Assessing the value of the baby boom generation in selection procedures

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Abstract

Today's labour market is dominated by the so-called baby boom generation: a large age group of workers who are currently between 45 and 65 years old. Their presence on the labour market is not free of problems. On one hand, there are difficulties with an ageing workforce in many organizations, influencing work floor realities by stiffening the organization, putting pressure on financial resources and by (soon) causing a substantial outflow. On the other hand, there are governmental and societal worries about the people in the 45 to 65 age group who are currently unemployed due to economic influences and have a hard time in becoming employed again. This thesis focused on the latter group.

A business HR perspective was adopted to explore the value of these unemployed baby boomers for organizations. The thesis was thereby limited to the SME sector. On average, the SME sector strives for a young labour force (Korver et al., 2003); since a short supply of young employees is expected, the baby boom generation could be an appropriate alternative for these SME's. Also, the study was limited to selection procedures only. Age discrimination and negative psychology affect the hiring and firing of older people, putting up significant barriers to employment (Adler and Hilber, 2009; Callanan and Greenhaus, 2008). Hence, in this thesis an instrument was developed to measure employee value: "measurement helps to facilitate management" (Flamholtz et al., 2003). Literature was reviewed to develop the tool; it was then empirically pre-tested in a small pilot. Three Dutch SME HR managers were interviewed.

The final measurement instrument makes use of Mulhern and Moiseyev's Employee Lifetime Value model (2007), Flamholtz' Stochastic Rewards Valuation Model (2003), Brummet et al.'s Original Costs Model (1968) and Sveiby's Competence Index (1997). It is composed of a contributions- and a costs-dimension. 'Soft' selection criteria, like knowledge, skills, abilities and other characteristics (KSAOs), are included in the contributions-dimension following Jensen's Enlightened Value Maximization theory (2001). The model is designed to calculate a discounted net contribution to be expected from the applicant. To a large extent, the instrument allows monetary and objective scoring of the selection criteria; yet this remains difficult for the soft indicators. The results of the empirical pre-test however indicate that in practice, no such efforts are or will be made. Selection decisions are not made based on scientific actuarial comparisons, but based on intuition. The tool is reviewed as being complex and not of clear added value. In future research, the needs of the target group should therefore be included in an early stage.

1. Introduction: the problem in its context

1.1 The baby boom generation

Shortly after the Second World War ended in the Netherlands in 1945, a so-called 'baby boom' took place. In 1946, a record number of 284.000 babies were born, compared to a 175.000 annual average in the period between 1900-1940 (Sociaal en Cultureel Rapport, 2010). The baby boom ended in the seventies: from then on, the annual birth number decreased to its former average again. At the moment, in 2011, the baby boom leaves its marks by forming the major part of the current labour force. The labour force is represented by the 20-64 year old group. The baby boom lasted approximately twenty years; the baby boomers are thus currently between 65 and 45 years old. This generation is followed by another big generation: the children of the baby boomers. As can be derived from Figure 1, both generations combined result in a huge age group between 35 and 65 in 2011.

Figure 1 provides an overview of the age composition of the Dutch population in 2011. In this graph, the population increase due to the baby boom generation can clearly be seen.

Figure 1 Age composition of the Dutch population, 2011 (CBS)

1.2 Ageing of the population

The increase in the current 35-65 population is often described as 'vergrijzing': the 'ageing' of the population. Given the size of this group, the ageing of the population will have a big impact in the Dutch society. There are several long term developments to be denoted. On societal level, the government has to worry about the future spendings on the elderly (increasing costs of care, financing pensions), whilst receiving less income from the decreasing workforce (Callanan and Greenhaus, 2008). On organizational level, the Dutch businesses will face ageing and outflow of their workforce, bringing forward questions on retirement ages and programs (Van Dalen et al., 2010a). On individual level, baby boomers have to consider their career planning, financial situation and desired retirement age. Working after retiring is becoming a more common occurrence (Callanan and Greenhaus, 2008). The greying of the population thus causes some additional greying: that is, for the policy makers and business directors.

Figure 2 shows the development of the 65+ age group over time. The amount of people over 65 years has steadily increased over the period 1950-2010, resulting in 2.5 million 65+ people in 2010: that is one 65+ person for every four 20-64 year olds. The ageing of the population is already taking place and will only increase in the future, as the long term prognosis in Figure 2 shows.

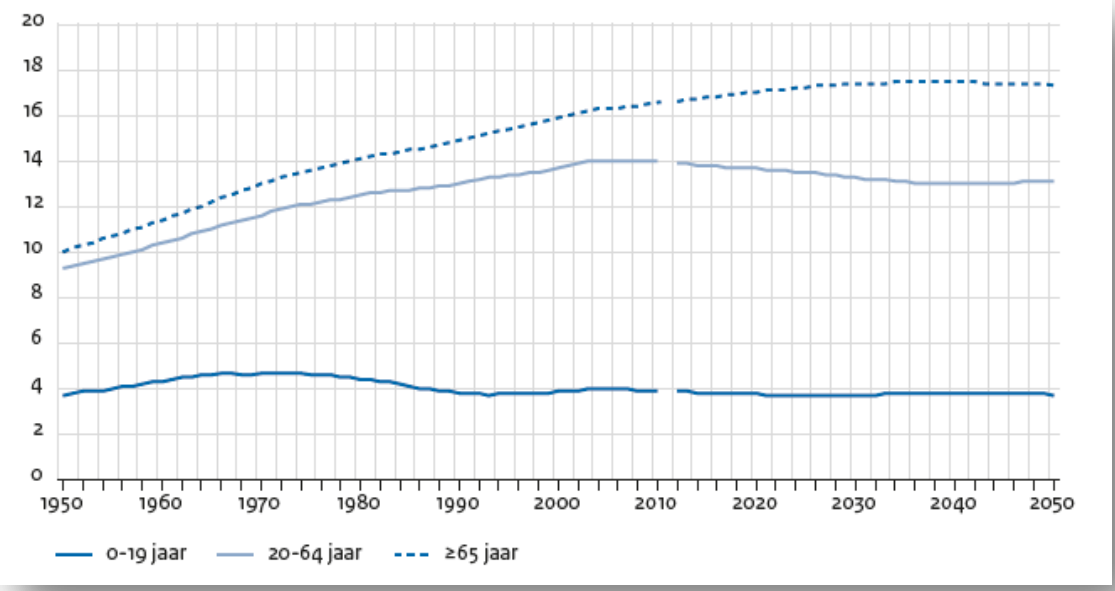

Figure 2 Population composition graph of the Netherlands, 1950-2010 (SCR, 2010)

There are two undesirable events following from this ageing phenomenon. Inevitably, ageing of the population results in ageing in business life, including the non-profit and public sector. Problems in workplace realities arise due to this. At the same time, the economic crisis caused many 45+ people to become unemployed (see Figure 3); they have difficulties in finding a job again, having to compete with younger applicants. With the retirement limit

increasing to 67 in 2025, serious problems arise for these people in question. Both developments related to the baby boom generation and their children will be discussed in the following paragraphs.

1.3 Ageing of business life

As is illustrated in Figure 1, the biggest group in the current labour force consists of 35 to 65 year olds. In the Vergrijzingsmonitor 2010, this event and its implications for business practice were further studied. The results showed that more than a quarter of the interrogated organizations currently experiences problems due to an ageing workforce. These problems are the skewness in age composition of the workforce, stiffening of the organization, difficulties with internal career advancement and problems with knowledge management. The knowledge management problems are especially a hot topic in knowledge intensive sectors like the public sector, in which two third of the managers expects problems due to the prognosed gap in knowledge (Vergrijzingsmonitor 2010).

Van der Heijden (Inaugural speech RU Nijmegen, 2011) states that most organizations do not know how to deal with their older employees. According to her, managers do not want to invest in their 45+ employees, viewing them as inactivate and surpassing the fact that 45 year olds will still have to work for twenty more years. At the same time, de Grip et al. (2004) foresee a growing pressure for employers to retain their personnel, as the younger generation group is not big enough to fill the available positions. Early retirement should not be stimulated; programs like bridge employment and phased retirement are developed (Callanan and Greenhaus, 2008). Next to this, the ageing workforce puts pressure on the financial resources of their employers: wages are generally higher for older employees and age-related fringe benefits increase labour costs even more (Van Dalen et al., 2010b). Also, the outflow of the baby boomers will impact the organizational pension plans (Callanan and Greenhaus, 2008).

Business life thus needs to anticipate on the outflow of experienced personnel, whilst finding ways to work with and finance an older workforce at the moment, keeping the organization attractive for the younger generation.

1.4 Unemployment at increasing age

There is another event influencing the current state of the labour market. In 2009, the infamous ‘economic crisis’ impacted countries and businesses all over the world, leaving a trail of bankruptcies and unemployment. In many organizations, the prospect of downsizing resulted in laying off the temporary employees first; after them several ‘fixed’ employees had to go as well. Both old and young employees were fired. Younger workers became reemployed relatively easy - as opposed to the older workers. As a result, the unemployment level of the baby boom generation increased rapidly since 2009. Figure 3

shows the annual mutations in unemployment level for the age groups 15-25, 25-45 and 45-65. The revival of the economy after the economic crisis is clearly to be seen: unemployment steadily decreases in the 15-25 and 25-45 age groups. However, the 45-65 age group unemployment number still increases.

Next to the higher unemployment rate for 45-65 year olds, the duration of the unemployment period is higher for this age group than for the younger age groups as well. CBS Statline unfortunately only provides data on this up to 2008, but even then, before the economic crisis started and unemployment started increasing, 54.6% of the long lasting unemployed people was aged 45-65. To compare: 10% was 15-25 years old and 35.2% belonged to the 25-45 age group. 'Long lasting' unemployment is defined as an unemployment period of more than 12 months (CBS Statline). Only 1 percent of the unemployed older workers (>55 years) found work within a year. Reemployment chances are thus incredibly low (Van Dalen et al., 2010a).

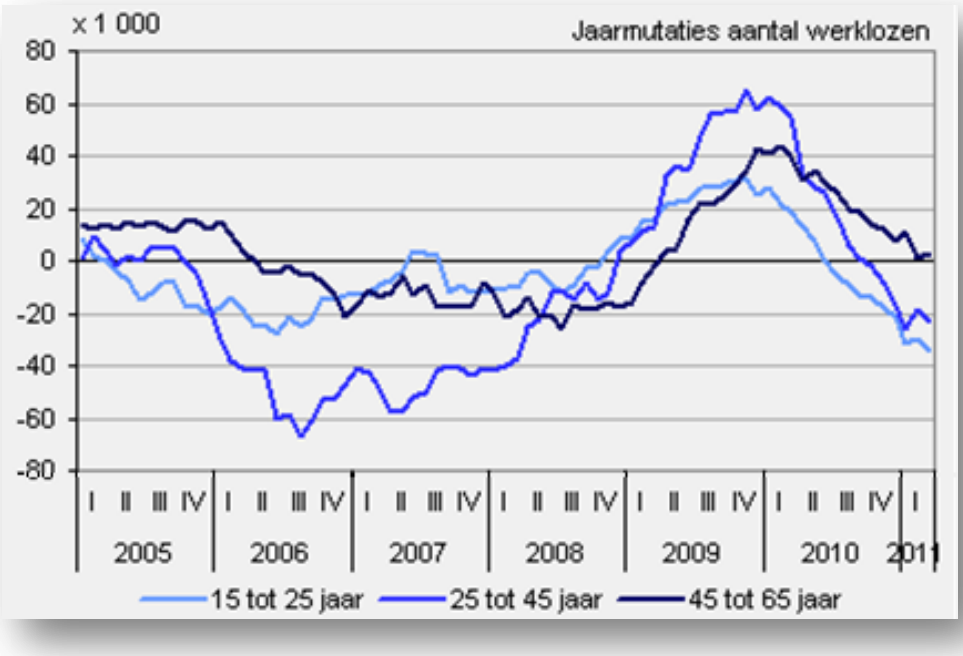

Figure 3 Annual mutations in unemployment level for different age groups (CBS, 2011)

Combining the data on unemployment level and duration, it becomes apparent that it is more difficult to be and/or become employed at a certain age. The Dutch government responded to this development by introducing a temporary financial support arrangement: the IOW. It is designed to serve as a 'safety net' for older (>60 years) unemployed people who became the victim of the economic crisis and differences in labour market supply and demand. It provides financial support to those older workers that became long lasting unemployed.

1.5 Overview

In the previous paragraphs, several issues related to the labour market position of the current 45 to 65 year old age group were addressed. On one hand, there are difficulties with an ageing workforce in many organizations, influencing work floor realities by stiffening the organization, putting pressure on financial resources and by (soon) causing a great outflow. On the other hand, there are governmental and societal worries about the people in the 45 to 65 age group who are currently unemployed and have a hard time in becoming employed again.

Both developments raise a need for '45+ policy' as was mentioned by Van der Heijden (Inaugural speech RU Nijmegen, 2011), one from organizational perspective and one from governmental perspective. Amongst others, revising of staffing procedures might be a useful tool in responding to these ageing issues.

