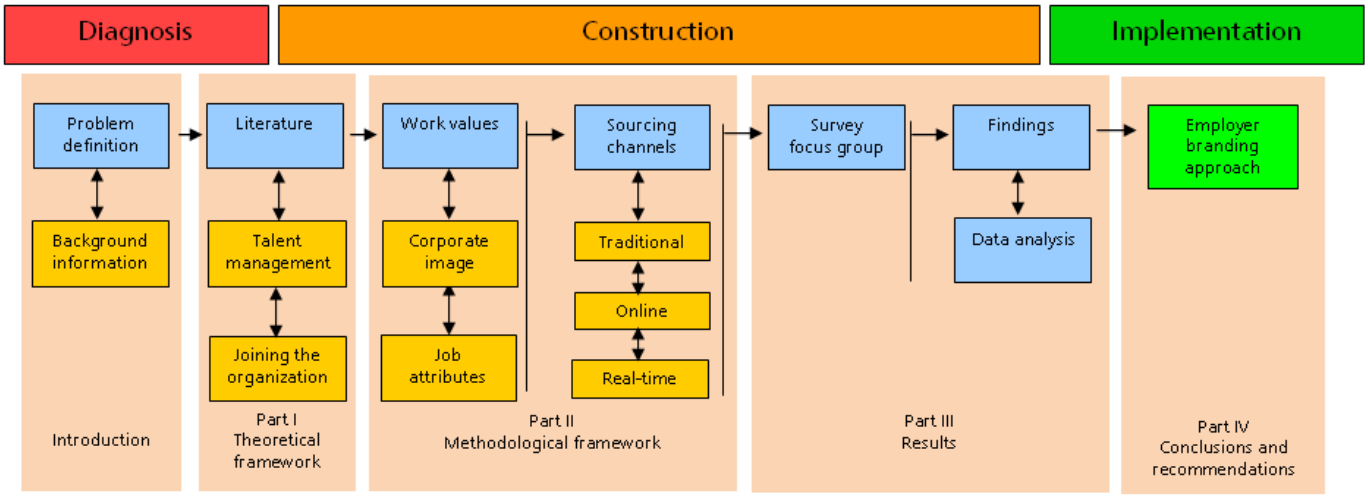

Fig 3. Project overview

Within this project several steps are formulated. The purpose of these steps, the so-called project phases, is to make clear what will be done on a timescale in order to prepare and perform the research and analyze the results. This process will not be iterative, but from step to step, there will be a traditional follow-up. This does not mean that steps taken will not be reviewed critically. More important, steps will be done very carefully to avoid mistakes, disagreement from stakeholders and threats to validity and reliability. The project started with the orientation on the problem(s) at hand and to learn about the organization first. Therefore, I had to determine what lies between the necessary and the possible, but at the same time a subject that is not too general. This could affect the usefulness of the

research outcome. To do so, the theoretical framework provides an insight on HR and specifically, talent management. From this perspective a direction can be formulated what knowledge the methodology should provide. Therefore, it is important to check whether estimated resources meet the desired outcome. This stresses the importance of formulating what we want to know and from whom we want to know it.

Research design

Following from the recruitment process model by Breaugh & Starke (2000), it is important to determine whom to recruit, where to recruit and what to recruit. There is a central role in which recruitment sources can be used to communicate an appropriate message to the target group. First, this research intends to clarify what the work values of R&D professionals are, following the three major enablers of applicant's job decision, namely corporate image, job attributes and the people within the company. Since, much literature has been written on the influence of recruiting behaviour (Van Ours & Ridder, 1991; Barber, 1998; Breaugh & Starke, 2000; Cable & Turban, 2001; Collins, 2006) and the significance have been proven extensively; I now focus on the role of the employer and the job which is offered. The variable people within the company is therefore being left out of scope. Findings in this area provide insights on the whom and what in the recruitment process. Secondly, this research offers an extensive range of sources, linked to relevant purposes for use. With these findings, links can be directed to the question where to recruit based on recruiting goals.
Data on these topics will be collected by providing a web-based survey, which addresses the most important variables within these topics. The major advantage for the use of a web-based survey is the flexibility and time efficiency. There are great possibilities in the technological development of surveys, with which links with the data analysis can be made. This leads to advanced methods for completing the survey, including convenience and speed to fill in. Due to the fact that respondents must answer in order to proceed, invalid data can be reduced which increases the value of the response. Concerning this, Ilieva, Baron and Healey (2002) indicated in their research that online surveys have a much higher item completion rate than mail surveys. Miller & Panjikaran (2001) also reviewed several ways of interviewing and concluded that human interaction during the questionnaire has a significant influence on the amount of socially desirable answers. This is lesser applicable for the web-based survey. Finally, this way of questioning is for the respondents ideal, because they can choose the moment to participate to the research.
Evans & Mathur (2005) note that the biggest potential weakness of web-based survey is the perception of being junk mail. They cite that even if an e-mail comes from a trusted source, a high response is unlikely. In this case, the site team acts as ambassadors for this research and stimulate their groups to fill in the survey. The survey was also announced in advance and the target group received a personal invitation and a reminder. Another potential weakness is the confidentiality, which is difficult to guarantee in an online version. In addition, the respondents have difficulty to trust on the confidential treatment of data. The anonymity is highlighted twice in the survey and it is noted that the findings will be used internally. Moreover, the data will be reported on an aggregated level and is therefore not to a person reducible.
For choosing the exact target group, boundaries have been drawn from Han & Froese (2010). These authors split target candidates into three different groups, namely entry level (university students), mid-career level (over two years' work experience) and director level (head of R&D facilities). The authors drew this boundary for simplification. The two years of work experience is based on the perspectives of HR managers, Chinese R&D workers and headhunters who usually mentioned this as an important criterion to distinguish entry-level from experienced hires. People with two years or more work experience have already received some technical training and learned about business etiquette. They have developed their basic preferences and got used to the way of working in an R&D

environment. Although R&D professionals with about two or three years of work experience are at the lower end of hierarchy, this boundary assumes the broad sense of the population between graduates and a management career. In simplest terms, this division addresses the R&D professionals who are actually practicing research in their job.
This research specifies on the mid-career level R&D professionals within Unilever. This population consists of 800 R&D professionals of multiple nationalities and with all types of research. The data was drawn from the entire population of R&D professionals at Unilever R&D Vlaardingen with a minimum of two years of work experience. Due to the fact that all the respondents already have a job, they the questions were asked in a 'what-if' scenario. In this way, the data can be translated to the labour market in a later stadium. Overall, 671 mid-career R&D professionals from Unilever R&D Vlaardingen received an invitation to participate in this research. These R&D professionals are situated amongst all the departments in the R&D organization. After a week, this group received a reminder after which the survey was closed. The survey delivered 239 (35.6%) respondents in total of which all are useful for data analysis. The large majority (44.4%) of the respondents is located in the biggest department in Vlaardingen, Discover, followed by Global Design Centre (GDC, 19.2%), Regional Deploy Centre (RDC, 13.8%), Critical Functional Capabilities (CFC, 10.0%), and Other departments (12.6%).

Dimensions

The corporate image consists of expected variables such as employer reputation, but also some of which it is not expected, for instance from growth potential. The dimension corporate image is based on a research by Maurer et al. (1992) who studied the work values of engineering graduates. This dimension includes relevant items for employees in their work activity, such as salary and employee satisfaction. Deliberation with a focus group of HR Business partners and members of the site team delivered extra items to the dimension corporate image (Maurer et al., 1992), which are aligned with recent developments and trends (sustainability of the company, social involvement in society and innovation by the company). In the dimension itself, Maurer et al. (1992) measured a Cronbach's alpha of .85, which indicate a strong internal consistency. The items in this research are tested by means of a 5-point scale ranging from very unimportant to very important. This is based on the 5-point Likert-scale, which gives the respondent the opportunity to rank his answer and makes it possible to quantify the findings with an ordinal level of measurement.
Prior to the section corporate image, the respondents provide their personal demographics on status and background, namely year of birth, marital status, nationality, department, university degree, study, work level, work experience after graduation, and number of employers after graduation. This makes it possible to compare outcomes between certain sub groups with diversity in work level or departments. The outcome of this dimension provides insight in the target group on work values related to corporate image.

Within the job attributes, the completion of the job is twofold: working conditions and the job practice. By providing specific and realistic information on potential employment, companies will better be able to manage expectations and secure a long-term retention. Working conditions shape a work environment in which the employee is able to perform his work. The job practice is defined as the job seekers' perceptions regarding attributes of a particular job at a company. Both dimensions stress what R&D professionals declare as important, but within their own constraints. The dimension working conditions is drawn from Han & Froese (2010) who performed a qualitative research on key factors for recruiting and retaining R&D variables. Whilst the authors stress that a well-balanced mixture of these different factors is necessary for a long-lasting retention, these factors are useful to test quantitatively. In interviews, Han & Froese asked interviewees open-ended questions to discover what the key factors in job environment are. This resulted in the following

outcome: attractive compensation (98%), career perspective (96%), learning opportunities (79%), corporate culture (58%), personal relationships (53%) and challenges at work (39%). In this research I have added to these items three other possibilities from input from the business, namely freedom of publication externally, flexible working within the company and working abroad. The items were tested by means of a 5-point scale ranging from very unimportant to very important.
The dimension for job practice is based on Watson & Meiskens (1991) who performed an earlier research on work values of engineers. Their results yielded with a 3-point scale as follows: to innovate and propose new ideas (2.63/.541), to keep abreast of new developments (2.62/.534), to advance economically (2.63/.504), to meet with other engineers to discuss ideas (2.08/.656), to experiment in new and novel areas of scientific work (1.94/.722), to move into a management career (1.83/.737), to contribute to basic scientific knowledge (1.84/.682), and to enhance social status and prestige (1.65/.684). In light of interactional developments of collaboration between companies I added in deliberation with Unilever the item 'To interact with external environment (Open Innovation)' to this dimension.
The items in both dimensions are tested by means of a 5-point scale ranging from very unimportant to very important. With these findings, we know what is important to R&D professionals in their work and their working conditions. In addition to the corporate image, this knowledge provides an entire overview of whom and what to recruit seen from the applicant's perspective.

In order to know where to recruit and to reach the R&D professional, the fifth section deals with the recruitment sources, which are used for private and business practices. For example, Han & Froese (2010) state that organizations put effort in several of the recruiting channels for increasing the general brand image. The aim is to use these sources more efficiently so that it can support the corporate image and provide sufficient job information when necessary. There is extensive literature on sources, but very scarce on the broad perspective of sources. In this research the recruitment sources are divided into traditional (magazines/journals), online (e.g. websites, job boards and social media) and real-time (events and personal network). The respondents can select their recruitment sources for the following purposes: (1) getting information about job opportunities, vacancies, (2) keeping updated with existing friends (private), (3) maintaining existing professional contacts, (4) getting information about companies, potential employers, and (5) learn about developments in the R&D field. The outcome of this section shows for what purposes the R&D professional is using the classified sources. For example, sources, which are used for professional development by sharing and receiving knowledge, would be appropriate for branding the corporate image. The variables are measured by a 5-point scale ranging from strongly disagree to strongly agree.

The outcome of this entire survey will provide knowledge on what R&D professionals within Unilever think is important in their employer, in their job (both practice and working conditions) and in what surrounding(s) these variables can be communicated to them, specified to their goals (i.e. employer branding or recruiting). In simplest terms, how a perfect match can be made between an employer and an applicant. By knowing what supports best both the employer and employees' interest, and where to communicate this, the employer will be able to select from a more representative group of competent and talented professionals. In turn, the applicant will get the feeling from fitting in the organization on basis of a thorough decision, which can lead to a long-term work relation.

IV Results

This section elaborates on the findings resulting from the survey that was sent to mid-career professionals from Unilever R&D Vlaardingen. The results are discussed based on the major categories corporate image and job attributes, and subsequently on the use of sources. First, the major descriptives of the data group is being discussed.

Descriptives

Following the hierarchical pyramid model of organisations, the lowest work level is best represented in this research. WL1 is the level of the Collective Labour Agreement (CLA, 28.9%), WL2 is manager (56.9%), WL3 is director (12.6%), WL4 is vice-president (.8%), and WL5 is senior vice-president or executive vice-president (.8%). For this research, I divided these work levels in three categories: CLA (WL1), Management (WL2) and Higher management (WL3+). The average age of this data set is very high with 41.27 years and the respondents have 16.49 years work experience. The division of work experience is scattered with a standard deviation (SD) of 9.725. In total, the work experience varies from 2 years to 42 years. The differences in the number of employers are also large. A few respondents have had 7, 8, 9, 11 or even 13 employers in the past, but these are all elder respondents. The vast majority lies within 1 to 3 employers in total. Compared to the work experience an average R&D professional at Unilever R&D Vlaardingen remains about 7 years and 5 months with the same employer.
In the survey, the respondent was also asked for his nationality. Because in general the nationalities were too scattered I divided them into Europe (including Turkey, 23.4%), Netherlands (67.4%) and Outside Europe (7.1%). The educational level of the data set is very high: 42.3% PhD, 29.7% Master, 22.6% Bachelor and 2.9% VPSE. This deviates from the known statistics of the entire population in which the vast majority has a master's degree. However, 60.4% of the respondents with a PhD are located in Discover department, so this clarifies the ratio.

		Corporate image	Working conditions	Job practice
Corporate image	Correlation Coefficient	1,000	,452(**)	,140(*)
	Sig. (2-tailed)	.	,000	,031
	N	238	238	238
Working conditions	Correlation Coefficient	,452(**)	1,000	,331(**)
	Sig. (2-tailed)	,000	.	,000
	N	238	239	239
Job practice	Correlation Coefficient	,140(*)	,331(**)	1,000
	Sig. (2-tailed)	,031	,000	.
	N	238	239	239

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 1. Correlation between dimensions

For measuring the correlation between the dimensions, I used Spearman's rank correlation coefficient, because it erases possible bias of extreme values. Therefore, this coefficient is very usable for the ordinal measurement level. A high correlation coefficient means that the dots in the scatter gram are less spread among the linear line. The correlation table in table 1 demonstrates that the dimension corporate image correlates moderately with the dimension working conditions (.452), and working conditions also correlates moderately with the dimension job practice (.331). The p-value explains the exceedance probability for the correlation coefficient between the dimensions. This value indicates the probability that the displayed correlation coefficient is found between the variables. In this case the mentioned correlations are significantly with $\alpha = .05$. Correlation between corporate image and job practice (.140) is significant with $\alpha = .01$, which means that if the R&D professional

attaches more value to corporate image this to reasonable degree also accounts for job practice. The same accounts for the correlation between working conditions and job practice.

Corporate image

Corporate image, as the set of perceptions that people have of organizations, could create competitive advantage to the organization when a good impression is made for society. This paragraph relates to this corporate image and the items within, which are important to a mid-career R&D professional.

Hypothesis testing

The hypothesized model asserted that the items in the dimensions are of significant importance to mid-career R&D professionals, which eventually can lead to the decision to apply for a job. The first hypothesis stated that Career/advancement opportunities, Potential employer reputation, and Innovation by the company are increasingly perceived as more important by generation Y than generation X and Babyboom. Subsequently, it asserted that Financial stability, Sustainability of the company, and Social involvement is increasingly perceived as more important by generation Babyboom than generation X and Y. To assess these sub hypotheses I ran for each a One Way Anova test to indicate whether the differences between the groups are significant. Table 2 describes the hypotheses and the outcome of the test statistics. The hypotheses for which the generations significantly differ from each other are assessed more thoroughly via a Bonferroni test. The major advantage of the Bonferroni test is that it measures where differences between means occur. In this way, I am able to test whether the hypothesized ascending or descending degrees of value perception are true.

Hypothesis	F-test
H1a: Career/advancement opportunities is increasingly perceived as more important by generation Y than generation X and Babyboom.	F = 3.844 with df = 236 and p = .023
H1b: Potential employer reputation is increasingly perceived as more important by generation Y than generation X and Babyboom.	F = .915 with df = 236 and p = .402
H1c: Financial stability is increasingly perceived as more important by generation Babyboom than generation X and Y.	F = 2.045 with df = 235 and p = .132
H1d: Sustainability by the company is increasingly perceived as more important by generation Babyboom than generation X and Y.	F = 2.957 with df = 235 and p = .054
H1e: Social involvement is increasingly perceived as more important by generation Babyboom than generation X and Y.	F = 2.890 with df = 236 and p = .058
H1f: Innovation by the company is increasingly perceived as more important by generation Y than generation X and Babyboom.	F = 3.548 with df = 236 and p = .030

Table 2. Decisions first hypothesis

Following from table 2 the items Career/advancement opportunities and Innovation by the company differ significantly from each other amongst the three generations. On basis of these results, H1b to H1e can be rejected. Table 3 shows the Bonferroni test for the item Career/advancement opportunities (H1a). From the mean difference between the generations, we can conclude that the perception of this item is increasingly perceived as more important by generation Y than generation X and Babyboom, so H1a is accepted. This difference is significant between generations Y and Babyboom on basis of $\alpha = .05$.

Table 4 demonstrates the results of the Bonferroni test for the item Innovation by the company (H1f). It is clear that the perception of innovation is valued more by generation Babyboom than their younger counterparts. Moreover, the results show the hypothesis the other way around; Innovation by the company is increasingly perceived as more important

by generation Babyboom than generation X and Y. Again, the significance level of the difference between generation Babyboom and Y is beneath the critical level α = .05. On basis of these results, H1f is rejected.

Career/advancement opportunities		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
(I) Year of birth	(J) Year of birth				Lower Bound	Upper Bound
< 1960	1961-1980	-2.59	.125	.119	-.56	.04
	> 1981	-.483*	.185	.029	-.93	-.04
1961-1980	< 1960	.259	.125	.119	-.04	.56
	> 1981	-.224	.167	.539	-.63	.18
> 1981	< 1960	.483*	.185	.029	.04	.93
	1961- 1980	.224	.167	.539	-.18	.63

* The mean difference is significant at the .05 level.

Table 3. Bonferroni test Career/advancement opportunities

Innovation by the company		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
(I) Year of birth	(J) Year of birth				Lower Bound	Upper Bound
< 1960	1961-1980	.141	.119	.716	-.15	.43
	> 1981	.471*	.177	.025	.04	.90
1961-1980	< 1960	-.141	.119	.716	-.43	.15
	> 1981	.330	.159	.119	-.05	.71
> 1981	< 1960	-.471*	.177	.025	-.90	-.04
	1961- 1980	-.330	.159	.119	-.71	.05

* The mean difference is significant at the .05 level.

Table 4. Bonferroni test Innovation by the company

For the assessment of internal consistency I take a minimum of .70 (Nunnally, 1978), which indicates that the items in the dimensions measure the same aspect. The entire dimension corporate image scored with the exclusion of three respondents a Cronbach's alpha of .729 and is therefore an internal consistent dimension.

Descriptive analysis

The means of all the dimensions are assessed with a significant minimum of 3.25 as this represents the top 35% of the most positive response. To start, table 5 describes the means and standard deviations of the dimension corporate image of this research compared with the findings in the research performed by Maurer et al. (1992). Results can be misleading, because Maurer et al. (1992) measured with a 6-point scale. The results for the corporate image in Unilever R&D Vlaardingen (URDV) show a high preference for career/advancements opportunities, approximate salary offered, current employee satisfaction and innovation by the company. The other items in the dimensions, namely Potential employer reputation, Employee benefits of the company, Financial stability of the company, Growth potential of employer, Sustainability of the company and Social involvement in society all score above the chosen average of 3.25, which suggests that all the items are somewhat important to the mid-career R&D professional in Vlaardingen. The total group of respondents is the most divided on sustainability and social involvement of the company with standard deviations of respectively .979 and 1.035. Overall, these figures are likely to differ from the results of Maurer et al. (1992) who found, for instance, that approximate salary offered is of little importance to engineering graduates. There is also a major difference in the way both target groups perceive the potential employer reputation. The value in the perception of this reputation seems to be declined throughout the years. In addition, the preferred financial stability of the company differs quite from 19 years ago. The other way around respondents

from URDV value the current employee satisfaction as greater importance than the engineering graduates in 1992.