2. Problem statement and research questions

2.1 Baby boomers on the labour market

In the Introduction chapter, several developments in the Dutch labour market with regard to the ageing of the population were addressed. Van Dalen et al. (2010a) summarize the context of these developments as being 'an ageing society in the midst of welfare-state reforms aimed at making the labour market more flexible', which is not only the case in the Netherlands, but in many Western European countries. The 45-65 age group is subject to quite a few studies, studying their position in organizations and on the labour market. Whilst many studies focus on problems arising working with and without the currently employed baby boom generation, the position of the unemployed baby boomers is slightly under exposed (Adler and Hilber, 2009). They are a big group however, and their position on the labour market is worrying, despite their economic importance for the Dutch society. Reason enough to focus on this group: the unemployed baby boomers.

Scientists are aware of the demographic long-term importance of sustained employment of the 45+ workers, thereby spreading the outflow over time, reducing the personnel gap and the pressure on knowledge, leadership and finances. In business life however, this need has not been fully recognized yet; businesses will start facing this societal problem only when the supply of young and capable employees falls short. As Van Dalen et al. (2010a) explain, the recent governmental pension reforms to control the retreat of older workers into social security and early retirement arrangements did not bring about a similar change in business culture. The 'early-exit' culture (OECD, 2006) is still present, manifesting itself in the lack of support of employers to extend the retirement age of their employees (Van Dalen et al., 2010a). Callanan and Greenhaus (2008) state that "current evidence suggests that most companies are still operating under old paradigms whereby workers beyond the age of 40 are seen, in general, as losing stamina, contributing less to the organization, becoming more costly as tenure increases, and are thus far more expendable than younger colleagues" (Greller and Stroh, 2004; Keene, 2006; Longino, 2005). In the light of the described developments on the Dutch labour market, the early exit culture and the perceived unattractiveness of older employees do not provide an optimal environment for dealing with the ageing of the population.

2.2 Ageism and age discrimination

The early exit culture is partly caused by attitudes, prejudices and stereotypes about older workers (Van Dalen et al., 2010a). These are in general negative, which is a phenomenon known as '*ageism'*: prejudices, expressed by erroneous beliefs, stereotypes, and discriminatory behaviour directed at older people (Butler, 1980). Butler made a distinction between malignant and benign ageism, malignant ageism being a characterization of the older workers as worthless and benign ageism being an ineffectiveness in dealing with older

people caused by fear or anxiety. According to Palmore (2001), ageism is proved to be widespread in today's society. The prevalence of ageism in business realities can be measured by measuring the occurrence of age discrimination. In the Netherlands, 20% of the workers aged 55-64 reported age discrimination (Koppes et al., 2009). In the United States, the average pay-out of age discrimination claims between 1988 and 1995 and recent settlements with big companies were higher than comparable cases with sex and race discrimination claims (Rupp et al., 2006). Age discrimination and negative psychology affect the hiring and firing of older people: negative views toward older people and false perceptions of their abilities and skills lead to flawed human resource management and development strategies in organizations, putting up significant barriers to employment and seeking to rid themselves of their older employees (Adler and Hilber, 2009; Callanan and Greenhaus, 2008). Decision making is thus strongly influenced by subjective factors like ageism.

2.3 Research goal and questions

From the above mentioned issues, it becomes clear that the image of older workers is quite ambiguous: their added value for a business is not yet decided upon. This elicits a demand for clarification of the value baby boomers can offer, if so. To be able to justify or to reject age discrimination, it needs to be possible to measure and weigh the perceived downsides (e.g. higher costs, higher degree of inflexibility) and upsides (e.g. more knowledge and experience, higher degree of stability) of older employees. This thesis aims at proposing an instrument to identify that value: making it measurable - preferably in monetary terms: "measurement helps to facilitate management" (Flamholtz et al., 2003). In HR selection literature, this is described as the actuarial approach of selection: various factors are quantified and put into a weighted equation (Smith and Robertson, 1993). The opposite of the actuarial approach is the clinical approach, in which selection is done by an expert reviewing information of the applicant. The actuarial approach is more objective, often using historical data, whereas the clinical approach is a subjective manner of selection. According to Smith and Robertson, the actuarial approach is slightly better, but in practice the clinical approach is more common. This statement is supported by the respondents from the empirical pre-testing in this thesis: all three respondents do not use any techniques similar to an actuarial approach in their selection practices. Subjective 'gut feeling' was named as their most important selection criterion.

The research focuses on the selection process only: after all, the unemployed baby boomers need to make it through this crucial selection process in order to become employed again. As was mentioned by Adler and Hilber (2009), the position of the unemployed baby boomers is no frequently studied topic in literature. This is partly due to a necessary shift in focus: the *employed* baby boomers used to be the locus of attention, not the (new group of) *unemployed* ones. Possibly, the recent date of the event (2008-2009) plays a part as well.

Studying the possibilities for reemployment implies the limitation of this thesis to the measurement of the value of older employees in selection processes only. Measuring the value of people in selection procedures is more difficult than measuring employee value in general, since the first implies a lack of direct available performance results to measure. The final measurement instrument may be used for other purposes besides selection as well.

Furthermore, this study is limited to the small- and medium sized enterprises sector (SME). A firm is defined as SME based on staff headcount (10-250 employees), turnover count (2-50 million euro annually) or balance sheet total (2-43 million euro). A firm smaller than these numbers is defined as a micro enterprise (European Commission, 2011). Korver et al. (2003) report that employers in SME's strive for an average employee age of 40, preferably skewing the age composition to a majority of employees younger than 40. However, a short supply of the young employees is expected. The baby boom generation could be an appropriate alternative for these SME's. Hayton (2003) underlines that the SME sector is an important source of innovation and economic growth; in the EU, the sector represents 99% of all enterprises and it provides 90 million jobs (European Commission, 2011). Moreover, it employs nearly one-half of all HR managers in the USA. Some scientific attention for their HR practices is therefore not pointless.

The research is fundamental, deepening the understanding of actuarial value measurement of older employees in selection procedures. Ultimately, the developed instrument should be useful for SME HR departments, where it can be used to support selection decision making.

The main research question of this thesis hence is:
In order to support selection processes in SME's, what would be an adequate measurement instrument to assess the value of 45+ employees?

The following subquestions will be used to cover this main research question:

1. *What information is necessary to define the value of an employee for an organization in the selection process?*
2. *Which factors are relevant to include in a model to measure employee value?*
3. *What would be an appropriate and applicable assessment device to measure employee value?*

3. Methodology

This research was conducted by means of a literature review. The literature review is structured according to the framework in Figure 4. Three chapters – Defining value, Determining value and Measuring value - lead to the answer of the main question of this thesis: what would be an adequate measure to assess the value of 45+ employees in selection processes? The three research subquestions are answered in each of these chapters, respectively. The results of the chapters Defining value (4) and Determining value (5) come together in the chapter Measuring value (6). Throughout the entire research, the viewpoint of the hiring organization is adopted, not the viewpoint of the applicant.

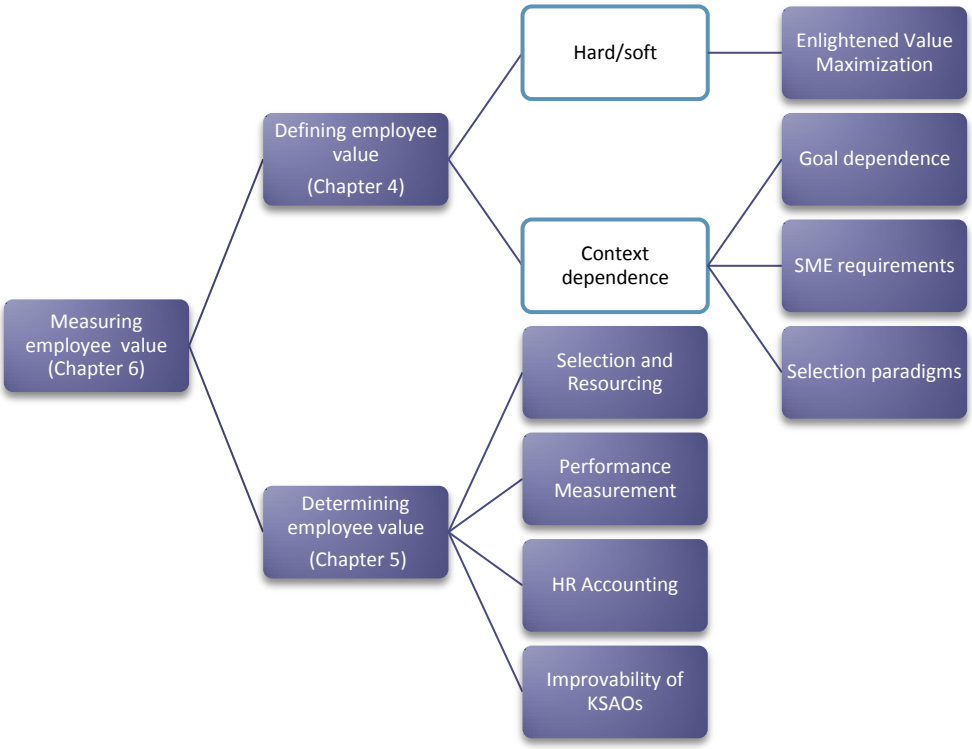

Figure 4 Research framework

The first chapter, Defining value, explores how an organization defines employee value, as having a definition of value is the starting point for determining and measuring this value. Two main themes are leading throughout the chapter: a dilemma between hard and/or soft selection criteria and the topic of context dependence. The first is elaborated on by means of the Enlightened Value Maximization theory (Jensen, 2001); the latter illustrates how the value of a person can differ and change, depending on the organizational context. The operationalization of this 'context dependence' factor is based on the organizational planning chart in Appendix I (Carr and Smeltzer, 1997). In most organizations, decision making is first of all guided by the organization's strategic plans. These strategic plans are

further specified and narrowed down in tactic and operational plans, from business unit to each department. The impact of these overall firm strategies on HR policies and decisions with regard to employee value is discussed. What influence do the mission and vision of a firm have on the definition of employee value? Is the value of an applicant influenced by his/her suitability within this organizational framework? Further along on operational HR level, this question is followed by an inquiry into what specific experiences, activities or skills then make an employee valuable for the SME sector. Next to this, the influence of the internal culture of the firm in relation to selection decisions is taken into account in a paragraph about selection paradigms. In Appendix I, this is represented by the influence of the 'internal environment' on organizational planning. At the end of the chapter, a broad view on what employee value actually means is presented. The research fields and topics of employability, selection & resourcing and 'value' in business were studied to answer the questions of this chapter.

The second chapter, Determining value, studies the fields of Selection and Resourcing, Performance Measurement and HR Accounting so as to explore models that make human qualities, performance and economic value measurable. Key models for determining value – varying from mathematical calculations to accounting frameworks – have been selected based on their scientific relevance (as argued in reviews by other experts in the field and based on empirical research) and based on their practical usability. The importance of the latter selection criterion – practical usability – is underpinned by the respondents from the empirical pre-test in this thesis. Complex calculations and tables were not considered to be usable or of substantial added value. Furthermore, the (beliefs about) improvability of vital knowledge, skills, abilities and other characteristics (KSAOs) are considered to gain insight in future developments of employee value.

In the third chapter, Measuring value, the information gained from the literature review is ultimately used to compose the measurement instrument. The literature from the 'Defining value' chapter serves as guiding framework, in which the relevant variables deducted from the models of the 'Determining value' chapter can be measured. Finally, this chapter contains some empirical qualitative research. The developed instrument has been proposed to three HR professionals from Dutch SMEs. The goal of this small pilot was to pre-test the expected practicality, sensitivity, reliability and validity of the instrument with experienced HR managers from practice (Price, 2007). One respondent works at a small-sized firm (appr. 20 employees), two respondents work at a medium-sized firm (appr. 250 employees). The respondents have been randomly selected based on a stratification of firm size: one small sized firm, two medium sized firms. The model was laid down in in-depth open interviews, using a topic list, without making use of voice recordings.

4. Defining employee value

4.1 Introduction: definitions of employee value

In this chapter, literature is reviewed so as to analyse what information is necessary to define employee value for an organization. In literature, no clear and wide-spread definition of 'employee value' is available yet. There are concepts that are similar to employee value though, like 'human capital' and 'employability'. Human capital is defined as *'the abilities and skills of a certain group of people or an individual person that have economic value'* (Schultz, 1961). Employability is described by different definitions, but the overarching perspective is that employable people are the *'entrepreneurs of their own career'*, they possess the *'willingness and capacity to be successful in jobs'* (De Grip et al., 2004).
In HR literature, two leading HRM approaches both offer a very different perspective on the definition of the value of an employee: a hard and a soft approach. The hard approach, known as the Michigan model, focuses on the 'resource' side of human resources: people are regarded as numbers. HR focus is on managing the numbers, keeping the workforce closely fitted to business requirements in terms of headcounts and controlled behaviour (Price, 2007). The soft approach on the other hand, known as the Harvard model, is characterized by a human approach towards the people in the organization, reflected in attention for communication and motivation. People are important and are therefore involved in determining and realizing strategic objectives (Price, 2007). If these approaches would be reflected in selection processes, the hard approach would merely focus on hiring a person that fits in and meets the set requirements. Employee value would then be reflected in costs, results and productivity. In a soft approach, employee value would be defined more broad, including intangible aspects like an employees' network, inter-personal skills, character traits and values.