Item	URDV		Maurer et al. (1992)
	Mean	SD	Mean*
Career/advancement opportunities	4.21	.830	4.47
Innovation by the company	4.07	.804	NA
Approximate salary offered	4.05	.732	3.22
Current employee satisfaction	3.98	.776	3.62
Financial stability of company	3.85	.853	4.27
Potential employer reputation	3.84	.752	4.60
Employee benefits of the company	3.75	.802	3.62
Growth potential of employer	3.72	.894	4.00
Sustainability of the company (environmental)	3.47	.979	NA
Social involvement in society	3.44	1.035	NA
Valid N (listwise)	***236***		***242***

* Measured with a 6-point scale

Table 5. Means and std. deviations corporate image.

To determine to what degree the mean differs from the estimated mean, I performed a right sided one-sample t-test for each dimension. The test value matches the decision criterion for the significance of the means of 3.25, because this represents 65% of the maximum importance. The outcome of the one-sample t-test for the dimension corporate image can be found in Appendix 1.1. Every item scores $p < .001$, except for Social involvement in society ($p < .0025$). However, all statistically differ significant from the test value. On basis of these data there is enough evidence to state that the average score for the items in the dimension corporate image is above 3.25, with $\alpha = .05$.

In order to get a more thorough understanding of what is important to selections of mid-career R&D professionals, I also made a descriptive analysis of the means and standard deviations for sub groups on basis of year of birth, work level and marital status (single, partner, family). For the assessment of differences, I considered differences of 5 percent as significant.
The generations are very divided on their preferences for corporate image (see table 6). Career/advancement opportunities, Approximate salary offered and Potential employer reputation are perceived as more important by generation Y than Babyboomers. The other way around there is a decline throughout the years how a generation perceives sustainability and innovation of the company.

Item	< 1960		1961-1980		> 1980	
	Mean	SD	Mean	SD	Mean	SD
Career/advancement opportunities	4.00	.707	4.26	.907	4.48	.509
Approximate salary offered	3.69	.696	4.16	.731	4.21	.559
Potential employer reputation	3.77	.804	3.84	.768	4.00	.535
Employee benefits of the company	3.59	.716	3.81	.822	3.76	.872
Financial stability of company	3.80	.891	3.92	.797	3.59	1.018
Growth potential of employer	3.70	.863	3.83	.871	3.21	.940
Current employee satisfaction	3.98	.719	3.92	.766	4.34	.814
Sustainability of the company (environmental)	3.69	.941	3.45	1.004	3.17	.848
Social involvement in society	3.66	.929	3.33	1.099	3.66	.769
Innovation by the company	4.23	.668	4.09	.819	3.76	.830
Valid N (listwise)	***61***		***144***		***29***	

Table 6. Generational differences for corporate image

A split by departments shows two islands of Discover and CFC (table 7). For some items, these departments differ significantly from the rest. The respondents from Discover, for instance, deem the potential employer reputation and the financial stability as more

important than the other departments. The respondents from the CFC's deem Growth potential of the employer, Sustainability of the company, and Social involvement in society, less important or even of no significant importance. The only remarkable deviation from other departments is Employee benefits of the company, which is perceived as less important by the RDC.

Item	Discover		GDC		RDC		CFC		Other	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Career/advancement opportunities	4.20	.855	4.20	.719	4.12	.857	4.13	.741	4.47	.937
Approximate salary offered	4.04	.780	4.13	.582	4.00	.707	3.92	.584	4.13	.900
Potential employer reputation	3.94	.754	3.78	.728	3.67	.777	3.75	.794	3.80	.714
Employee benefits of the company	3.75	.803	3.78	.758	3.55	.971	3.79	.658	3.87	.776
Financial stability of company	3.98	.784	3.76	.947	3.64	.929	3.63	.875	3.93	.785
Growth potential of employer	3.79	.902	3.61	.856	3.79	.927	3.54	.884	3.70	.915
Current employee satisfaction	3.98	.747	3.96	.815	3.97	.918	4.00	.780	4.00	.695
Sustainability of the company (environmental)	3.50	.918	3.41	1.024	3.63	.871	3.13	1.329	3.53	.900
Social involvement in society	3.47	.958	3.37	1.181	3.55	.869	3.00	1.351	3.67	.884
Innovation by the company	4.12	.825	4.04	.698	4.00	.866	4.08	.830	4.00	.830
Valid N (listwise)	***104***		***46***		***32***		***24***		***30***	

Table 7. Split to department for corporate image

Data split to work level (see Appendix 1.2) show that the CLA respondents perceive Career/advancement opportunities (4.45 vs 4.15 and 4.0), Approximate salary offered (4.2 vs 4.01 and 3.91), and Social involvement in society (3.64 vs 3.38 and 3.26) as much more important than management and higher management. The growth potential of employer is seen as more important than management (3.94 vs 3.6). For marital status, there is for Social involvement in society only a minor difference in perception between singles and respondents with a family (household 2 plus; 3.59 vs 3.35).

Working conditions

By providing specific and realistic information on potential employment, companies will better be able to manage expectations and secure a long-term retention. Working conditions shape a work environment in which you can excel as an employee.

Hypothesis testing

The second hypotheses asserted that Attractive compensation, Career perspective and Working abroad are increasingly perceived as more important to generation Babyboom than to generation X and Y, and Flexible working within the company is perceived as more important by generation X than generation Y and Babyboom The sub hypotheses are displayed in table 8, accompanied with the F-test. These results show that for Flexible working within the company the mean do not differ significantly from each other and therefore H2c can be rejected.

Hypothesis	F-test
H2a: Attractive compensation is increasingly perceived as more important by generation Y than generation X and Babyboom.	F = 4.731 with df = 235 and p = .010
H2b: Career perspective is increasingly perceived as more important by generation Y than generation X and Babyboom.	F = 5.985 with df = 236 and p = .003
H2c: Flexible working within the company is perceived as more important by generation X than generation Y and Babyboom.	F = 1.766 with df = 236 and p = .173
H2d: Working abroad is increasingly perceived as more important by generation Y than generation X and Babyboom.	F = 1.108 with df = 235 and p = .023

Table 8. Decisions second hypothesis

The mean differences for attractive compensation between the generations indicated in table 9 demonstrate that the perception of the attractive compensation is ascending. Generation Y values attractive compensation most and the difference in perception between this generation and generation Babyboom is significant. On basis of these results, I can accept H2a.

Attractive compensation		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
(I) Year of birth	(J) Year of birth				Lower Bound	Upper Bound
< 1960	1961-1980	-.218	.115	.175	-.50	.06
	> 1981	-.521*	.172	.008	-.94	-.11
1961-1980	< 1960	.218	.115	.175	-.06	.50
	> 1981	-.303	.155	.158	-.68	.07
> 1981	< 1960	.521*	.172	.008	.11	.94
	1961- 1980	.303	.155	.158	-.07	.68

* The mean difference is significant at the .05 level.

Table 9. Bonferroni test Attractive compensation

Hypothesis 2b assumes the same increase of perception for Career perspective. The results for the Bonferroni test in table 10 shows that this is not true for Career perspective. Mean differences and the significance level demonstrate that generation Y and X are equal on the importance of Career perspective, whereas generation Babyboom values this less more. On basis of these results, H2b is rejected.

Career perspective		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
(I) Year of birth	(J) Year of birth				Lower Bound	Upper Bound
< 1960	1961-1980	-.417*	.123	.002	-.71	-.12
	> 1981	-.407	.182	.079	-.85	.03
1961-1980	< 1960	.417*	.123	.002	.12	.71
	> 1981	.010	.164	1.000	-.39	.41
> 1981	< 1960	.407	.182	.079	-.03	.85
	1961- 1980	-.010	.164	1.000	-.41	.39

* The mean difference is significant at the .05 level.

Table 10. Bonferroni test Career perspective

Table 11 demonstrates the Bonferroni test for the item Working abroad. This item is increasingly perceived as more important by generation Y than generations X and Babyboom, but with insufficient significance level. This is remarkable, as the One Way Anova test showed significant differences between the means. However, as I chose the Bonferroni test as leading I can reject H2d on basis of these results.

Working abroad		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
(I) Year of birth	(J) Year of birth				Lower Bound	Upper Bound
< 1960	1961-1980	-.180	.151	.702	-.54	.18
	> 1981	-.302	.224	.533	-.84	.24
1961-1980	< 1960	.180	.151	.702	-.18	.54
	> 1981	-.122	.202	1.000	-.61	.36
> 1981	< 1960	.302	.224	.533	-.24	.84
	1961- 1980	.122	.202	1.000	-.36	.61

* The mean difference is significant at the .05 level.

Table 11. Bonferroni test Working abroad

For the calculation of Cronbach's alpha for this dimension, 1 out of 239 was excluded and produced an alpha of .663. When the item 'freedom of publication externally' is deleted, a Cronbach's alpha of .713 is achievable.

Descriptive analysis

Working conditions is seen as a part of the job attributes that are important to the job seeker. Table 12 displays the means and standard deviations of the working conditions as perceived by the R&D professionals from Unilever. Attractive compensation, career perspective, learning opportunities, challenges at work and flexible working within the company are seen as major important items in the working conditions. In addition, the corporate culture, personal relationships and working abroad add value to these circumstances. Only the freedom of publication externally is not seen as an important factor in the working conditions. A remark with these results is that the respondents are quite divided about the freedom of publication, flexible working and working abroad with standard deviations of respectively 1.097, .916 and .990.

	Mean	SD
Challenges at work	4.18	.813
Learning opportunities	4.17	.731
Career perspective	4.17	.825
Flexible working within the company	4.12	.916
Attractive compensation	4.04	.765
Personal relationships	3.82	.830
Corporate culture	3.71	.808
Working abroad	3.33	.990
Freedom of publication externally	2.81	1.097
Valid N (listwise)	***238***	

Table 12. Means and std. deviations working conditions.

The outcome of the one-sample t-test for the dimension working conditions shows one deviation in the dimension. Every item scores $p < .001$, except for Working abroad ($p < .0935$). For this item there is statistically not enough evidence that the mean significantly differs from the test value 3.25, with $\alpha = .05$. The table with the t-test can be found in Appendix 2.1.