What can be noted from the differences between the hard and soft HRM approach is that there is a dilemma between 'hard' money and 'soft' human qualities (KSAOs) as most important selection criteria for employee value. Can these two leading approaches be brought together in a combined definition of employee value, or is one of the two most suitable? Is it possible to have a uniform definition of employee value? And how situation dependent is the concept of employee value; are there inter-firm and inter-industry differences?
These two topics, the hard/soft dilemma and context dependence, are discussed in this chapter. The hard/soft dilemma is elaborated on by means of Jensen's theory on Enlightened Value Maximization (2001). Context dependence is illustrated by studying goal dependence, specific SME requirements and selection paradigms.

4.2 'Hard' versus 'soft' selection criteria

The combination of organizational goals, vision and mission composes the 'why' and 'what' of an organization. In business, two overarching paradigms then divide the choices made about the manner in which the vision, mission and goals are accomplished, the 'how-to': Value Maximization and Stakeholder Theory. Jensen (2001) names these paradigms 'corporate objective functions' and he analyzes both thoroughly. His analysis provides very valuable inputs to the dilemma between 'hard' or 'soft' criteria for selection decision making: either objective determines what kind of behaviour is considered better or worse (Jensen, 2001). The Value Maximization Proposition originates from economics and finance research and holds that all decisions made in organizations should aim at increasing the total long-run market value of the firm. Stakeholder Theory on the contrary has its roots in sociology and organizational behaviour theories and states that decision making should aim at taking into account the interests of all the stakeholders[1] in a firm. Jensen proposes an alternative to enable maximizing in both dimensions: 'Enlightened Value Maximization'. The structure of Stakeholder Theory is accepted, but it is completed with maximization of the long-run value of the firm as the criterion for making the necessary trade-offs among its stakeholders (Jensen, 2001). In the words of the author, eloquently describing what Enlightened Value Maximization works like in practice:

"Value maximization is not a vision or a strategy or even a purpose, it is the scorecard for the organization. We must give people enough structure to understand what maximizing value means so that they can be guided by it and therefore have a chance to actually achieve it. [...] To create value we need not know exactly where and what maximum value is, but only how to seek it, that is how to institute changes and strategies that cause value to rise. To navigate in such a world in anything close to a purposeful way, we have to have a notion of 'better', and value seeking is such a notion. I know of no other scorecard that will score the game as well as this one. It is not perfect, but that is the nature of the world. We can tell (even if not perfectly) when we are getting better, and when we are getting worse." (Jensen, 2001)

Stakeholder Theory hence becomes the means to an end (value maximization). Trade-offs between different groups of stakeholders are then made based on the firm's strategies. The theory has been tested empirically by Benson and Davidson (2010). They studied the relationship between stakeholder management and firm value. Firm value was measured by taking the market-to-book value of the firm. Stakeholder management was computed by binary scoring of different variables in certain dimensions: e.g. the dimension 'diversity issues' was scored with '0' or '1' on the variables 'women and minority contracting', 'gay and lesbian policies', 'controversies' etcetera. Their results indicate that stakeholder management indeed positively affects firm value.

[1] By stakeholders, all individuals or groups that have the possibility to affect the welfare of the firm are meant: customers as well as government officials. Sometimes, even the environment is included as a stakeholder (Jensen, 2001).

What does this imply for the value of an employee? Following the theory of Enlightened Value Maximization, the ultimate contribution of the employee should always be an increase in monetary value of the firm. The 'soft' part of human capital (personal skills, qualities, values and relationships of the employee) should be the means to an end; behaviour should be directed at seeking to increase organizational value. Depending on the functional position of the employee, this is accomplished by account management, sales, production, customer service, procurement etcetera. The value of the employee is thus the extent to which he/she is firm value seeking. Hard and soft are connected to each other. This is an important thought to bear in mind for the design of the final assessment device. What is even more interesting about this definition is the fact that it does not distinguish between older or younger employees: it is free of ageism and it is therefore very suitable to be used in the measurement instrument.

Heskett et al.'s theory of employee value (2003) supports this line of thought. They argue that firm value is most of all created by committed, satisfied and loyal employees. They will generate customer and investor value by the following cycle: they are more likely to stay with the firm, thereby reducing turnover costs, becoming more productive and creating a strong organizational culture. This energy and level of satisfaction wears off on the customers of the firm, who in turn become more loyal and satisfied: customer value is created. The customers refer your firm to others and thus revenue increases. Sustainable organizational growth and increasing profits attract the attention of investors, who will in turn be satisfied and committed to your firm: investor value. Employee value thus generates customer value and investor value. With regard to the assessment device, commitment, satisfaction and loyalty could hence be interesting criteria; a monetary measurement of these factors is however not yet available in literature. They will therefore not be included in the final model.

4.3 Context dependence

4.3.1 Goal dependence

The organizational strategy is the starting point for all decision making in an organization. *Strategy* is defined as *"the pattern of organizational moves and management approaches used to achieve organizational objectives and to pursue the organization's mission"* (Thompson and Strickland, 1990). Alignment between all organizational activities is important. This is reflected in Figure 5 (Gebauer, 2003). The chart demonstrates that different organizational goals will result in different value indicators that can be used to analyse employee value and performance. This is an important notion to keep in mind for the final assessment device. Each firm in any industry will be likely to focus on different value indicators, depending on what is important for them; knowledge may for example be valued over social capital if the firm in question is a technological specialist.

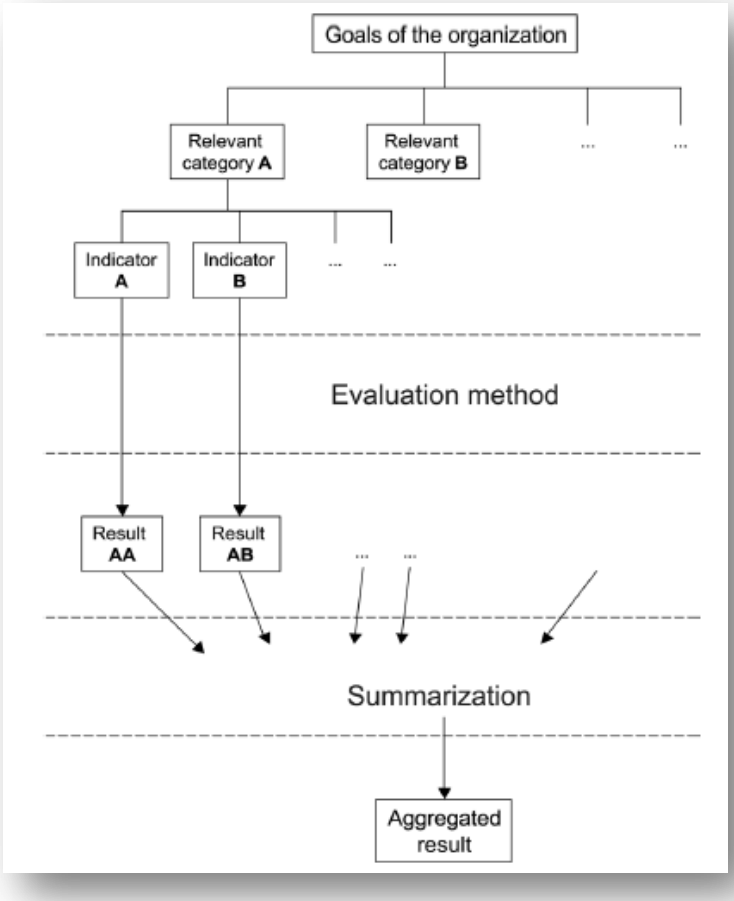

Figure 5 Goal dependence (Gebauer, 2003)

What is decided on overall strategic level is translated into the policies of each department. Selection and resourcing[2] plans are hence aligned with organizational strategies; Davis and Scully (2008) explain that *"issues of who to employ […] are central to the achievement of strategy. An integrated and coherent vision of where the organization is heading is the starting point for developing effective strategic resourcing".* Since people are of strategic importance for realizing operational goals, resourcing should be consistent with the overall firm strategy: *"Simply adopting techniques that identify person–team fit and then assessing and rewarding individual achievement on the job clearly fails to achieve integration at an operational or strategic level"* (Davis and Scully, 2008).

Now, how is this overall firm view translated into operational selection practice? Management on an operational level is concerned with short-term decision making, daily activities and operations. On operational level, there are some more criteria besides the overall strategic resourcing guidelines that are considered important when deciding which applicant should be hired. After all 'employee value' is a highly situational concept: a day-care employee is technically nearly worthless in the position of strategy consultant.

[2] The process by which people are identified and allocated to perform necessary work (Price, 2007).

Technically, because there is a difference between function-specific skills and general skills (Wasmer, 2006). General skills and traits (e.g. communication, motivation) are more important on overall level; the function-specific ones are necessary on operational level. Gatewood et al. (2008) constructed a stepwise overview of the process of specifying strategy into the needed operational selection criteria (Figure 6). The term 'KSA' is used: this is an alternative for KSAOs, leaving out the 'other characteristics'.

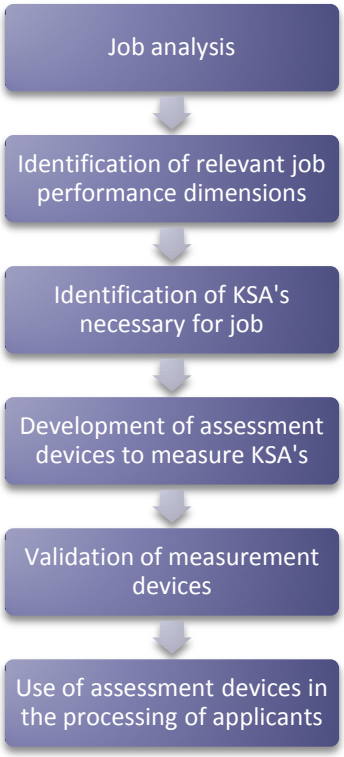

Figure 6 Steps in the development of a selection program (Gatewood et al., 2008)

The very first step in the process is the recognition of organizational HR needs in terms of employee availability, expertise and location: strategy and planning (Price, 2007). The first step in Figure 6, *job analysis*, consists of gathering information about the job in question: what are the tasks and required results, what is the work environment like? The more information available, the better the applicant will be informed and the more valuable the following steps will be. The second step – *identification of relevant job performance dimensions* - is directed at identifying the desired (level of) performance for this job. For a call centre employee, this could be the number of calls handled; for higher level or team jobs this will be more complicated to identify. In the former case, job performance measurement encompasses counting the number of services or products delivered and surveying their quality. In the latter case, job performance is usually best indicated by a direct supervisor or colleagues. The third step in the selection program model – *identification of KSA's necessary for the job* - aims at identifying the necessary KSA's for performing according to the set standards in step two. Since the performance standards for a sales specialist will be different from those of a manufacturer, different KSA's are needed.

Price (2007) remarks however that the identification of these desired sets of qualities is difficult and traditionally backward looking: requirements for the future are often hardly taken into account.

The steps that follow are subject of the next chapter on Determining Value: how to measure those desired KSA's and performance? It may be clear though that the first steps are essential in order to effectively proceed in the process. Preparation of the selection program is important: the amount of attention paid to the first steps in the model in Figure 6 leverages the usefulness of the entire selection process (Gatewood et al., 2008). What can be concluded from this paragraph is that the definition of value is dependent on strategic goals and subsequent operational needs of the organization. Different firms need different kinds of people. Which specific competences a firm will include in its customized version of the measurement instrument hence depends on the goals and needs of this firm.

4.3.2 SME requirements

Some researchers have tried to indicate what kind of general employee behaviour is desirable and valuable in a SME. In general, SMEs value versatility as an important trait for their employees. This was one of the outcomes of the MKB Nederland report (2004), *Ouderen in bedrijf*: most SMEs consider this an essential quality to enable sustained employment. Another important outcome was that older employees are demanded to be the 'entrepreneurs of their own career': they have to remain employable by keeping their knowledge and skills up to date and plan their career consciously. This is defined as *employability*, which was described in the Introduction of this chapter. The results of Hayton's (2003) empirical study further indicate that employee discretionary behaviour and knowledge sharing (transferring implicit knowledge) positively impact SME entrepreneurial performance. Entrepreneurial performance (measured by seven items, e.g. risk seeking behaviour of the firm) is proved to lead to higher firm financial performance, especially for high-technology industries (Hayton, 2003). Employees in this industry should therefore be selected based on the degree to which they enhance the entrepreneurial performance of the firm, because this will positively impact firm value. The research was limited to SME's with 100 to 500 employees.

Entrepreneurial performance and versatility are examples of selection criteria that could be important for an SME, and could hence be included in the assessment device. However, as these criteria are strongly dependent on the context (entrepreneurial performance is not relevant when e.g. hiring a doctor's assistant), they are not part of the final tool. They merely serve as an illustration of how the SME sector in general defines a part of its employee value, according to these studies.

4.3.3 Selection paradigms

When performance standards and desired KSA's are set, the most suitable candidate can be selected. Doing so, there are some underlying paradigms influencing which candidate will be seen as the 'most suitable'. In literature, there are three common selection approaches distinguished answering this question. The following descriptions are based on the work of Drenth and Algera (1987).

1. Select the best qualified person for the job. This is called the 'right person' approach.
2. Select the people and change the job characteristics based on their abilities. This is known as the 'culture-fit' model.
3. Train people to be more effective. This is known as the 'flexible person' approach.

Firms may work according to one of these paradigms as well as a combination of them. In many cases, a combination of approach one and two occurs. Which paradigm rules determines largely how employees are regarded and what their added value for the specific organization should be. For example, the 'right person' approach focuses on suitability: the job is fixed, the perfect matching individual is recruited. An employee is only valuable if he/she fits the description and possesses the named qualities: individual qualities are compared to established criteria. This approach is more common in large organizations than in small ones, since the small ones are characterized by an informal selection process, using hardly any sophisticated selection tools (Wright and Storey, 1994). Job descriptions have often been unchanged for a long time, leading to the recruitment of people that fit traditional criteria: "the kind of people that we have always had" (Price, 2007). In fact, the 'right-person' approach is a process of cloning, which is defined as the '*tendency for selectors to pick people like themselves, thereby reducing the breadth of skills and personalities in an organization*' (Price, 2007). A totally different perspective on the value an employee brings to the organization is offered by the 'culture-fit' model, originating from the Japanese type of organizations. The organizational culture is what is important; the recruited people need to be malleable to match this culture. Personality is more important than skills. In reality, this approach boils down to recruiting young 'clones', being easy to socialize in the culture and additionally being cheap and manageable (Price, 2007). Finally, the 'flexible person' approach regards people as assets for competitive advantage and future change. Contributing is more important than conforming: rather than using lists of required skills or personality traits, this approach focuses on recruiting versatile people. Diversity in the workforce is strived for; people need add to the total pool of competencies.

These selection paradigms can be very influential with regard to the process flow and outcome of the selection procedure. If for example the 'culture-fit' approach is the leading paradigm, it might even be the case that the recruiting organization does not work with a list of performance standards or a job profile.

4.4 Overview

In this chapter, the concept and meaning of employee value was explored. Two threads were important: the dilemma between hard and/or soft selection criteria, and the matter of how the definition of value depends on its context.

The dilemma between hard and/or soft selection criteria was offered an alternative solution by Jensen (2001). The theory of Enlightened Value Maximization empirically proves that in general, firm value seeking should be the ultimate goal of people's behaviour and stakeholder management is a means to that end (Jensen, 2001; Benson and Davidson, 2010). Translating this to employee performance means that the value of the (commercial) employee is thus the extent to which he/she is firm value seeking. Soft qualities, like intellectual and social capital, are the means to act accordingly. Heskett et al. (2003) contribute by arguing that employees are an essential factor for organizational success when they are highly committed, satisfied and loyal, since this will deliver customer and investor value.

The next section further explored to what extent 'value' depends on its context. Next to the above mentioned elements, the organizational goals determine what qualities are important as well, as Gebauer (2003) illustrated in Figure 5. Zooming in on the operational level, the analysis of the job itself sets a list of required performance levels and KSA's. Next to general skills, a potential employee needs to possess these function-specific skills. Empirical surveys in the SME sector further indicated that versatility, employability and discretionary, knowledge sharing behaviour are regarded as desirable and can even increase financial firm performance (MKB Nederland report, 2004; Hayton, 2003). Regarding the culture of the organization, the various selection paradigms are also very important in defining value. Organizations looking for 'the right person' have different demands than 'culture-fit' focusing firms. The 'flexible person' approach offers the most objective assessment of people's value, as it does not cater these specific organizational demands.

Summarizing, the most important factors that generate employee value, based on the given literature, are:

a. Value-seeking behaviour, contributing to firm value
b. Generating customer and investor value by commitment, satisfaction and loyalty
c. Fit with organizational goals
d. Possessing job-specific KSA's
e. Versatility
f. Entrepreneur of own career, employability
g. Discretionary behaviour and knowledge sharing to enhance entrepreneurial performance
h. Depending on the selection paradigm, either right-person, culture-fit or flexible person

Employee value thus remains a highly situational dependent concept: the selection paradigm largely influences the mental model of the selectors, specific demands vary per function, let alone industry differences. However, it can be boldly stated that for profit-aiming firms, the behaviour of any employee should optimally be guided by the Enlightened Value Maximization objective, thus seeking to increase value by all activities undertaken. Employee commitment, satisfaction, loyalty and entrepreneurship can further improve firm value. With regard to the dilemma between 'hard' or 'soft' as most important criteria for value, it can be said that soft qualities are the means to reach hard goals. The list presented above is almost completely composed of these soft qualities. The earlier provided definition of human capital[3] reflects this relationship as well and can therefore be accepted as a definition for employee value. A small addition can be made: the person does need to fit in the specific organization; the selection paradigm largely determines this.

How the future employee value can be measured in selection processes using these criteria is another - more difficult - question. This is studied in the next chapter on determining employee value.

[3] 'The abilities and skills of a certain group of people or an individual person that have economic value' (Schultz, 1961).

5. Determining value

5.1 Introduction

This chapter explores how to measure value: what variables can be taken into account to measure what an employees' contribution to firm value will be? There are some matters to keep in mind when elaborating on this question. An assessment device for measuring the demanded qualities should always meet four prerequisites (Price, 2007):

1. Practicality: what are the costs of the method, is it convenient, does it take a lot of time? What are the attitudes of the users towards the method? The selection process in most SME's is characterized by its informal style and simplicity (Wright and Storey, 1994). A highly complex tool which takes a lot of time to use is therefore not optimal. This is supported by an empirical study by Highhouse (2008), proving that many HR executives in fact prefer unstructured interviews over formalised tools, believing that these traditional interviews are more effective and useful.
2. Sensitivity: it should be able to differentiate between applicants (Price, 2007; Gatewood et al., 2008). Interviews for example provide a more close ranking of candidates than the results of psychometric tests do.
3. Reliability: the results provided by the method should be consistent. *Intra-rater reliability, inter-rater reliability* and *internal consistency* are important criteria.
4. Validity: it should measure what needs to be measured. Candidates should feel like this is the case *(face validity)*, constructs or traits should be measured properly *(construct validity)* and an accurate prediction of future performance should be made *(predictive validity).* Measuring what needs to be measured is more difficult than it sounds: often, general competencies like leadership and personal interaction are measured for a job that e.g. in fact requires most of all the verbal ability to translate computer language to understandable material (Gatewood et al., 2008).

Keeping this in mind, literature offers one research area on selection and resourcing itself, and two main research fields on measuring value. Selection literature naturally describes how decisions are made in selection and resourcing processes; what data is used, how is it evaluated? Paragraph 5.2 therefore elaborates on the 'how' of selection processes. The following paragraphs, 5.3 and 5.4, deal with 'what' is measured. The first measurement research field, which is the most known and extensive one, is the (Business) Performance Measurement field (§5.3). This research area offers copious numbers of models to measure and manage (business) performance. This field even includes theories on intangible assets measurement, including intangible assets like intellectual capital, goodwill and brand names. The second measurement field is Human Resource Costs/Value Accounting (§5.4). This specialisation focuses more specific on measuring employee value. All of them are elaborated on in this chapter.

5.2 Selection and Resourcing

Selection is the *'psychological calculation of suitability'* (Price, 2007). In the selection process, the organization should collect information from the applicants that is as close as possible related to (future) job performance.
In practice, there is a variety of selection methods being used; the most common ones are (automated) pre-selection shortlistings, interviews, psychological or psychometric tests, work samples and assessment centres. Candidates are often asked to provide an application letter, résumé, degrees, references and biodata. Sometimes, application forms are used to standardize the initial application in order to receive the necessary information. Also, different selection approaches ask for different information supplies: organizations working with the 'right person' approach focus on experience and skills, whereas the 'culture fit' approach requires information related to education, intellect and personality (Price, 2007). All these methods and procedures have been discussed and studied over and over; their validity is questionable in one study and then again highly valid in another. In general, cognitive ability tests are the most valid (0.5 – 0.6), followed by work sample tests, biodata, assessment centres and structured interviews (0.3 – 0.39) (based on meta-analyses by various authors, reviewed by Price, 2007).

The results of psychometric tests are considered to be of 'scientific professionalism' (Townley, 1989). Psychological traits like personality, motivation, career interests, competencies and intellectual capabilities are typical parts of such tests. According to Davis and Scully (2008), *"Psychometric testing can be highly reliable and potentially valid for many roles, but may only be valid for a restricted range of criterion measures and the overall utility of such tests may be undermined by the adverse reaction of the candidates."* Furnham (1992) composed an overview of advantages and disadvantages of using these tests. Important advantages with regard to the development of a selection tool are that tests provide hard, numerical data, which is easy to compare between applicants and with actuarial data of actual performance later on; a wide range of capabilities can be tested; they provide insights in behaviour and the outcome is objective. Important disadvantages are the 'fakeability' of answers, invalidity of the tests, irrelevancy of the tests since important qualities like honesty and punctuality cannot be measured and the fact that language problems can be a barrier to fill in the test.

When interviews are used as selection tool, Krajewski et al. (2006) proved that there is a significant correlation between predictions from past-behaviour structured interviews and subsequent job performance. Past-behaviour structured interviews were furthermore closely related to relevant cognitive ability measures, assessment centre exercises and personality traits (Krajewski et al., 2006; Price, 2007). Both structured and unstructured interviews are supported in literature: structured interviews lead to higher quality information gathering, thus improving selection decisions (Barclay, 2001); whilst unstructured interviews lead to a significantly better assessment of job-related personality

traits (Blackman, 2002). Quoting Davis and Scully again (2008), *"Drawing on a series of meta-analyses, Schmidt and Hunter (1998) reached the conclusion that employment interviews are in fact one of the best predictors of job performance and training proficiency, and that validity generalizes across jobs, criteria, and organizations."*

Other selection methods that are proved to be quite valid are work sample tests/assessment centres and biodata. *Biodata* embodies a person's non-academic qualities: age, marital status, family background, education, experiences, hobbies, other spare-time activities, etc.. The thought behind using this type of data is that when personality dimensions are similar to those of current employees, similar people are hence recruited. This can be seen as a predictor for desired, suitable performance. But, as Davis and Scully (2008) put forward, "*it is behaviour, not personality, that causes outcome".* Assessment centres and work samples focus on this behaviour. Real-life work situations are provided to test the performance of the applicant, e.g. group decisions and, presentations, role-playing, report writing or even a typing test. Correcting for nervousness, these selection methods are quite valid indicators for future performance (0.3.-0.39). An important matter to keep in mind is that the pre-determined selection criteria should be well-defined, not overlapping to avoid double scoring and expressed in behavioral terms (Price, 2007). *Competencies* can be used as constructs for these criteria. According to Aguinis (2007), a 'treshold' level of competence should be recognized in each candidate; 'differentiating' competence then allows a distinction between applicants. Levels of competency can be measured against performance indicators of desired behaviours and attitudes of current employees (Davis and Scully, 2008).

Summarizing these selection methods, every tool and form has its up- and downsides; what matters in the end is that good predictors of suitability and performance are necessary but difficult to identify. Past-behaviour based interviewing is a significant way to predict future behaviour and performance (Krajewski et al., 2006). Furthermore, Bartram (2004) puts forward that *"a combination of personality factors [honesty, integrity, conscientiousness, interest in the job, the right general personality and general ability], a measure of general reasoning ability and an assessment of the motivational factors of need for achievement and need for control or power together account for most of the variability in criterion workplace behaviour or competencies, and their validity increases where the job is more complex".*

5.3 Performance Measurement

In literature, different assessment devices exist than those often used in practice. The Performance Measurement research field embodies many interesting value and performance measures, attempting to measure both tangibles and intangibles in order to guide behaviour and control performance. Important to keep in mind is that performance measurement tools deal with measuring performance or value of *current* businesses or employees, not *potential* employees. These tools need to be transformed for selection

purposes in order to be useful; the selected tool in this paragraph however offers a generic model for the measurement of employee value. The line of reasoning used in this model is equally important to be recognized and used in selection procedures.

In this section, hence only the most relevant tool for measuring employee value in selection processes is discussed: the Employee Lifetime Value model (ELTV) by Mulhern and Moiseyev (2007). The theory of the ELTV is partly based on theories from the customer lifetime value field, which is a field extensively studied and based on empirical research. The ELTV is complemented by the Human Capital Index (HCI) by the same authors; this addition makes the model more relevant for selection purposes.

5.3.1 Employee Lifetime Value

The Forum for People Performance Management and Measurement published an extensive report on the concept and measurement of Employee Lifetime Value (2007). Employee Lifetime Value (ELTV) is defined as a quantitative measure of the long-term financial contribution an employee makes to an organization. The ELTV looks into not only measuring the contribution of sales employees, which is relatively easy to measure, but also the contribution of non-sales performers, e.g. a call centre operator. Next to this, Mulhern and Moiseyev (responsible authors from the Forum) state that "*the key to long-term competitive advantage in the knowledge and information economy is based on measuring intangible value".* The ELTV is thus complemented by the Human Capital Index, making the connection with measuring intangibles. Even though the ELTV uses data that can only be obtained if the employee is currently employed, the provided insights are clarifying and the method of reasoning could still be used with predictive (actuarial) data.