A descriptive analysis also demonstrates significant differences between generations for working conditions (see Table 13). Generation Y perceives Attractive compensation, Career perspective, Learning opportunities, Flexible working and Working abroad increasingly as more important than respectively generation X and Babyboom. On the other hand, Corporate culture and Challenges at work add increasingly more value to respondents from generation Babyboom than it is to respectively generation X and Y. All generations agree on the importance of Personal relationships.

	< 1960		1961-1980		> 1981	
Item	Mean	SD	Mean	SD	Mean	SD
Attractive compensation	3.84	.711	4.05	.809	4.36	.488
Career perspective	3.87	.846	4.29	.819	4.28	.649
Learning opportunities	4.05	.590	4.20	.773	4.34	.670
Corporate culture	3.72	.859	3.74	.795	3.52	.785
Personal relationships	3.85	.833	3.82	.811	3.79	.902
Challenges at work	4.28	.710	4.19	.822	3.93	.923
Flexible working within the company	3.97	1.048	4.14	.907	4.34	.614
Working abroad	3.18	.885	3.36	1.040	3.48	.949
Valid N (listwise)	***61***		***147***		***28***	

Table 13. Generational differences for working conditions

Appendix 2.2 shows the results for working conditions, split by departments. The disagreement between departments is lesser than for corporate image. Respondents from Discover perceive Working abroad as more important than other departments. The CFC's think learning opportunities is less important than others, and together with the GDC, they deem corporate culture as less important.
For work levels there are minor differences in the perception of Attractive compensation, Career perspective, and Personal relationships. The CLA respondents increasingly perceive these three as more important. Surprisingly, singles and partners attach more value to Flexible working within the company (4.24 and 4.25 vs 4.01). Working abroad is of more importance to singles, compared to respondents with a partner or family (3.59 vs 3.28 and 3.28). Both tables can be found in Appendix 2.3.

Job practice

In a work relation, it is important that both the employees' and employers' interests are taken into account. In order to create a work place where the job has a fit with the employees' interests it is necessary to know which items are important the R&D professional from Unilever.

Hypothesis testing
The third hypothesis asserted that To innovate and propose new ideas, and To advance economically are increasingly perceived as more important to generation Y than to generation X and Babyboom. In return, it asserted that To keep abreast of new developments and To interact with external environment are increasingly perceived as more important to generation Babyboom that to generation X and Y. Table 14 demonstrates the results of the One Way Anova tests for these sub hypotheses. H3b to H3d can be rejected, as the means of the generations do not differ significantly from each other.

Hypothesis	F-test
H3a: To innovate and propose new ideas is increasingly perceived as more important by generation Y than generation X and Babyboom.	One Way Anova F = 3.829 with df = 235 and p = .023
H3b: To advance economically is increasingly perceived as more important by generation Y than generation X and Babyboom.	One Way Anova F = .121 with df = 236 and p = .886
H3c: To keep abreast of new developments is increasingly perceived as more important by generation Babyboom than generation X and Y.	One Way Anova F = 1.408 with df = 236 and p = .247
H3d: To interact with external environment is increasingly perceived as more important by generation Babyboom than generation X and Y.	One Way Anova F = .305 with df = 234 and p = .737

Table 14. Decisions third hypothesis

The item To innovate and propose new ideas is further tested with a Bonferroni test (table 15). In contrary to the hypothesis, this item is perceived as more important by generation Babyboom than generations X and Y. This item demonstrates a significant difference between generation Babyboom and Y. On basis of these results, H3d can be rejected.

The Cronbach's alpha for the dimension job practice is strong with .729, with an exclusion of 5 respondents.

To innovate and propose new ideas		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
(I) Year of birth	(J) Year of birth				Lower Bound	Upper Bound
< 1960	1961-1980	.208	.132	.353	-.11	.53
	> 1981	.538*	.196	.019	.07	1.01
1961-1980	< 1960	-.208	.132	.353	-.53	.11
	> 1981	.331	.176	.186	-.09	.76
> 1981	< 1960	-.538*	.196	.019	-1.01	-.07
	1961- 1980	-.331	.176	.186	-.76	.09

* The mean difference is significant at the .05 level.

Table 15. Bonferroni test To innovate and propose new ideas

Descriptive analysis

To innovate and propose new ideas and to keep abreast of new developments belong to the most important assets in the work of the R&D professional within Unilever (see Table 16). Also to advance economically, to meet with other scientist/engineers to discuss ideas, to experiment in new and novel areas of scientific work, to move into a management career and to interact with the external environment show the progressive character of the R&D professional. The respondents stress that to contribute to basic scientific knowledge and to enhance social status and prestige is of less importance in their work. Although these statistics show clear results in their means, the majority demonstrates major deviations in the outcome. To experiment in new and novel areas of scientific work, to move into a management career, and to contribute to basic scientific knowledge have a standard deviation of above 1.0. Also the items to meet with other scientists/engineers to discuss ideas, to enhance social status and prestige, and to interact with external environment display a high deviation. Compared to Watson & Meiskens (1991) there are major differences in the results for this dimension. They researched the work values of engineers and found that To innovate and propose new ideas, To keep abreast of new developments, and To advance economically were major preferences for engineers. The R&D professionals seem overall to be moderate on their job practice preferences. Engineers from the '80s/90's were more pronounced on their specific needs, such as to innovate, to stay up-to-date on new developments and to advance economically. Both respondent groups are congenial on their contribution to basic scientific knowledge and the enhancement of their social status and prestige. On basis of these facts there is a shift in the preferences for job practice, mainly in the area of how innovation takes place. Engineers now prefer more experimenting in novel areas and deliberating with others.

Item	URDV		Watson & Meiskens (1991)
	Mean	SD	Mean*
To innovate and propose new ideas	4.07	.874	2.63
To keep abreast of new developments	3.96	.785	2.62
To meet with other scientists/engineers to discuss ideas	3.83	.944	2.08
To advance economically	3.81	.833	2.63
To experiment in new and novel areas of scientific work	3.64	1.072	1.94
To interact with external environment (Open Innovation)	3.57	.970	NA
To move into a management career	3.50	1.046	1.83
To contribute to basic scientific knowledge	3.17	1.004	1.84
To enhance social status and prestige	2.89	.914	1.65
Valid N (listwise)	***234***		***581***

* Measured with a 3-point scale

Table 16. Means and std. deviations job practice.

The one-sample t-test for the dimension job practice demonstrates one insignificant value in the dimension (see Appendix 3.1). The item To contribute to basic scientific knowledge scores t = -1.208, df = 238, right-sided, p = .114. The outcome for this item is statistically not

significant and therefore the scores do not differ significantly from the test value 3.25 with α = .05.

Table 17 contains the results for job practice split to the three generations. Generation Babyboom increasingly attaches more value to the items To innovate and propose new ideas, and To keep abreast of new developments than respectively generation X and Y. Especially the first item demonstrates a major difference in perception. The same reversed difference can be found in the wish to move into a management career, which is perceived as more important to generation Y than respectively generation X and Babyboom. The same difference, but less strong, lies with the items To contribute to basic scientific knowledge and To enhance social status and prestige.

Item	< 1960		1961-1980		> 1981	
	Mean	SD	Mean	SD	Mean	SD
To innovate and propose new ideas	4.26	.545	4.05	.900	3.72	1.192
To keep abreast of new developments	4.10	.724	3.94	.787	3.83	.889
To advance economically	3.77	.783	3.81	.871	3.86	.789
To meet with other scientists/engineers to discuss ideas	4.00	.753	3.76	.989	3.86	1.026
To experiment in new and novel areas of scientific work	3.77	.973	3.59	1.096	3.62	1.147
To move into a management career	3.05	.999	3.63	1.028	3.79	.978
To contribute to basic scientific knowledge	3.11	.858	3.14	1.060	3.48	.911
To enhance social status and prestige	2.79	.819	2.94	.930	2.97	.981
To interact with external environment (Open Innovation)	3.66	1.094	3.54	.965	3.62	.677
Valid N (listwise)	***60***		***143***		***29***	

Table 17. Generational differences for job practice

The major differences in the split by departments (table 18) comes from the CFC's. Mainly for the items To experiment in new and novel areas of scientific work, To move into a management career, and To contribute to basic scientific knowledge the preferences CFC's deviate. With the first and third the CFC's think it is more important than the other departments and the second item is perceived as less important. Respondents from Discover find the interaction with the external environment more important than others, just like respondents from GDC perceive To innovate and propose new ideas as more important. Remarkable is the difference between GDC en RDC, the departments which lie close to each other, on the economic advancement. In the RDC this is seen as more important compared to GDC.

Item	Discover		GDC		RDC		CFC		Other	
	Mean	SD	Mean	Mean	SD	SD	Mean	SD	Mean	SD
To innovate and propose new ideas	4.13	.817	3.83	.996	4.13	.833	4.21	.779	4.03	.964
To keep abreast of new developments	3.97	.762	3.87	.749	3.82	.950	4.08	.776	4.13	.730
To advance economically	3.83	.878	3.63	.679	3.88	.893	3.79	.658	3.93	.944
To meet with other scientists/engineers to discuss ideas	3.88	.933	3.87	.806	3.70	1.104	3.83	.963	3.73	1.015
To experiment in new and novel areas of scientific work	3.75	.993	3.63	1.062	3.24	1.251	4.00	.978	3.37	1.098
To move into a management career	3.69	1.041	3.24	1.119	3.52	1.004	3.00	.885	3.60	.968
To contribute to basic scientific knowledge	3.25	1.015	3.04	.868	3.03	1.132	3.50	.834	2.97	1.098
To enhance social status and prestige	2.92	.927	2.80	.869	2.66	.971	2.96	.751	3.13	.973
To interact with external environment (Open Innovation)	3.68	.976	3.52	.836	3.38	1.157	3.38	.824	3.67	1.028
Valid N (listwise)	***104***		***45***		***31***		***24***		***30***	

Table 18. Split to department for job practice

Appendix 3.2 displays the differences between work levels and marital status. There are relatively minor differences between work levels. Logically, the CLA respondents attach

more value to the item To move into a management career, where this is decreasingly less important to management and higher management. This is also the case for the item To innovate and propose new ideas. Remarkable is that respondents of work level CLA and management are congenial about experimenting in new and novel areas of scientific work (3.6 and 3.62), but higher management think this is more important (3.82).
Singles and respondents with a family disagree on the degree of importance for the items To innovate and propose new ideas (4.27 vs 3.94), To experiment in new and novel areas of scientific work (3.88 vs 3.55), and To interact with external environment (3.75 vs 3.48). Single and partners meet against the family respondents on the preference for the item To meet with other scientists/engineers to discuss ideas (3.98 and 4 vs 3.69). In turn, to move into a management career partners is perceived as more important to single versus partner/family respondents (3.68 vs 3.48 and 3.45).

Use of sources

Any information source, ranging from a company's brand advertisement to friends' word of mouth, has the potential to affect a persons' employer knowledge. Therefore it is necessary to understand with what purpose sources are being used.

The first notable outcome of the use of sources is the overall high standard deviations, which suggest that the respondents are very divided on their answers (see table 19). The strongest source, personal network, has also the lowest standard deviations with the exception of learn about developments in the R&D field.
Given the results on getting information about job opportunities the respondents use besides their personal network mainly R&D field related sites, job boards and corporate websites. Magazines/journals, social media and events seem not to be the first place to get their information. Again, the respondents are very divided on this subject. The same accounts for keeping updated with existing friends. This item shows that social media are being used actively, but with a really high standard deviation. Social media is also used for maintaining existing professional contacts, along with events and the personal network. For getting information about companies the respondents use mainly magazines/journals, R&D field related sites, corporate websites, events and their personal network. For learning about developments in the R&D field the R&D professionals use magazines/journals, R&D field related sites, events and their personal network. It is remarkable that the source magazines/journals has a normal standard deviation for this purpose.

	Getting information about job opportunities. vacancies		Keeping updated with existing friends (private)		Maintaining existing professional contacts		Getting information about companies. potential employers		Learn about developments in the R&D field	
Source	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Magazines/journals	3.19	1.119	2.05	1.098	2.52	1.259	3.43	1.016	4.13	.884
R&D field related sites	3.48	1.154	2.17	1.111	2.82	1.227	3.55	1.102	3.97	1.021
Job boards	3.56	1.056	2.01	1.080	2.18	1.092	3.19	1.169	2.10	1.021
Corporate website	3.45	.999	2.00	1.121	2.46	1.232	3.80	1.120	2.87	1.167
Social media	2.96	1.143	3.51	1.245	3.33	1.129	3.04	1.207	2.58	1.178
Events	2.98	.961	3.19	1.203	3.83	.986	3.49	1.079	3.58	1.188
Personal network	4.24	.759	4.48	.755	4.37	.748	4.02	.912	3.61	1.152
Valid N (listwise)	***235***		***229***		***215***		***220***		***229***	

Table 19. Means and std. deviations use of sources (Van Velzen, 2011).

For all purposes linked to the sources right-sided one-sample t-tests were run, which can be found in Appendix 4.1. The means of the sources for the purpose Getting information about job opportunities differ all significantly for the test value 3.25, except for Magazines/journals ($p = .208$). For the purpose Keeping updated with existing friends the source Events scores p

= .228. The mean of the source Social media scores p = .1425 for Maintaining existing professional contacts. Getting information about companies results for the source Job boards in p = .218, and all the means for the purpose Learn about developments in the R&D field differ significantly from the test value. On basis of these data there is enough evidence to state that the means of the majority of sources differ significantly from 3.25, with α = .05.

Following the outcome of the use of sources table 11 provides an overview of the internal consistency of all the items. The Cronbach's alpha of Keeping updated with existing friends, Maintaining existing professional contracts and Learn about developments in the R&D field are very strong. The other two, Getting information about job opportunities and Getting information about companies, show a mediocre Cronbach's alpha, even when sources are deleted. Therefore, these two items are further left out of the analysis.

Item	Excluded /N	Cronbach's alpha	N of items	Deleted Item	Cronbach's alpha after deleted item
Getting information about job opportunities. vacancies	4/239	.499	7	Magazines /Journals	.543
Keeping updated with existing friends (private)	24/239	.737	7		
Maintaining existing professional contacts	10/239	.723	7		
Getting information about companies. potential employers	19/239	.556	7	Social media	.572
Learn about developments in the R&D field	10/239	.731	7		

Table 20. Internal consistency dimensions use of sources.

A descriptive analysis of the means and standard deviations for the purpose Keeping updated with existing friends into generations results in two significant differences (see Appendix 4.2). Social media are increasingly more important to generation Y (4.1) than respectively generation X (3.48) and Babyboom (3.34). The other way around, the Babyboomers attach increasingly more value to events (3.37) than generation X (3.17) and Y (2.93). A split into departments demonstrates that respondents from the RDC value social media and events more than the other departments Discover, GDC and CFC. The CLA-respondents deem social media increasingly more important (3.68) than respectively management (3.58) and higher management (2.94), just like singles (3.8) versus respondents with a partner (3.51) or family (3.42).
For the purpose Maintaining existing professional contacts social media are again increasingly more important to generation Y (3.5) compared to respectively generation X (3.42) and Babyboom (3.11). Babyboomers and generation X agree on the importance of events (3.86) unlike generation Y (3.62). Also for this purpose the RDC differs significantly from Discover, GDC and CFC for the sources social media and events (3.68 and 4.03). A split into work level shows that social media are increasingly perceived as more important by CLA-respondents (3.46) than respectively management (3.34) and higher management (3.06). Remarkable is the difference between management and higher management on events for maintaining existing professional contacts (3.73 vs 4.06). The use of events and the personal network are increasingly more important to singles (4.13 and 4.58) compared to respectively respondents with a partner (3.91 and 4.49) or family (3.69 and 4.23). Singles (3.45) and partners (3.51) differ significantly from respondents with a family (3.2) for using social media. All these tables can be found in Appendix 4.3.

For the further analysis of the purpose Learning about developments in the R&D field I only took the sources Magazines/Journals, R&D sites, Events and Personal network, because these sources showed a significant degree of importance in the general analysis. The importance of all four sources differ significantly for the Year of birth (see table 21). The use

of Magazines/Journals and R&D field related sites show minor, but significant differences between the generations. Mainly the use of events and personal network differs tremendously. Whereas these sources are insignificant for generation Y, they are increasingly more important to generation Babyboom than to generation X. Remarkably the standard deviations within the generations are higher for generation X and Y, which indicates that Babyboomers agree more on the perceived importance.

	< 1960		1961-1980		> 1981	
Source	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Magazines/journals	4.29	.671	4.08	.950	4.00	.926
R&D field related sites	4.07	.868	3.97	1.034	3.83	1.256
Events	3.76	.817	3.67	1.223	2.79	1.346
Personal network	3.83	.653	3.67	1.206	2.97	1.375
Valid N (listwise)	***58***		***144***		***29***	

Table 21. Split to year of birth for Learn about developments in the R&D field

Between departments (see Appendix 4.4) is the use of Magazines/journals more important to Discover (4.27) and CFC (4.35) than it is to GDC (4.02) and RDC (3.97). These departments agree on the importance of R&D field related sites, except RDC (3.81) which significantly differs from Discover (4.09). There are no significant differences between the work levels on learning about developments in the R&D field. All four selected sources differ significantly on the Marital status. Singles increasingly perceive the sources R&D field related sites and personal network as more important than respectively respondents with a partner or family (see Appendix 4.4).

V Conclusions and recommendations

Conclusions

Following the recruitment model of Breaugh & Starke (2000) I wanted to know what can be done to match employer and job seeker in practice. In simplest terms, what is the message and how do we communicate it? Following the sub research questions I describe below the important work values of R&D professionals, the influence of generational differences on the perception of work values, and the function of recruitment sources.

Work values mid-career R&D professionals
This section describes for each dimension the most relevant work values for the mid-career R&D professionals at Unilever R&D. All together, table 22 displays the most important work values of the mid-career R&D professionals overall.

Dimension	Work values
Corporate image	Career/advancement opportunities Approximate salary offered Current employee satisfaction Innovation by the company
Working conditions	Attractive compensation Career perspective Learning opportunities Challenges at work Flexible working
Job practice	To innovate and propose new ideas To keep abreast of new developments

Table 22. Work values mid-career R&D professionals URDV

The first sub research question formulated which work values in terms of corporate image and job attributes characterize the mid-career R&D professional. The items in the dimension corporate image were based on Maurer et al. (1992), added with sustainability of the company, social involvement in society and innovation by the company. On basis of the general analysis we can conclude that preferences from the target group have been developed over time. There are major differences with the results of the earlier research by Maurer et al. (1992), mainly how both groups perceive the potential employer reputation. Although it is still perceived as important enough, R&D professionals nowadays prefer a pleasant place to work. For recruitment based on department special actions needs to be taken for CFC's. Respondents from this department have less of no interest in growth potential, sustainability or social involvement. This social involvement is also divided among the work levels, where higher management is very little interested in this subject.
The second dimension was about the perception of working conditions. When communicating about working conditions for R&D professional recruiters have to focus on an attractive compensation, career perspective, learning opportunities, challenges at work and flexible working. Actually these are 'normal' preferences for work, therefore corporate culture, personal relationships and working abroad are able to add value to these circumstances. Working conditions do not differ significantly between departments. Singles and partners, however, attach more value to flexible working than their colleagues with a family.
Finally the third dimension, job practice, demonstrates that To innovate and propose new ideas and To keep abreast of new developments are the most important assets in the work of the R&D professional within Unilever R&D. Further they are very modest on their preferences compared to their engineering counterparts in the '80s/90's (Watson &

Meiskens, 1991). The R&D professionals nowadays prefer experimenting in novel areas and deliberating with others. Based on departments, the way a job is practiced is mainly different for R&D professionals in the CFC's. These respondents declare that they want to contribute to basic scientific knowledge and experiment in new and novel areas. In Discover the interaction with the external environment is really distinctive. There were no major differences between work levels and marital status. Remarkable, however, is that respondents of work level CLA and management are congenial about experimenting in new and novel areas of scientific work, whereas higher management values this more. To move into a management career is perceived as most important to singles.