Mulhern and Moiseyev (2007) first define the terms used in 'Employee Lifetime Value'. *Employees* are defined as people formally working for an organization, on either a full or part time basis, who are enrolled in a formal compensation system. The compensation system requirement is set since this is a necessary source of information to calculate the ELTV. *Lifetime* can be defined as a specified period (e.g. five years), but as the length of the employment period at this specific organization as well. Finally, *value* in its simplest form is defined as the amount of specific measurable flows of money to an organization that can directly be attributed to an individual. This is a more rigid definition than the human capital - definition; it leaves out the 'abilities and skills' part and only deals with measuring the attributable money flows. Whilst both definitions have the same basic thought, the definition of human capital is open for vague estimations, whilst this one literally does not. The authors designed a model to graphically illustrate the ELTV (Figure 7). Attributable revenue out-flows like salaries and bonuses are subtracted from attributable revenue in-flows. This results in the net contribution of the employee. The employee lifetime (as was defined earlier) is used to discount this contribution. Investment decisions can be made based on this.

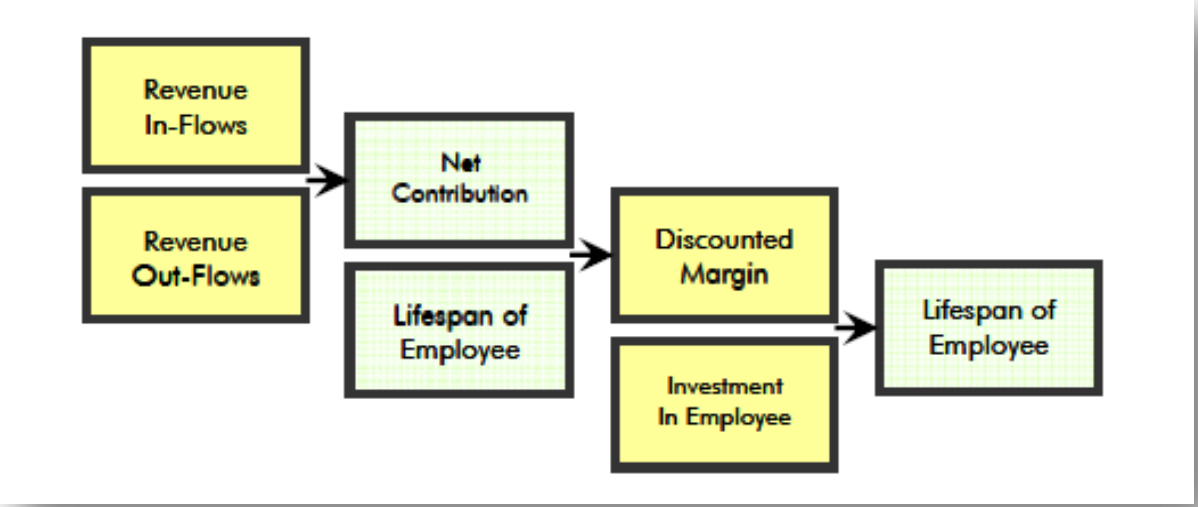

Figure 7 The ELTV (Mulhern and Moiseyev, 2007)

Put in a mathematical formula, this is equal to:

$$ELTV = \sum_{t=1}^{T} \left(M_t \frac{1}{(1+d)^t} \right) - C$$

In the equation, T equals the final time period, M_t is the financial contribution of the employee in time period t, d is the discount rate used to discount the contribution margin and C equals costs assigned to this employee over the time period. This includes recruitment costs, hiring costs and other assignable costs that were made as an investment in this employee.

The described model and formula do not yet take into account some quantitative measures that are less easy to identify. These are *referral activities* and *cost savings and efficiencies* (Mulhern and Moiseyev, 2007). By referral activities, 'customer buying in' behaviours are meant: non-sales responsible employees convince people to become customer. This is similar to what Heskett et al. (2003) described as Employee Value generating Customer Value. By cost savings and efficiencies, employees' efforts and ideas to make the organization more efficient or reduce costs are meant. An employee could for example identify a way to save money in production. Influencing these quantitative value adding activities are some qualitative impact generating variables. According to Mulhern and Moiseyev (2007), these are:

- Employee enthusiasm, which indirectly 'sells' the organization
- Creativity and innovation, which improves processes, products and services

- Employees generating goodwill, through interpersonal relationships
- Reputation value of employees, resulting in instant added value for the organization.

5.3.2 The Human Capital Index

The ELTV model is still developing; scientist are investigating ways to complete the model. After all, next to these more tangible variables that can partly be measured using ELTV, employees add intangible value as well. Measuring these intangibles shifts the focus from measuring current operational value to measuring future potential value. This is interesting from the perspective of selection. Ideally, the financial implications of a long-term relationship between employer and employee should be measurable (Mulhern and Moiseyev, 2007; Gatewood et al., 2008). For the purpose of measuring these intangibles, Mulhern and Moiseyev suggest several ways of measurement. Amongst more traditional metrics of (intangible) performance, Mulhern and Moiseyev propose the Human Capital Index. It uses four focus areas; each area can be assigned a relative weight. In general, these are the four focus areas in the Index, composing a performance/experience dimension:

1. Number of years in the business/field
2. Level in the company (by job grade or organizational chart)
3. Performance rating
4. Number and variety of positions/assignments held.
   (Mulhern and Moiseyev, 2007)

Also, depending on the industry, firms can decide to include a dimension on e.g. competencies. This would be the case if organizations find it desirable to measure the skills/competencies dimension next to the performance/experience dimension. Again, relative weights can be assigned to these dimensions; Mulhern and Moiseyev suggest a 60/40 ratio for respectively skills/competencies and performance/experience. The advantage of this model is that it is in fact suitable for selection purposes: three out of four focus areas can be known when the applicant is not yet hired. Furthermore, when use is made of a 'competencies' dimension, testing in selection procedures remains possible. Another advantage is that this Human Capital Index is almost completely objective, which would largely exclude the possibility of malignant ageism: the scores on focus areas 1,2 and 4 are objectively determined. In fact, older applicants would probably score higher on this Index due to their higher scores these focus areas. Only focus area 3, performance rating, is scored subjectively. To measure performance, Mulhern and Moiseyev (2007) suggest selecting performance indicators from the list presented in Appendix II and scoring them by colleagues or supervisors. The list consists of several managerial qualities.
The Human Capital Index can also be used to measure the (potential) strength of a team.

All together, the Human Capital Index would look as presented in Table 1. In this example, a Chief Information Officer is reviewed. A skills/competencies dimension is included, which is

weighted 60% in the total score and internally divided between technical (job-specific) and non-technical (general) skills. The performance/experience dimension is thus weighted 40%. The sub-weights for each focus area can vary per job, thereby tailoring the Index to the specific demands of the organization. A clear downside of the HCI is that there is no costs dimension included, whereas the ELTV does focus on financial value.

Table 1 Example of the Human Capital Index (Mulhern and Moiseyev, 2007)

Competency Score Technical 82 x 60% = 49.20 Non-technical 49 x 40% = 19.60 **TOTAL: 68.80**	**Experience Scores** Year Exp. 55 x 15% = 8.25 Job Level 88 x 35% = 30.80 Perf. Rating 65 x 30% = 7.50 Variety of Exp. 30 x 25% = 7.50 **TOTAL 66.05**
Human Capital Score	68.80 x 60% = 41.30 66.05 x 40% = 26.40 **TOTAL = 67.7/100**

Additionally, Sveiby (1997) offers an objective calculation method for the Competency Score. It can be calculated using only demographic data:

1. Years in the profession * Seniority * Level of Education = Competence Index

Seniority is defined as the number of years the person has worked for this specific employer. If this is less than two years, the employee is still a 'rookie'; the more years, the higher degree of seniority is reached. The downside of this way of calculation is that two people with the same numbers of experience would receive exactly the same competence score, which is hardly realistic. Sveiby therefore offers another formula to measure the Competence Index. It uses subjective data, but it does offer a better estimation of the level of competence in the organisation (Sveiby, 1997):

2. Level in the organisation * Performance = Competence Index

The downside of this calculation is that it is not usable in a selection process, since the required information on the performance score is not yet known. It could be adapted by using the future level in the organization (the level of the position that the applicant applies for) as a measure for organizational level and the outcomes of an assessment centre as a measure for performance. This way, the Human Capital Index could serve as a largely objective measurement tool of employee value in selection processes.

5.4 Human Resource Accounting

Next to the Performance Measurement field, there is a group of scientists working on tools in the Human Resource Accounting (HRA) field. Human Resource Accounting is a concept

first used by Brummet et al. (1968), who defined it as *'the process of identifying, measuring and communicating information about human resources to facilitate effective management within an organization'*. According to Gebauer (2003), HRA is these days not only used for internal organizational purposes, but for e.g. valuing the firm as a whole as well. Information on the intangible assets of an organization explains much of the gap between market value and book value of a firm; it is therefore considered to be important to concretize the intangibles. HRA answers to this demand. Regarding this thesis, HRA offers some very relevant models calculating the costs and revenues accounted for by a specific employee.

There are two methodological splits in the field of HRA: the level of evaluation of the objects and the dimension of the results. By the first, the division between the individual and the group level is meant. The second methodological junction has to do with formulating the outcome model in a monetary or non-monetary way. The non-monetary models often make use of percentages or scores on a created scale. The monetary models are preferred over the non-monetary ones, as monetary standards are easy to compare and calculate with; the non-monetary ones always require extra knowledge. Moreover, they are extra sensitive for manipulation since no definitions are available (Gebauer, 2003). The figure in Appendix III provides an extensive overview of the developed models, tools and their authors in each group.

5.4.1 HRCA and HRVA

Next to the mentioned methodological distinctions, the monetary models are divided in two approaches: a costs-based approach and a value-based approach (Sackmann et al., 1989). The monetary models based on costs have a more traditional accounting perspective on employees: their valuation is based on spending, payoffs and expenses (Gebauer, 2003). An example of this costs approach the Original Costs model by Brummet et al. (1968), using (in)direct employee acquisition costs and (in)direct employee learning costs to calculate HR costs. Figure 8 shows the composition of this model. The developers of the model emphasized that this is the lowest level system for calculation; in all its simplicity, it did serve as the first practical instrument for employee value capitalization (Gebauer, 2003).

Lev and Schwartz (1971) use a different calculation: they use probabilities for future destinations of employees in the organization to calculate the employees' discounted future wage flows. The attention for the various positions an employee (will) hold(s) is also present in the earlier discussed Human Capital Index (Mulhern and Moiseyev, 2007). Hermanson (1964) proposes a different approach and even uses benchmarking: the Adjusted Present Value Model calculates the organization's efficiency rate by comparing its ROI with average ROIs in the same industry. The outcome of this efficiency rate calculation is than combined with future wages of the staff to determine the value of the human capital in the organization.

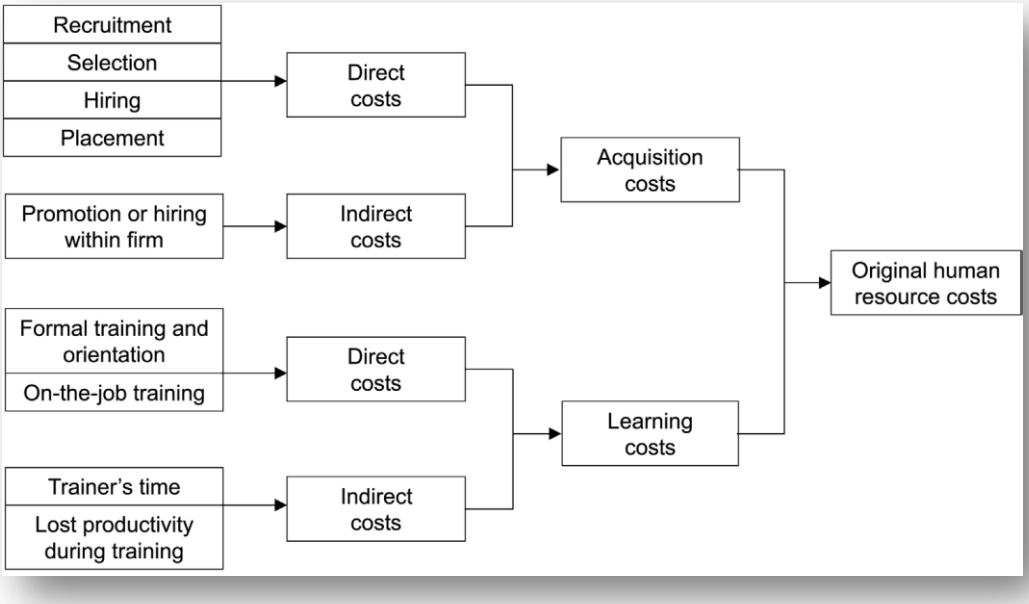

Figure 8 The Original Costs model (Brummet et al., 1968; Flamholtz, 2001)

The HR value-based accounting methods on the other hand have a totally different perspective on how to measure employee value. These models see employee value as the value of the employee's future contributions to the organization, which means that they are benefit oriented instead of costs oriented (Gebauer, 2003). The most cited monetary value-based model is the Stochastic Rewards Valuation model by Flamholtz (1971), which is elaborated on in the next paragraph. Other value-based HR accounting methods are the Social Psychology Indicators by Likert (1967) and the Determinants of an Individual's Value to a Formal Organization by Flamholtz (2001). Both of them are non-monetary. There are many other value-based HR accounting methods, but they are all similar to these mentioned basic models (Gebauer, 2003).