Generational differences

The second research question formulated what influence generations have on the perception of work values. This was hypothesized in the research model with specific focus on the most important items from earlier research and additional items from Unilever R&D. Appendix 5 displays an overview of all the hypotheses with corresponding decisions. Generational differences have been assessed in two ways: first there was the hypothesis testing via an One Way Anova and, if applicable, a Bonferroni test. These two tests focused only on the most important items and resulted in accepting or rejecting the hypotheses by stating whether the mean differences differ significantly from each other. Secondly, a descriptive analysis demonstrated in what way the generations differ from each other for all items in the dimension.

Following the hypothesis testing for the dimension corporate image only H1a (Career/advancement opportunities) was accepted. H1b to H1e (Potential employer reputation, Financial stability, Sustainability, and Social involvement) demonstrated insignificant differences between the means. Following the descriptive analysis all these items score above the chosen significance level of 3.25. So, significant important to mid-career professionals, but there is no age effect in the way these items are perceived.

H1f (Innovation) was rejected on basis of the Bonferroni test. This test showed that the hypothesis was true exactly the other way around; Innovation by the company is increasingly perceived as more important by generation Babyboom than generation X and Y. The descriptive analysis demonstrated interesting results. Generation Y deems sustainability as less important than their elder counterparts. It was also hypothesized that generation Babyboom values these items increasingly more than generation X and Y on basis of their capability to understand the urge of sustainability. However the differences have showed to be insignificant. Furthermore, results showed that generation Y is mainly interested in career opportunities with an interesting salary in a known company, where employees are satisfied. Their predecessors, generation X, also value career opportunities and a good salary, but have more interest in innovations. It seems that the older the R&D professional becomes, the more he is interested in seeking beyond traditional boundaries of innovation. Their work experience might play a role in their perspective on innovation, because over the years they are able to put innovation in a broader context and therefore value specific innovation more than 'normal' day-to-day innovations.

In the dimension working conditions there were four hypotheses formulated. H2c (Flexible working) was rejected on basis of the One Way Anova. The other hypotheses were tested with a Bonferroni test, where for H2a was confirmed that Attractive compensation is increasingly perceived as more important by generation Y than generation X and Babyboom. This does not account for career perspective (H2b) and working abroad (H2d). Generations X and Y are congenial in the way they perceive career perspective as a working condition; they both think working abroad is important, in contrary to generation Babyboom. For working abroad the direction of value perception is according hypothesis, however, the differences between generations are according the Bonferroni test not significant. So, working abroad is more important to younger employees, but not significantly more than

older employees. In an aging context attractive compensation, career perspective, learning opportunities, and flexible working are really important to generation Y. The challenges at work are really important to R&D professionals from generation X.
For the dimension job practice there were also four hypotheses formulated. Only H3a (To innovate and propose new ideas) was significant according the One Way Anova test and was eventually rejected on basis of the Bonferroni test. The descriptive analysis showed that the R&D professionals from Unilever R&D prefer experimenting in novel areas and deliberating with others. Given the generational differences these preferences are mainly based on generation Babyboom, as generations X and Y perceive them as less important. Following the preference on, for example, sustainability it seems that older R&D professionals are able to look at a broader perspective of innovation. They already know about the core of technological development and are therefore better able to respond to out-of-the-box innovations.

The vast majority of the hypotheses asserted that the items were increasingly perceived as more important by generation Y than generation X and Babyboom. The One Way Anova test showed whether there are differences in the way the three generations perceive the most important items from the dimensions. Eight hypotheses (Potential employer reputation, Financial stability, Sustainability, Social involvement, Flexible working, To advance economically, To keep abreast of new developments, and To interact with external environment) were rejected on basis of this test, concluding there is no age effect in the perception of these items. The other six hypothesized items (Career/advancement opportunities, Innovation by the company, Attractive compensation, Career perspective, Working abroad, To innovate and propose new ideas) showed an age effect. On basis of these results the hypothesized influence of age on the perception of work values can be partially proven. Age does have an influence on the perception of work values, but this only accounts for career, reward, innovation and international opportunities.

Recruitment sources
The third and final sub research question asserted which recruitment sources can be used to communicate with mid-career R&D professionals. By far the strongest source for the R&D professionals is the personal network. In all overviews the personal network scores really high as a source. For keeping updated with existing friends social media are, not surprisingly, a frequent used source for generation Y, followed by generation Y. Babyboomers prefer personal contact in their network or at events. Social media are also quite popular within the RDC and among the CLA-population.
For maintaining existing professional contacts social media are again valuable to generation Y. More experienced employees from generation X and Babyboom rather use events for this purpose. Employees from RDC maintain their contacts especially with social media and events. Social media is also popular among CLA-respondents, whereas events are attained by higher management.
For learning about developments in the R&D field magazines are pre-eminently the most important source. Generations Babyboom and X are used to also learning via events and personal network. The magazines play also an important role for the departments Discover and CFC. GDC and RDC also value magazines but to a lesser extent. All departments agree on the importance of R&D field related sites for learning about developments, which is undisputed due to the role of internet in human's lives.

Conclusions above mentioned the most important findings in this research in terms of the three sub research questions. The hypothesized effect age on the perception of corporate image, working conditions and job practice have partially been proven. Preferences are further specified by means of a descriptive analysis. Following the main research question, "*What are the work values of mid-career R&D professionals and how can these be*

communicated to the labour market?", the next section provides a tool with which Unilever is able to take structural actions in employer branding Unilever R&D.

Recommendations

The findings in this research can be used to align general recruitment messages with the target group. The results have shown there are overall characteristics which are relevant to R&D professionals and characteristics specific to age, department, work level or home situation. The standard work values can be found in table 22. Subsequently, it has partially been proven that there is an age effect in the perception of work values, most notably in career opportunities, innovation, attractive compensation and working abroad. Younger R&D professionals are interested in reward, career and opportunities abroad. Older R&D professionals can be attracted with the innovation assets of the company.

Table 23 displays additional preferences to the standard work values divided through generations and department. Differences between these two variables are assessed by formulating what is significantly different compared to the other generations or departments. In other words, with which the generation or department distinguishes itself towards others. Data analysis showed that differences between work level or marital status are very small. In addition, it is impracticable to take the marital status into account when recruiting for talent. Therefore these variables are not included in the table. However, I provide some guidelines for work level and marital status.

		Discover	**GDC/RDC**	**CFC**
Generation Y	*Corporate image*	+ Employer reputation + Employee satisfaction	+ Employee satisfaction + Employer reputation	+ Employee satisfaction + Employer reputation - Sustainability
	Working conditions	+ Learning opportunities + Flexible working + Working abroad	+ Learning opportunities + Flexible working	+ Learning opportunities + Flexible working
	Job practice	+ Open Innovation + Management career	+ Management career	+ Contribute to basic scientific knowledge - Management career
Generation X	*Corporate image*	+ Financial stability + Growth potential company	+ Growth potential company	
	Working conditions	+ Challenges at work + Corporate culture + Working abroad	+ Challenges at work + Corporate culture	+ Challenges at work - Social involvement
	Job practice	+ Open Innovation + Management career	- Contribute to basic scientific knowledge + Management career	+ Contribute to basic scientific knowledge - Management career
Generation Babyboom	*Corporate image*	+ Sustainability + Financial stability + Growth potential company	+ Sustainability + Growth potential company	
	Working conditions	+ Challenges at work + Corporate culture	+ Challenges at work + Corporate culture	+ Challenges at work
	Job practice	+ Keep abreast of new developments + Deliberating with others + Open Innovation	+ Deliberating with others - Contribute to basic scientific knowledge	+ Keep abreast of developments + Experimenting in new areas + Deliberating with others + Contribute to basic scientific knowledge - Management career

Table 23. Additional preferences split to generation and department

For corporate image career advancement, salary and social involvement are important to the CLA-population. Regarding working conditions attractive compensation, career perspective and personal relationship are preferred by the CLA population. Flexible working is preferred best by singles and R&D professionals with a partner. Singles prefer working abroad. Regarding the way the job is practiced the CLA-population prefers to innovate and propose new ideas, and to move into a management career. WL3+ prefers to experiment in new and novel areas of scientific work. The innovation and proposal of new ideas should also be taken into account for singles, just like to experiment in new and novel areas, and Open Innovation.

Following the knowledge what is important to the R&D professional from a certain age and a certain department, the next challenge is how this can be communicated. Data analysis showed that the personal network is in all cases really important to the R&D professional. Whether it is for learning about developments in the R&D field or maintaining contact. Table 24 provides an overview of other relevant recruitment sources, again split to generation and department. Also for recruitment sources the differences between work level or marital status were too small or irrelevant for this overview. Because two purposes, namely getting information on job opportunities and companies were insignificant, this overview is based on the recruitment sources that are professionally being used for information exchange. Therefore, this is useful for employer branding use only. The purposes that were related to direct recruitment were unfortunately insignificant.
For employer branding, magazines and journals, the traditional sources, are still very popular amongst R&D professionals and can be used to tell about Unilever's R&D activities. Innovation has high priority at Unilever, so this offers a great challenge for the experienced R&D professionals. As social media are becoming a more powerful sourcing channel these can embedded in communications on developments and activities. But still as an additional source, because the events are still very popular amongst the older and most experienced R&D professionals.

	Discover	**GDC/RDC**	**CFC**
Generation Y	+ Magazines + R&D sites	+ R&D sites + Social media	+ Magazines + R&D sites
Generation X	+ Magazines + R&D sites + Events	+ R&D sites + Social media + Events	+ Magazines + R&D sites + Events
Generation Babyboom	+ Magazines + R&D sites - Social media + Events	+ R&D sites + Social media	+ Magazines + R&D sites - Social media + Events

Table 24. Relevant recruitment sources split to generation and department

As a follow-up, it is important for Unilever R&D Vlaardingen to promote its own research and development activities and better focus this on the target group. Unilever occupies the 6th place of the top ten R&D organizations in the Netherlands, behind Philips, ASML, NXP, DSM and Océ. More notably, Unilever is famous from its commercials and A-brands, not from its progressive product developments. R&D professionals prefer a challenging work place and this is pre-eminently possible at such a R&D facility. Unilever R&D has tremendous opportunities, so they only have to grab them.

VI Discussion

The research model asserted that the perception of work values through the three dimensions were influenced by generational differences. However, data analysis showed that generational differences have partial influence on this perception of work values. The expected influence of generations followed from earlier research on generational characteristics and work values and it seems logic that there is an age-effect on the opinion and life perspective of people. In line with earlier research there are specific work values which show an age effect, such as reward and career opportunities.
As mentioned in the research design, the study focuses on two of three enablers of job decisions, namely corporate image and job attributes. Literature provides evidence that the people within the company have also significant effect on job decision. This variable is being left out of scope, whilst it can be a dependent variable. However, due to the fact that literature also has focused on people within the company alone, I assume that the dependency of this variable can be minimized. Besides the omitted variable, the recruitment sources are limited to a classification (i.e. traditional, online and real-time) and specified to the most generic attributes. This is done to get a total overview of the sourcing possibilities instead of a too detailed overview.
This research is conducted within the Unilever R&D site in Vlaardingen. Although this site consists of about 800 R&D professionals from more than forty nationalities, data analysis limits to this subjective data set. Moreover, as this target group already have a job, the outcome of this research could be biased. Respondents have to answer questions on job orientation in a 'what if' scenario. This is pre-empted by asking the questions in a neutral form. The respondents are being asked to state for which purpose they would use certain sources. Furthermore, in February 2011 there was an announcement for a reorganization which leads to redundancy on director level. It is possible that this also leads to a negative response due to emotional involvement. I assume that this bias has little to no influence on the outcome of this research.

Unilever R&D and other interested can inquire more information on certain topics. It is worth the effort to investigate desired career opportunities from R&D professionals. To generation X and Y this is from above average importance. Unilever has a tool which provides a career framework with possible career routes, but I wonder whether this is used accordingly in practice. I would advice to investigate according to the Peter Principle what the career advancement wishes of the R&D professionals are, both for entry level and mid-careers. It is interesting to know what Both youngest generations in the workforce also state that salary is of great importance. Following this statement I would suggest to benchmark the compensation package for Unilever R&D to learn whether this package is still competitive. Furthermore, I am very interested to what degree the work values described in this research exactly differ from other disciplines. I assume, following the 'logical' work values from R&D professionals, that these do differ significantly from, for example, Sales persons. Finally, I would personally be interested in how generational differences are commenced. Literature proved that generations differ on their characteristics and work values and this research confirmed this for specific work values. I would suggest to study what the underlying factors for these differences are. Why does age play a role in the perception of work values?

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Appendix

1. Corporate image

1.1 One-Sample T-test for corporate image

One-Sample Test

	Test Value = 3.25					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference Lower	Upper
Approximate salary offered	16,909	238	,000	,800	,71	,89
Potential employer reputation	12,062	238	,000	,587	,49	,68
Employee benefits of the company	9,623	238	,000	,499	,40	,60
Financial stability of company	10,825	237	,000	,599	,49	,71
Growth potential of employer	8,122	238	,000	,470	,36	,58
Current employee satisfaction	14,484	237	,000	,729	,63	,83
Sustainability of the company (environmental)	3,409	237	,001	,216	,09	,34
Social involvement in society	2,828	238	,005	,189	,06	,32
Innovation by the company	15,792	238	,000	,821	,72	,92

1.2 Split to WL and Marital status

Item	CLA		Management		Higher management	
	Mean	SD	Mean	SD	Mean	SD
Career/advancement opportunities	4.45	.718	4.15	.882	4.00	.739
Approximate salary offered	4.20	.759	4.01	.725	3.91	.668
Potential employer reputation	3.87	.765	3.82	.762	3.85	.702
Employee benefits of the company	3.88	.758	3.68	.849	3.74	.666
Financial stability of company	3.86	.879	3.87	.853	3.76	.819
Growth potential of employer	3.94	.784	3.60	.937	3.74	.864
Current employee satisfaction	4.04	.695	3.95	.840	3.97	.674
Sustainability of the company (environmental)	3.53	.906	3.43	1.037	3.50	.896
Social involvement in society	3.64	.907	3.38	1.082	3.26	1.053
Innovation by the company	4.13	.784	4.05	.837	4.03	.717
Valid N (listwise)	***68***		***134***		***34***	

Item	Single		Partner		Family	
	Mean	SD	Mean	SD	Mean	SD
Career/advancement opportunities	4.22	.909	4.27	.736	4.18	.858
Approximate salary offered	4.05	.740	4.17	.609	3.98	.787
Potential employer reputation	3.76	.767	3.77	.680	3.90	.785
Employee benefits of the company	3.90	.831	3.73	.810	3.71	.788
Financial stability of company	3.80	.843	3.83	.810	3.87	.885
Growth potential of employer	3.78	.852	3.68	.875	3.72	.923
Current employee satisfaction	3.90	.700	3.97	.774	4.01	.805
Sustainability of the company (environmental)	3.51	.978	3.54	.908	3.41	1.022
Social involvement in society	3.59	.948	3.52	.939	3.35	1.108
Innovation by the company	4.17	.834	4.18	.703	3.98	.840
Valid N (listwise)	***41***		***168***		***124***	

2. Working conditions

2.1 One-Sample T-test for working conditions

One-Sample Test

	Test Value = 3.25					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Attractive compensation	15,890	237	,000	,788	,69	,89
Career perspective	17,270	238	,000	,922	,82	1,03
Learning opportunities	19,391	238	,000	,917	,82	1,01
Corporate culture	8,743	238	,000	,457	,35	,56
Personal relationships	10,542	238	,000	,566	,46	,67
Challenges at work	17,685	238	,000	,930	,83	1,03
Freedom of publication externally	-6,175	238	,000	-,438	-,58	-,30
Flexible working within the company	14,714	238	,000	,871	,75	,99
Working abroad	1,323	238	,187	,085	-,04	,21

2.2 Split to departments

Item	Discover		GDC		RDC		CFC		Other	
	Mean	SD	Mean	Mean	SD	SD	Mean	SD	Mean	SD
Attractive compensation	4.01	.822	4.09	.626	4.03	.740	3.96	.624	4.13	.900
Career perspective	4.23	.854	4.09	.755	4.06	.827	4.13	.741	4.27	.907
Learning opportunities	4.20	.749	4.20	.582	4.03	.847	3.92	.717	4.37	.718
Corporate culture	3.76	.857	3.57	.720	3.85	.939	3.50	.780	3.73	.583
Personal relationships	3.82	.848	3.72	.911	3.82	.808	3.83	.816	3.93	.691
Challenges at work	4.24	.823	4.09	.784	4.09	.765	4.17	.761	4.23	.935
Flexible working within the company	4.20	.909	4.09	.812	4.06	1.059	4.08	.881	4.00	.983
Working abroad	3.52	1.016	3.22	.917	3.21	.992	3.00	1.063	3.27	.868
Valid N (listwise)	***106***		***46***		***32***		***24***		***30***	

2.3 Split to WL and Marital status

Item	CLA		Management		Higher management	
	Mean	SD	Mean	SD	Mean	SD
Attractive compensation	4.16	.740	4.02	.765	3.85	.795
Career perspective	4.32	.717	4.12	.878	4.09	.793
Learning opportunities	4.26	.721	4.13	.735	4.15	.744
Corporate culture	3.78	.820	3.69	.794	3.62	.853
Personal relationships	3.87	.803	3.83	.865	3.65	.734
Challenges at work	4.35	.682	4.09	.882	4.21	.729
Freedom of publication externally	2.81	1.088	2.82	1.104	2.79	1.122
Flexible working within the company	4.20	.964	4.10	.910	4.06	.851
Working abroad	3.45	.916	3.28	1.045	3.32	.912
Valid N (listwise)	***69***		***136***		***33***	

Item	Single		Partner		Family	
	Mean	SD	Mean	SD	Mean	SD
Attractive compensation	4.17	.863	4.10	.663	3.96	.781
Career perspective	4.27	.923	4.14	.703	4.16	.858
Learning opportunities	4.34	.617	4.14	.780	4.13	.735
Corporate culture	3.68	.850	3.73	.792	3.70	.810
Personal relationships	3.76	.799	3.92	.841	3.78	.835
Challenges at work	4.32	.756	4.24	.706	4.10	.880
Freedom of publication externally	2.95	1.224	2.76	.978	2.80	1.122
Flexible working within the company	4.24	.830	4.25	.788	4.01	.996
Working abroad	3.59	1.072	3.28	.929	3.28	.991
Valid N (listwise)	***41***		***70***		***127***	

3. Job practice

3.1 One-Sample T-test for job practice

One-Sample Test

	Test Value = 3.25					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
To innovate and propose new ideas	14,430	237	,000	,817	,71	,93
To keep abreast of new developments	14,029	238	,000	,712	,61	,81
To advance economically	10,347	238	,000	,558	,45	,66
To meet with other scientists/engineers to discuss ideas	9,476	238	,000	,578	,46	,70
To experiment in new and novel areas of scientific work	5,568	238	,000	,386	,25	,52
To move into a management career	3,624	237	,000	,246	,11	,38
To contribute to basic scientific knowledge	-1,208	238	,228	-,078	-,21	,05
To enhance social status and prestige	-5,982	235	,000	-,356	-,47	-,24
To interact with external environment (Open Innovation)	5,141	236	,000	,324	,20	,45

3.2 Split to WL and Marital status

Item	CLA		Management		Higher management	
	Mean	SD	Mean	SD	Mean	SD
To innovate and propose new ideas	4.16	.840	4.06	.876	3.91	.933
To keep abreast of new developments	3.93	.693	3.98	.821	3.97	.834
To advance economically	3.93	.792	3.75	.859	3.79	.808
To meet with other scientists/engineers to discuss ideas	3.93	.863	3.74	.998	4.00	.853
To experiment in new and novel areas of scientific work	3.62	1.016	3.60	1.091	3.82	1.114
To move into a management career	3.69	.981	3.43	1.045	3.35	1.152
To contribute to basic scientific knowledge	3.12	.916	3.18	1.069	3.24	.923
To enhance social status and prestige	2.96	.937	2.88	.926	2.82	.834
To interact with external environment (Open Innovation)	3.65	.888	3.55	1.023	3.50	.929
Valid N (listwise)	***66***		***134***		***34***	