5.4.2 The Stochastic Rewards Valuation Model

Eric Flamholtz is the leading author in the (monetary) value-based HR accounting models. His Stochastic Rewards Valuation Model is well known and its complexity is low. The model assumes that there are two conditions determining an employee's value to the organization. The first condition is that the employee remains an economic resource for the firm for the full period of the potential economic service life; the second condition occurs when 'full period' becomes 'less than the full period'. After all, employees do not necessarily stay with the same organization over their full economic lifetime. The first condition addresses the Expected Conditional Value (ECV) of the employee: the amount of benefits that could potentially be realized from the employees' efforts during the period of his/her whole productive service life. The second condition addresses the Expected Realizable Value (ERV), taking into account the likelihood of employee turnover. The ERV is the more realistic event.

It is in fact the equivalent of the widely used concept of 'economic value': the present value of the future expected earnings of a certain product.

In his/her years of employment for a firm, an employee may hold the same position, get promoted, change fields or leave the firm. In the SRV model, these events are called 'service states'. Respectively, these states are named 'productivity', 'promotability', 'transferability' and 'exit'. In each of these states, the contribution of the employee to the organization changes. The expected amount of benefits an organization receives depends on the potential roles of the employee and the probability the employee actually occupies that role. This is what the SRV model derived its name from: *Stochastic* refers to the probabilities of employee transitions between states and *Rewards* refers to the benefits an organization derives from the employee in a certain state. After all, *"people are valuable to an organization because of the fact that they are capable of rendering future services"* (Flamholtz et al., 2003). Employee value in this model is thus calculated based on these assumptions.

In a simple mathematical statement, the interaction between these concepts is described by Flamholtz et al. (2003) as follows:

3. ERV = ECV x P
4. P = 1 – P(T)
5. OCT = ECV – ERV

in which *ERV* = Expected Realizable Value, *ECV* = Expected Conditional Value, *P* = probability of maintaining organizational membership, *P(T)* = probability of turnover and *OCT* = opportunity cost of turnover.
The more elaborated calculation of these concepts (ECV, ERV, P and P(T)) determines the value of human capital in five steps:

1. Define the mutually exclusive set of states, or service states, an individual may occupy in the organizational system, or organization.
2. Determine the value of each state to the organization, or the service state values.
3. Estimate a person's expected tenure, or service life, in the organization.
4. Find the probability that a person will occupy each possible state at specified future times.
5. Discount the expected future cash flows to determine their present value. *(Flamholtz et al., 2003)*

In the first step, the unique states may for example be a operational position, proceeding to a line manager, a middle-level manager and a top-level manager. The 'exit' state should always be included. Each position (state) should be given a number to rank them hierarchically, e.g. the operational position is '1', the line manager position is '2', and so on. In order to take into account 'transferability', different organizational departments can be

included in these states. An employee may start at sales, but may pass through finance to end up in the procurement department.

In the second step, the organization should determine the value it derives from an employee being in a certain state for a specified period. What is the monetary contribution of an employee working at a certain level in the sales department for a year? This is hard to indicate, but Flamholtz et al. (2003) offer several tools. Ideally, the economic value (discounted future earnings) is used for this. This can be calculated either by using the price-quantity method or the income method. The *price-quantity method* multiplies the price of the delivered human service in that state with the expected quantity of those services. For example, the expected number of chargeable hours is multiplied with the appropriate billing rate. The *income method* uses a slightly different approach to calculate expected future earnings: the firm's total expected earnings are allocated over the various organizational resources, human or other. The allocated earnings to human resources are then allocated over the individual employees. Using either method, it remains hard to provide a realistic indication of the value of a person in a certain position. Flamholtz et al. (2003) note that calculating these values is less difficult for knowledge-intensive firms. Surrogate measures could be using the amount of compensation as an indicator, or transfer pricing: an internally designated price for intra-organizational exchanges (Flamholtz et al., 2003).

The third step requires the estimation of the employee's total 'lifetime' in the firm: will he/she stay for five or twenty years? This probability can be approximated by taking into account people's natural life expectancy, health and emotional state, the organization's retirement policies and the inter-organizational mobility level. Estimations of these variables remain subjective forecasts, unless historical experience and data are used. Then, actuarial predictions can be made (Flamholtz et al., 2003).

In the fourth step, probabilities for each of the determined states should be determined at specified future times. For example: what is the probability that employee A will be a middle manager in procurement in three years? Again, estimating these probabilities can either be done in a subjective or actuarial manner. The actuarial approach uses the *Markovian transition matrix*. This matrix applies historical data to analyse the movements of people in the organization (Table 2). The various states (1, 2, ….) in year T and T+1 are listed. The transitions of people in e.g. state 1 ('assistant') are followed: 25% was still an assistant in year T+1, 50% was promoted to state 2 ('associate') and 25% had left the firm. These numbers can be used to predict future movements of people within the organization. The disadvantage of this model is the fact that it generalizes tenure, thereby standardizing a prediction of people's career steps. These predictions have no connection with the personal story of the candidate in the selection process; their validity is therefore questionable.

Finally, in the fifth step, the expected future cash flows should be discounted using an appropriate interest rate to determine the present value of the total sum of these values.

Table 2 Markovian transition matrix (Flamholtz et al., 2003)

	Year T + 1			
Year T	Senior	Associate	Assistant	Exit
Senior	60%	0	0	40%
Associate	33%	33%	0	33%
Assistant	0	50%	25%	25%
Exit	0	0	0	100%

Flamholtz et al. (2003) created two mathematical formulas for calculating the ultimate value from this five-step process. The first equation calculates the ECV, the second calculates the ERV. The difference between the two is caused by leaving out '*m-1*' in the ERV formula, thus including the value of the 'exit' state. The ECV on the other hand assumes that the employee will stay with the firm. ECV and ERV will thus only be equal to each other when the employee is expected to spend his/her entire economic lifetime in this firm.

6. ECV = $$E(CV)=\sum_{t=1}^{n}\left[\frac{\sum_{i=1}^{m-1}R_i \bullet P(R_i)}{(1+r)^t}\right]$$

7. ERV = $$E(RV)=\sum_{t=1}^{n}\left[\frac{\sum_{i=1}^{m}R_i \bullet P(R_i)}{(1+r)^t}\right]$$

in which R_i = the value R to be derived by the organization in each possible state i, $P(R_i)$ = the probability that the organization actually will derive R_i, which is the probability that the employee in question will hold the particular position, t = the specified time, m = the 'exit' state and $(1 + r)^t$ = the discount factor using interest rate r.

The five-step process results in the composition of Table 3, providing the outcome expected realizable value for a certain employee. The calculation of ECV for the same example results in a total ECV of $72.571. The ERV is indeed lower than the ECV, due to including the worthless 'exit' state in the ERV calculation.

Table 3 Example of ERV calculation (Flamholtz et al., 2003)

A Year	B Prob. of Turnover	C Service State	D Realizable Prob. of Service State	E Service State	F Realizable Prob. Of Service State	G Sum Products [(CxD)+ (ExF)]	H PV of Single Sum Factor 10%	I Expected Realiz. Value (GxH)
1	.2	10,000	.5	11,000	.3	8,800	.90909	$8,000
2	.2	10,000	.1	11,000	.7	8,700	.82645	7,190
3	.2	11,000	.7	12,000	.1	8,900	.75132	6,687
4	.2	11,000	.4	12,000	.4	9,200	.68301	6,284
5	.3	11,000	.1	12,000	.6	8,300	.62092	5,154
6	.3	12,000	.4	13,000	.3	8,700	.56447	4,911
7	.4	12,000	.1	13,000	.5	7,700	.51316	3,951
8	.5	13,000	.5			6,500	.46651	3,032
9	.5	13,000	.3	14,000	.2	6,700	.42410	2,841
10	.8	14,000	.2			2,800	.38554	1,080
						Total Expected Realizable Value		$49,130

Both the Stochastic Rewards Valuation Model (Flamholtz et al., 2003) and the Human Capital Index (Mulhern and Moiseyev, 2007) consider the analysis of previous/expected various positions or hierarchy levels part of a proper indicator for employee value, each of them using a different calculation. The measurement of 'soft skills' or intangibles like social capital is basically left out; in that sense both models provide a relatively easy way of measuring employee value. The Human Capital Index can include a Skills/competencies dimension, but the Flamholtz model does not take into account any of it. Moreover, regarding age discrimination, the proposed models are likely to result in a higher score for older applicants. They simply have more experience and have been around longer, which would result in a higher score in the Human Capital Index. Also, in the Stochastic Rewards Valuation model, older applicants would be more likely to reach a higher service state earlier, thereby contributing more value to the organization. On the other hand, in the ELTV, the *net* contribution is used for calculations; the often higher wages of older workers could lower their net contribution compared to younger workers. Furthermore, the economic lifetime of older applicants is shorter, so this might balance the calculation again.

5.5 Improvability of KSAOs

The final notion I would like to add to this chapter on determining value is the concept of *'improvability of knowledge, skills, abilities and other characteristics (KSAOs)'*. It is important to gain some knowledge about this since 'improvability of KSAOs' is a major implicit assumption influencing selection procedures: it is a core assumption in people's world view and creates a framework through which people interpret the world (Dweck et al., 1995). The degree to which HR managers believe in the improvability of KSAOs strongly influences decision making in selection procedures: can a certain skill be acquired in training, or must it

be present at the moment of hiring? Maurer et al. (2003) conducted empirical research on this topic, investigating the relationships between malleability beliefs and KSAO dimensions, including personality, intelligence and morality as well. Their results of two empirical studies show that believing in the improvability of KSAOs results in more self-efficacy and favourable attitudes towards selection procedures and development activities. Self-efficacy is defined as your own judgment of what you can do with your skills. Furthermore, a higher level of self-efficacy leads to stronger learning-oriented attitudes and this leads to more learning-oriented behaviour. Attitude and behaviour are indeed positively correlated, as Ajzen already argued in the Theory of Planned Behaviour.

There are two theories describing the attitudes towards malleability: *entity theory* states that KSAOs are non-malleable, they are fixed and cannot change; *incremental theory* states the opposite. The Iceberg model of competencies (Spencer and Spencer, 1993) offers a more nuanced version of these theories. The Iceberg model contains five types of competencies: motives, traits, self-concept characteristics, knowledge and skills. The first two, motives and traits, are seen as the most difficult ones to change or develop. Like the biggest part of an iceberg, they are hard to observe and measure. They encompass our drive, internal motivation to do what we do, and our personal traits, explaining why we behave in a certain way. The final two, knowledge and skills, are considered to be the easiest to change: they are the top of the iceberg. Self-concept characteristics are somewhere in between, embodying our norms, attitudes and values. In the empirical studies conducted by Maurer et al. (2003), similar constructs are found: the 'motivation/cognition' factor is similar to 'motives and traits'; the 'management/knowledge' factor is almost equal to 'knowledge and skills'. Their results support the theory on the degree of difficulty of improvability of these factors.

In selection processes, the competencies that are found most important are often considered to be most improvable. According to Maurer et al. (2003), this is the case since the skills people believe are important are also the skills they have spent the most time on trying to develop: *"developmental efforts are focused on those skills which are considered critical for successful performance"* (Maurer et al., 2003). It would be interesting to test during the selection procedure whether an applicant and the HR manager support the incremental or the entity theory. As described, this could have quite some influence on the applicant's learning orientation and the HR manager's decision.

5.6 Overview

This chapter sought to understand how employee value is determined. In order to do so, Selection and Resourcing literature was explored; a range of tools from the Performance Measurement and HR Accounting fields was provided and literature on the improvability of KSAOs was elaborated on.

From a Selection literature angle, Gatewood et al. (2008) argue that KSAOs are the parameters that need to be assessed in a selection process. Their model (Figure 6) indicates that the outcome of the job analysis is a list of KSAOs deemed necessary for effective job performance. Four things are important for the assessment device: practicality, sensitivity, reliability and validity. The most valid selection methods are cognitive ability/psychometric tests, structured interviews, analysis of biodata and work samples/assessment centres. All methods have a different approach and use different inputs; in general however personality, intellectual capabilities and competence is subject of study. The theories from the Performance Measurement and HR Accounting fields on the other hand use very different inputs: in these models, value is mostly calculated by analysing years of experience, expected progress in the organization, a timeline of this progress and the amount of value each step will add. These inputs are very measurable and objective: actuarial data is used. Only the Human Capital Index offers the possibility to include a 'skills' or 'competencies' dimension.