Item	Single		Partner		Family	
	Mean	SD	Mean	SD	Mean	SD
To innovate and propose new ideas	4.27	.867	4.17	.756	3.94	.924
To keep abreast of new developments	4.05	.773	4.03	.717	3.90	.825
To advance economically	3.80	.954	3.90	.740	3.76	.842
To meet with other scientists/engineers to discuss ideas	3.98	.908	4.00	.845	3.69	.990
To experiment in new and novel areas of scientific work	3.88	1.005	3.65	1.057	3.55	1.096
To move into a management career	3.68	1.047	3.48	.998	3.45	1.074
To contribute to basic scientific knowledge	3.22	1.084	3.18	.961	3.15	1.009
To enhance social status and prestige	3.00	.934	2.86	.873	2.88	.935
To interact with external environment (Open Innovation)	3.75	.927	3.64	.933	3.48	.999
Valid N (listwise)	***39***		***70***		***125***	

4. Use of sources

4.1 One-Sample T-tests for use of sources

4.1.1 Getting information about job opportunities. vacancies

One-Sample Test

	Test Value = 3.25					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Magazines/journals	-,814	235	,416	-,059	-,20	,08
R&D field related sites	3,046	235	,003	,229	,08	,38
Job boards	4,499	235	,000	,309	,17	,44
Corporate website	3,063	235	,002	,199	,07	,33
Social media	-3,925	234	,000	-,293	-,44	-,15
Events	-4,336	235	,000	-,271	-,39	-,15
Personal network	20,079	235	,000	,992	,89	1,09

4.1.2 Keeping updated with existing friends

One-Sample Test

	Test Value = 3.25					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Personal network	20,079	235	,000	,992	,89	1,09
Magazines/journals	-16,581	230	,000	-1,198	-1,34	-1,06
R&D field related sites	-14,774	231	,000	-1,078	-1,22	-,93
Job boards	-17,577	233	,000	-1,241	-1,38	-1,10
Corporate website	-16,993	233	,000	-1,246	-1,39	-1,10
Social media	3,262	234	,001	,265	,10	,42
Events	-,746	234	,456	-,059	-,21	,10
Personal network	24,889	232	,000	1,231	1,13	1,33

4.1.3 Maintaining existing professional contacts

One-Sample Test

	Test Value = 3.25					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Magazines/journals	-8,712	222	,000	-,734	-,90	-,57
R&D field related sites	-5,284	223	,000	-,433	-,59	-,27
Job boards	-14,734	224	,000	-1,072	-1,22	-,93
Corporate website	-9,648	224	,000	-,792	-,95	-,63
Social media	1,073	226	,285	,080	-,07	,23
Events	8,844	224	,000	,581	,45	,71
Personal network	22,573	227	,000	1,118	1,02	1,22

4.1.4 Getting information about companies. potential employers

One-Sample Test

	Test Value = 3.25					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Magazines/journals	2,757	229	,006	,185	,05	,32
R&D field related sites	4,075	230	,000	,295	,15	,44
Job boards	-,781	226	,436	-,061	-,21	,09
Corporate website	7,532	232	,000	,553	,41	,70
Social media	-2,665	231	,008	-,211	-,37	-,06
Events	3,430	230	,001	,244	,10	,38
Personal network	12,914	232	,000	,771	,65	,89

4.1.5 Learn about developments in the R&D field

One-Sample Test

	Test Value = 3.25					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Magazines/journals	15,194	233	,000	,878	,76	,99
R&D field related sites	10,791	233	,000	,720	,59	,85
Job boards	-17,261	233	,000	-1,152	-1,28	-1,02
Corporate website	-5,005	231	,000	-,384	-,53	-,23
Social media	-8,694	231	,000	-,672	-,82	-,52
Events	4,264	233	,000	,331	,18	,48
Personal network	4,707	232	,000	,355	,21	,50

4.2 Keeping updated with existing friends. split to year of birth

Item	< 1960		1961-1980		> 1981	
	Mean	SD	Mean	SD	Mean	SD
Magazines/journals	2.4	0.997	1.97	1.113	1.76	1.091
R&D field related sites	2.6	1.083	2.07	1.069	1.93	1.193
Job boards	2.22	1.131	1.97	1.047	1.79	1.114
Corporate website	2.2	1.186	2	1.097	1.66	1.078
Social media	3.34	1.108	3.48	1.27	4.1	1.175
Events	3.37	0.963	3.17	1.232	2.93	1.387
Personal network	4.37	0.74	4.52	0.74	4.52	0.871
Valid N (listwise)	***57***		***141***		***29***	

4.3 Maintaining existing professional contacts. split to year of birth. department. WL and marital status

Source	< 1960		1961-1980		> 1981	
	Mean	SD	Mean	SD	Mean	SD
Magazines/journals	2.96	1.166	2.56	1.272	1.5	0.648
R&D field related sites	3.08	1.035	2.85	1.229	2.27	1.373
Job boards	2.34	1.143	2.18	1.055	1.92	1.164
Corporate website	2.7	1.119	2.51	1.252	1.81	1.132
Social media	3.11	1.1	3.42	1.094	3.5	1.208
Events	3.86	0.743	3.86	1.033	3.62	1.134
Personal network	4.47	0.63	4.34	0.813	4.31	0.618
Valid N (listwise)	***51***		***136***		***26***	

Source	Discover		GDC		RDC		CFC		Other	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Magazines/journals	2.57	1.335	2.38	1.114	2.57	1.165	2.55	1.317	2.46	1.319
R&D field related sites	2.89	1.297	2.8	1.133	2.7	1.236	2.55	1.146	2.89	1.197
Job boards	2.19	1.143	1.98	0.965	2.23	1.117	1.9	0.968	2.59	1.086
Corporate website	2.36	1.177	2.38	1.302	2.55	1.15	2.2	1.152	3	1.363
Social media	3.2	1.211	3.24	1.048	3.68	1.077	3.25	0.967	3.62	1.049
Events	3.88	0.93	3.79	1.013	4.03	0.912	3.43	1.121	3.79	1.082
Personal network	4.35	0.74	4.3	0.765	4.52	0.626	4.29	0.845	4.43	0.817
Valid N (listwise)	***97***		***41***		***30***		***20***		***27***	

Source	CLA		Management		Higher management	
	Mean	SD	Mean	SD	Mean	SD
Magazines/journals	2.6	1.339	2.41	1.215	2.74	1.263
R&D field related sites	2.85	1.314	2.76	1.18	2.97	1.243
Job boards	2.14	1.176	2.22	1.064	2.09	1.055
Corporate website	2.51	1.378	2.42	1.154	2.5	1.261
Social media	3.46	1.226	3.34	1.022	3.06	1.301
Events	3.91	1.042	3.73	0.98	4.06	0.864
Personal network	4.37	0.762	4.4	0.733	4.26	0.79
Valid N (listwise)	***61***		***121***		***33***	

Source	Single		Partner		Family	
	Mean	SD	Mean	SD	Mean	SD
Magazines/journals	2.63	1.254	2.52	1.176	2.48	1.309
R&D field related sites	3.21	1.08	2.73	1.185	2.74	1.277
Job boards	2.38	1.079	2.2	1.129	2.1	1.076
Corporate website	2.4	1.15	2.56	1.22	2.42	1.27
Social media	3.45	1.085	3.51	1.017	3.2	1.19
Events	4.13	0.615	3.91	0.98	3.69	1.063
Personal network	4.58	0.594	4.49	0.504	4.23	0.873
Valid N (listwise)	***38***		***61***		***116***	

4.4 Learn about developments in the R&D field. split to departments

Source	Discover		GDC		RDC		CFC		Other	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Magazines/journals	4.27	0.85	4.02	0.83	3.97	0.967	4.35	0.832	3.79	0.94
R&D field related sites	4.09	0.86	3.93	1.083	3.81	1.203	3.96	0.976	3.79	1.264
Events	3.55	1.14	3.67	1.117	3.69	1.281	3.48	1.504	3.52	1.153
Personal network	3.63	1.124	3.57	1.167	3.66	1.26	3.5	1.144	3.59	1.181
Valid N (listwise)	***104***		***46***		***32***		***22***		***29***	

Source	Single		Partner		Family	
	Mean	SD	Mean	SD	Mean	SD
Magazines/journals	4.27	.837	4.20	.677	4.04	.991
R&D field related sites	4.24	.860	4.04	.882	3.84	1.122
Events	3.76	1.019	3.68	1.157	3.47	1.252
Personal network	4.00	1.025	3.65	1.055	3.45	1.216
Valid N (listwise)	***41***		***69***		***123***	

5. Decisions hypotheses

5.1 Decisions hypotheses

Hypothesis	Decision
H1a: Career/advancement opportunities is increasingly perceived as more important by generation Y than generation X and Babyboom.	Accepted by Bonferroni test
H1b: Potential employer reputation is increasingly perceived as more important by generation Y than generation X and Babyboom.	Rejected by One Way Anova
H1c: Financial stability is increasingly perceived as more important by generation Babyboom than generation X and Y.	Rejected by One Way Anova
H1d: Sustainability by the company is increasingly perceived as more important by generation Babyboom than generation X and Y.	Rejected by One Way Anova
H1e: Social involvement is increasingly perceived as more important by generation Babyboom than generation X and Y.	Rejected by One Way Anova
H1f: Innovation by the company is increasingly perceived as more important by generation Y than generation X and Babyboom.	Rejected by Bonferroni test
H2a: Attractive compensation is increasingly perceived as more important by generation Y than generation X and Babyboom.	Accepted by Bonferroni test
H2b: Career perspective is increasingly perceived as more important by generation Y than generation X and Babyboom.	Rejected by Bonferroni test
H2c: Flexible working within the company is increasingly perceived as more important by generation X than generation Y and Babyboom.	Rejected by One Way Anova
H2d: Working abroad is increasingly perceived as more important by generation Y than generation X and Babyboom.	Rejected by Bonferroni test
H3a: To innovate and propose new ideas is increasingly perceived as more important by generation Y than generation X and Babyboom.	Rejected by Bonferroni test
H3b: To advance economically is increasingly perceived as more important by generation Y than generation X and Babyboom.	Rejected by One Way Anova
H3c: To keep abreast of new developments is increasingly perceived as more important by generation Babyboom than generation X and Y.	Rejected by One Way Anova
H3d: To interact with external environment is increasingly perceived as more important by generation Babyboom than generation X and Y.	Rejected by One Way Anova