The discrepancies between these approaches - Selection vs. Performance Measurement/HR Accounting, theory vs. practice - are remarkable and interesting. What does this mean for the tool that this thesis aims to develop? What should be included, personality and skills and/or the value of career progress? The tables in Appendix IV (Mulhern and Moiseyev, 2007) offer an attractive alternative. The tables list the value and costs prognoses of an employee in the first and successive year(s) of employment for the specific organization. Employee progress is thereby implicitly included. Value adding activities are the employee's skills, knowledge, productivity, customer/partner relationships and revenue generation. Cost generating activities are recruitment, training, compensation schemes and workplace overhead. The most interesting trait of these tables is that most of the discussed models and theories are represented in it. The notion that "if effectively managed, skills are focused on areas that generate maximum value" is a perfect illustration of the Enlightened Value Maximization theory: skills should be the means to an end, which is value seeking. Also, Heskett et al.'s (2003) Value Chain theory is there, reflected in the "growth of productivity as long as motivation remains high". The ELTV, Human Capital Index and SRV model are represented in the remarks about the benefits of more experience by a longer service time, which result in "creating valuable business relationships" and "the ability to generate new revenue streams". Regarding the costs side, a longer duration of employment results on the one hand in lower recruitment and training costs, but on the other hand in higher compensation costs. Mulhern and Moiseyev (2007) however make the remark that these higher compensation costs are almost completely outweighed by the assumed increase in productivity (and thus revenue), if compensation is linked directly to performance. Selection decisions thus impact the organization's finance as a whole. Gatewood et al. (2008) highlight the importance of understanding that selection is part of the strategic HRM framework of an organization; HR activities are interdependent. If a person with low skills is hired, training costs will be higher; if a highly qualified and experienced person is hired, compensation

costs will be higher. The long-term effects and consequences of a hiring decision should thus be borne in mind, not only in terms of costs, but performance as well. Selection hence comprises more than only matching job requirements with individual capabilities.

Taking this into account, what would then be the best tool to measure employee value in selection procedures? What should be included? Summarizing the theories that were elaborated on in this chapter, this is a list-wise overview:

a. Ultimately, behaviour should be directed at seeking firm value. Therefore, a *value* section should be included, measuring as objectively as possible the amount of future revenue flows attributable to the candidate. This can be done by including a measure of career progress: steps that will be taken by the employee, with their respective values to the firm. The ERV resembles this calculation.
b. 'Soft' KSAOs are the means to this 'hard' end; therefore, a *KSAO* section should be included.
c. Naturally, there will be costs attributable to this person. As a result, a *cost* section should be in the model as well.

These concepts and their calculation as a part of the final model are the subject of the next chapter: Scoring employee value.

6. Scoring employee value

6.1 The model

This chapter combines the relevant described inputs of Chapter 4 and 5 to compose a selection instrument that:

- suffices to the four criteria of a selection method, and
- enables a largely objective, actuarial monetary calculation of employee value.

The model consists of Table 4. Table 4 uses Mulhern and Moiseyev's (2007) ELTV formula, the ERV, the overview of employee value and costs prospects from Appendix IV and the method of reasoning listed in paragraph 5.6. The ELTV formula is slightly adapted so as to fit in the prospect variables.

$$ELTV = \sum_{t=1}^{T} \left(M_t \frac{1}{(1+d)^t} \right) - C$$

The *M*, the future expected financial contribution of the employee, is calculated in the Value dimension of the model. The *C*, the costs assigned to this employee, is calculated in the Costs Dimension. The *d* and *t* are taken into calculation when *M* and *C* have been calculated.

The original Value dimension of the model as given in Appendix IV is somewhat tailored: the variables *productivity* and *revenue generation* are taken together in variable (1) by calculating the Expected Realizable Value from Flamholtz' Stochastic Rewards Valuation model. The ERV calculates a similar construct. As was explained, the ERV is also an appropriate model to calculate the value of all future service states of the candidate. The KSAOs that are the means to this end are represented in variables (2) to (6). The variables *competence* and *knowledge* are the ones that are most improvable and hence considered most important according to the Iceberg Model (Spencer and Spencer, 1993); they therefore remain part of the model. A distinction is made between job-specific (technical) and general (non-technical) competence, which is a distinction that was also made in the Human Capital Index (Mulhern and Moiseyev, 2007). The variable *customer/partner relationships* is renamed to social capital, which is a more common term in literature and has a slightly broader meaning. The method of reasoning regarding the Value dimension of the model is thus aligned with the Enlightened Value Maximization theory: the 'soft' measures in the Value dimension in Table 4 should result in added financial value. The Costs dimension is based on the Original Costs model by Brummet et al. (1968) that was presented earlier in this thesis. It is slightly simplified; the variable *workplace overhead* is left out as this is the same for every employee and hence does not add to the model.

Expected financial in- and out-flows attributable to the potential employee can finally be calculated; this value is discounted over the expected employment lifetime to find the ELTV.

No use is made of weights; this is not necessary when every variable is expressed in a monetary way.

Table 4 Employee value

Dimension	*Value*
Value	
ERV (1)	€
Competence set (2)	€
- Job-specific (3)	€
- General (4)	€
Knowledge (5)	€
Social capital (6)	€
Total	
Costs	
Acquisition (7)	€
Training (8)	€
Compensation schemes (9)	€
Total	
Discount rate (10)	
Expected time period (11)	
Employee value (12)	€

The monetary scoring of the KSAOs, the soft part of the model, remains to be a bottleneck. One could therefore think of using alternative – more subjective - metrics to score these variables. An example is a system that uses subjective scores, like the Human Capital Index. These scores could be attached to a standardized monetary value: if a candidate is scored in the interval '80 - 90' on the variable knowledge, this is connected to a monetary value of e.g. €10.000. An overview of these scores in relation to the attached monetary values should be determined beforehand. This system of scoring is used for variables (5) and (6), as no suitable objective quantification of these variables has been found. Variable (5), *knowledge*, is not sufficiently scored when only the possession of a degree would be taken into account. Knowledge encompasses much more than a degree, e.g. all the implicit knowledge a person has gathered along the way. For variable (6), *social capital*, no objective quantification of any kind has been found in literature. All other variables in the model are largely objective. The various variables in Table 4 can hence be calculated as follows:

(1) **ERV**: Table 3 enables calculation of Flamholtz' Expected Realizable Value ERV.
(2) **Competence set**: this is the combined value of (3) and (4).

(3) **Job-specific competences**: use Sveiby's formula[4] to calculate the Competence Index. For 'years in the profession', fill in the amount of years the candidate has worked in a similar position. The outcome score needs to be linked to a standardized and pre-determined monetary value.
(4) **General competences**: use Sveiby's formula to calculate the Competence Index. For 'years in the profession', fill in the amount of years the candidate has worked in total. The outcome score needs to be linked to a pre-determined monetary value.
(5) **Knowledge**: subjective scoring in intervals. The intervals are connected to a pre-determined monetary value.
(6) **Social capital**: subjective scoring in intervals. The intervals are connected to a pre-determined monetary value.
(7) **Acquisition**: according to the Original Costs Model (Brummet et al., 1968), direct acquisition costs are costs related to recruitment, selection, hiring and placement. These costs can be calculated every now and then and thus be used as a fixed number in the model.
(8) Training: these costs have to be calculated per applicant, as every employee will need different trainings. A distinction can be made between direct (formal training and orientation and on-the-job training) and indirect (lost productivity during training and trainer's time) training costs (Brummet et al., 1968).
(9) **Compensation schemes**: these costs represent the compensation costs for the employee: the salary and fixed benefits.
(10) **Discount rate**: the current interest rate can be used to discount the future net earnings.
(11) **Expected time period**: for this variable, an estimation needs to be made of the employee lifetime in this organization.
(12) **Employee value**: the ELTV formula can be used to calculate this number.

Next to the explained bottleneck of attaching a monetary value to KSAOs, there are some other downsides of these calculation methods:

- Competence, knowledge and social capital grow over time: the initial value will be different from the value some years later on. The model however aims at identifying the attributable *future* cash flows as well, so how should this value be calculated?
- How to incorporate the beliefs in improvability of KSAOs?
- How do you estimate the expected service time of the employee? This is a highly subjective, but important part of the model. The absolute difference between e.g. 15 or 25 years strongly influences the outcome of the calculation of both the ERV and the total discounted value.

[4] Years in the profession * Seniority * Level of Education = Competence Index (Sveiby, 1997)

In terms of practicality, sensitivity, validity and reliability, the model has some aspects to improve. It is practical to some extent, as the variables are not too hard to grasp; the calculations however will require some effort. Due to the use of subjective variables, the intra-rater and inter-rater reliability of the model is also not impeccable. The sensitivity however is: the model will definitely result in different final scores for each applicant, hence allowing a ranking. Regarding the validity of the model, the face validity is sufficient; the predictive and construct validity should be tested in order to know their level of validity.

6.2 The empirical pre-testing

The model has been laid down for three SME HR professionals. Their fast and first responses were that the model is too complicated for them to use it. All respondents explained that in their organization, the financial consequences of a hiring decision are barely considered. Their selection processes are by far not as stepwise and mathematical as the model is. All respondents indicated that their hiring decision is almost always based on gut feeling: the candidate has to 'feel good' in their company. Needs of the teams are analysed and based on this, the expected group process forms a major part of the selection decision.

Content-wise, the ERV was strongly criticized as *"adding no value; what am I supposed to do with the outcome?".* Moreover, the estimation of probability of each service state was considered problematic. One respondent stated that this is too uncertain to estimate, let alone let it be based on actuarial data. Another respondent indicated that their firm actually only holds three varieties of positions, so much career progress is not possible. This reduces the 'sensitivity' criterion score for the assessment device.

Furthermore, the scoring of the KSAO part was found to be extremely challenging. For example the variable 'knowledge', how should this be judged to be higher or lower? A respondent stated that the obvious distinction between professional education and academic education is not relevant at all for their firm, but the amount of knowledge a candidate possesses undoubtedly is. In practice, the respondent tests this knowledge level by walking along with the candidate while asking some test questions. The respondents considered it very hard to translate the KSAOs into a monetary value. All of them declared that the KSAO part however is the most important part of the model: this is the part they attach most value to in their own daily work. Their scoring is however based on gut feeling.

The Human Capital Index was laid down as an alternative by the author. Two respondents were much more willing to use this model compared to my model, as the scoring is more simple: *"It is much easier to give a score than to estimate a future monetary value; I can more easily rank candidates with this model".* The third respondent remained sceptical: "*I don't believe in tables like this – it's a false security".*

With regard to the phenomenon of age discrimination, all respondents admitted to prefer a thirty year old candidate over a fifty year old candidate if both would be equally qualified.

Even though two respondents remarked that they had more often experienced long lasting illnesses amongst younger employees than older employees, they would still prefer the younger employee. The higher compensation costs, age related fringe benefits, prejudices, a lack of flexibility and a lack of new ideas were named as the reasons not to choose for the 50 year old candidate. All respondents stated that in general, they recognized and valued the added value of the experience brought to the table by an older employee.

What can be concluded from this reality check is that the model is too complicated, time-consuming and considered irrelevant to use amongst the three respondents. Their beliefs in gut feeling and intuition are stronger than a calculation; the added value of the model was considered unclear. Highhouse (2008) came to a similar conclusion when proving that many HR executives prefer unstructured interviews over formalised tools, believing that these traditional interviews are more effective and useful. Remarkable is the lack of attention for the financial aspects of a hiring decision. The line of reasoning from the theory of Enlightened Value Maximization is not supported by the respondents – at least not in an financial way. The idea that people need to add value to the firm is supported, but then rather in the 'soft' sense of team value and experience.

7. Conclusion

This thesis explored the topic of measuring employee value by means of a literature study and a small empirical 'reality check'. Based on literature, the bottom-line from the chapter on defining value and the tools from the chapter on determining value eventually led to the construction of an assessment device. The goal of the development of this assessment device was to enable more objective and non-discriminating selection procedures in SMEs, so as to allow unemployed baby boomers to have a fair chance on becoming employed again.

The research started with identifying the elements for a definition of employee value; a definition of value is necessary before it is possible to measure it. Two important notions regarding the definition of value were the recognition of context dependence and the discussion about hard or soft selection criteria. Context dependence encompasses the influence of selection paradigms, organizational strategy and operational demands on what is defined as employee value. An answer to the hard/soft dilemma was provided by Jensen (2001) through the theory of Enlightened Value Maximization: commercial firms should be directed at maximizing their firm value; their employees should contribute to this goal. Following this theory, the extent to which (potential) employees add value or demonstrate value seeking behaviour should be the most important decision criterion in selection processes. In the final model, this is measured using the format of the ELTV (Mulhern and Moiseyev, 2007): an employee's (future) financial costs are withdrawn from the (future) financial contributions; this net contribution is discounted over the expected service time of the employee. The model hence consists of a 'value' dimension, including KSAOs, and a 'costs' dimension. This results in the following checklist of selection criteria, as was presented in Table 4, which is to a large extent based on the tables in Appendix IV (Mulhern and Moiseyev, 2007):

Value adding measures:

- ERV
- Competence set, job-specific and general
- Knowledge
- Social capital

Costs measures:

- Acquisition costs
- Training costs
- Compensation schemes

The model seeks to score all these variables in a monetary way. For the costs dimension, this is relatively easy; the outcome scores can even be used as fixed numbers. The scoring of

the more soft value dimension however turns out to be problematic. Alternative (subjective) metrics are suggested to enable a financial scoring. Yet, the empirical pre-testing of the tool showed that these efforts will probably not be made in practice: the respondents did not see the added value in using a scientific selection tool. Their most important decision criterion is their gut feeling; no tables or financial calculations are involved. Key factors that are taken into account in their decision are teamfit, competences, interpersonal 'click', experience and knowledge. Selection is not based on science, but on intuition. Highhouse (2008) reached a similar conclusion.

I would like to finalize this chapter with two quotes from Davis and Scully (2008): *"As with recruitment, we arrive at a position of needing a balance between valid and reliable assessment of relevant characteristics and abilities, linked to probable work performance, and retaining an honest and reasonable dialogue with the candidate. Through this both parties can derive sufficient information to allow them to make appropriate choices about potential job offers. Both method and process need consideration."* In the end, selection is not only about making an objective measurement: "*The meaningful is not always measurable and the measurable is not always meaningful."*

8. Discussion

8.1 Validity and reliability

The topic of measuring the value of people is a very sensitive one. This is for example demonstrated by the strong junction in HRM literature between hard and soft HRM: the opinions on the value of employees differ to a great extent. Are employees regarded as production tools or as (one of) the most important assets of a firm? This ideological and methodological difference is equally present in the field of measuring employee value or performance. What should be included in these measures, only directly attributable money flows, or the employee's competence, social factors, personal values etc. as well?

The theory of Enlightened Value Maximization (Jensen, 2001) offered an appealing compromise for this thesis. Of course, this theory is just one out of many; I chose it because of its compromising possibilities, its combination of hard and soft. Protagonists of hard or soft HRM would probably not have chosen this theory. Content-wise, the translation of this theory about the corporate objective function towards a suitable model for this thesis is not one on one correct. The theory states that value seeking behaviour is most important; but how do you measure value seeking behaviour? Behaviour is such a complex concept; literature offers no overall measurement tool that completely covers the concept. And behaviour does not stand alone: people interact with each other, behaviour leads to behaviour; then how would these value adding effects be measured? After all, as Davis and Scully (2008) write, *´the whole is greater than the sum of its parts. Designing performance measures requires that we understand the performance of the individual, work-groups and departments, and how these parts integrate into the outcomes of the organization as a whole".*

In this thesis, I strived for the development of a tool that would be as objective as possible, leaving no opportunities for ageism to occur. Objective models however do not fully take into account the measurement of soft characteristics (KSAOs), but according to my interpretation and definition of employee value, this should be included. The final model therefore is not free of subjective variables. The theories used, e.g. the Stochastic Rewards Valuation model to calculate the ERV, are subjective to some extent. An expected employee service time is difficult to estimate. Including these more subjective estimations and scores in my opinion adds to the validity of the model. Important soft variables that determine employee value are not left out because they are hard to measure in financial terms. As a consequence however, the reliability of the final model decreases. Degrees of competence, social capital or knowledge will be scored differently by each HR manager. Question is whether soft KSAOs are ever to be scored objectively and monetarily. Measuring them is hard exactly because they are soft; would it not be better to direct our attention towards improving soft subjective measures, like the HCI? Subjectivity cannot be avoided, but maybe inter-rater reliability and construct validity can be improved.

Also, the model leaves out a part of the context-dependence factor for defining value that was identified in chapter 4. As was explained, selection paradigms are very influential; if for example the 'culture-fit' approach is dominant in an organization, a specified set of competences would not be relevant. The model hence is most relevant for organizations operating under a 'right person' approach, when conforming to lists of requirements is most important.

Another remark with regard to the complexity of the tool is the degree of suitability and practical usability for the target group, SMEs. The tool starts from the notion that firms have an outlined strategy, a strategic HR plan and a corporate objective function that is either Value Maximization, Stakeholder Theory or the Enlightened compromise. Do small-sized firms meet these assumptions? And if not, does that mean that the tool is intrinsically not applicable to this group of organizations? Is the SME sector the best sector to develop this model for; should it not have been MNEs, taking into account the more complex and extensive nature of their organizational selection procedures? Or should the target group for developing such a tool be chosen based on the sector baby boomers have most potential to be hired for? After all, it is the 'unemployed baby boomers'-problem I tried to offer a solution for.

With regard to the reliability and validity of the empirical pre-test, much can be improved. The use of only three respondents is not sufficient to draw any valid scientific conclusions upon. Also, methodologically, the use of standardized questions and voice-recorders would have a positive impact on the reliability of the pre-test. I made use of a topiclist, which was satisfactory because of the small number of respondents, but for bigger studies a different method could be better.

8.2 Recommendations for further research

When further research in this topic will be carried out, I recommend to study selection literature more extensively. The measurement or scoring of soft traits like skills and knowledge (KSAOs) is not sufficiently looked into yet in this thesis. Moreover, studying selection tools can be very valuable. What is their (perceived) effectiveness, what are valid predictors of future performance?

Another important recommendation I would like to make is to carry out an investigation of the wants of the target group. The model was rejected by them due to its complexity and lack of clear added value; what instrument would HR managers then actually desire? What information do they miss in their current selection practices?

Needless to say, I finally recommend future researchers in this topic to expand the empirical research so as to increase its reliability and validity.

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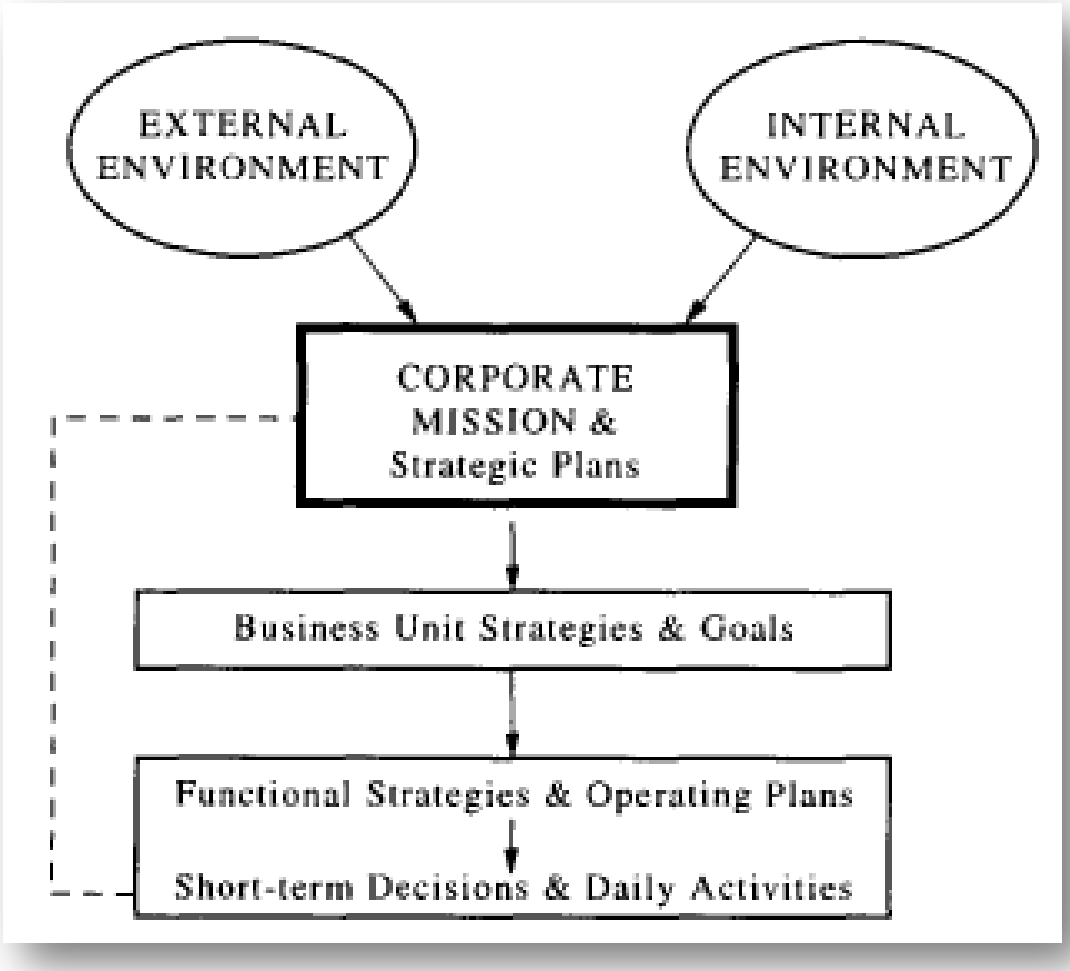
Appendix I: The organizational planning structure



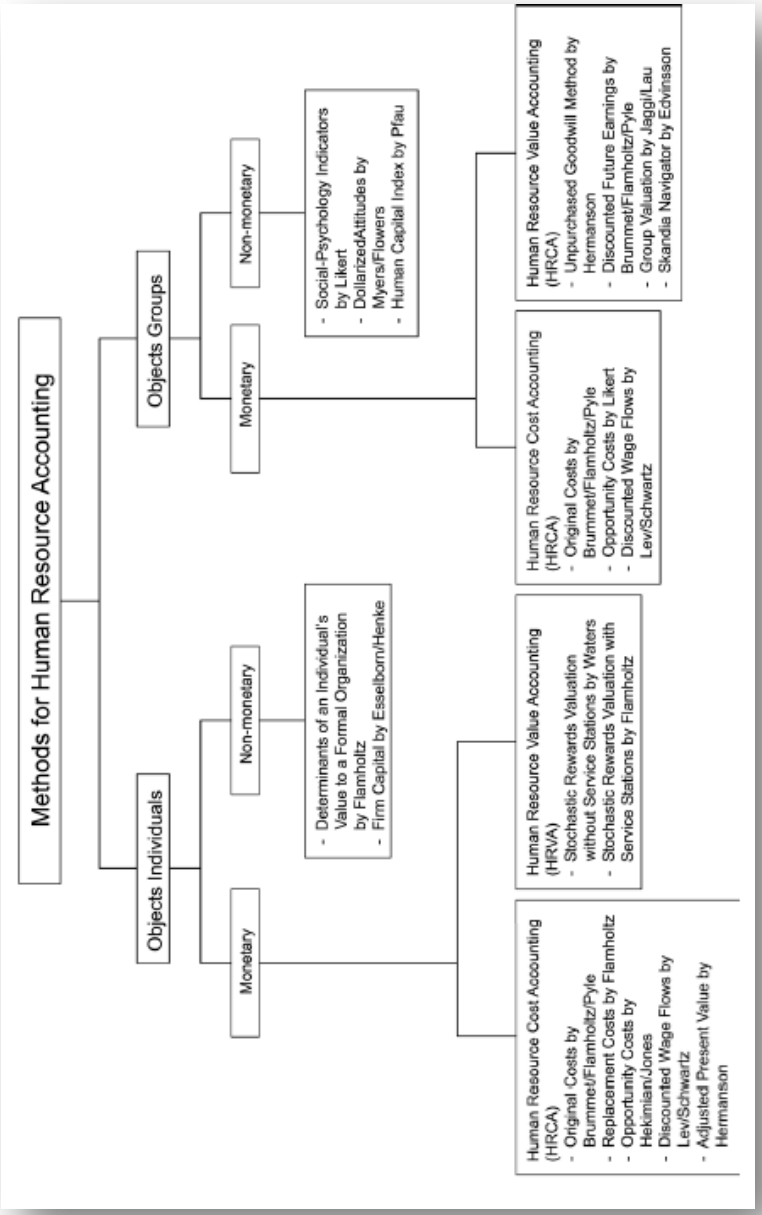
Based on Carr and Smeltzer, 1997

Appendix II: List of performance indicators

- *Leadership* – ability of an employee to influence, motivate, and enable others to contribute toward the effectiveness and success of the organization, ability to make decisions and bear responsibility
- *Customer orientation* – ability to respond to customer needs quickly and efficiently and take care of their needs and wants
- *Quality* – ability to take care of customers' needs
- *Teamwork* – ability to help co-workers, build up trustworthy and long-term relationships and share knowledge with them
- *People growth* – ability to grow professionally, constantly improve his/her performance and make progress
- *Project management* – ability to set goals and achieve them
- *Listening* – ability to listen to customers and give them feedback
- *Communications* – ability to articulate thoughts and ideas clearly and effectively through speaking and writing
- *Planning* – ability to establish a course of action to accomplish specific results
- *Relationship management* – ability to work with others, to avoid conflicts, and find solutions to problems

Based on Mulhern and Moiseyev (2007).

Appendix III: HRA overview



Based on Gebauer (2003).

Appendix IV: Value / Costs prospects

Value	First year	Successive years
Skill set	Company-specific skills low	Grows incrementally. If effectively managed, skills are focused on areas that generate maximum value
Knowledge	Usually low, depending on previous employment: often hard to apply in new organization	Grows incrementally, and relevance of knowledge increases
Productivity	Low, increasing over year	Grows incrementally as long as motivation remains high
Customer/partner relationships	Zero to low	Grows incrementally, creating valuable business relationships
Revenue generation	Limited	Ability to generate new revenue streams increases with experience

Cost/investments	First year	Successive years
Recruitment	High, including direct costs (e.g., recruitment fees) and indirect (e.g,. management resource for "on-the job" training)	Zero
Training	High in order to achieve basic level of productivity	Constant skills enhancement required, but benefits are incremental and should increase productivity
Compensation schemes	Variable	Increases incrementally, but if related directly to improved performance, net cost is limited
Workplace overhead	Constant	Constant, with some specialist investment required

Based on Mulhern and Moiseyev (2007).