An analysis of Skill Gaps of Dutch Business and Administration (Associate) Professionals in the era of automation:
A two-step approach

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ABSTRACT,

This thesis examines the skill gap emerging in the Dutch labor market as a result of increasing automation. The bulk of employment prospects in the Netherlands will be trained for highly skilled jobs and professions, according to Cedefop's country report on skills forecasts. As a result, future skill sets must be investigated utilizing data analysis, which provides new insights into the predicted skill compositions of both business and administration professionals. Therefore, this thesis attempts to determine the emerging skill sets needed for "business & administration professionals" and "business & administration associate professionals" over the next 10 to 15 years, applying a two-step approach. A quantitative analysis of the Occupational Information Network (O*NET) database was conducted throughout the first step. We specifically analyzed standardized importance ratings of skills required to succeed in one's chosen occupation. As a second step, qualitative, semi-structured interviews with experts currently in the field were conducted. Finally, the findings were related to the database's findings in the Netherlands. Participants were recruited for this study based on their employment or their prior research conducted in the area of business administration professionals.

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1. INTRODUCTION

The growing effect of automation on the global economy, businesses, and communities has permitted unparalleled growth, prompting experts to anticipate that the next decade will see significant changes in the nature of employment as a result of automation (Davenport & Kirby, 2016). Whenever the effect of technological advancements on jobs has been debated, anxiety has been instilled in the form of job losses or even potential job extinctions (Brynjolfsson & McAfee, 2016; Wilson, 1996). The growth of automated applications over the last few decades, along with the decreasing cost of automation, has provided an economic opportunity for businesses to replace human labor in repetitive activities with machines (Autor, Katz & Kearney, 2006; Goos & Manning, 2007; Goos et al., 2014; Michaels et al., 2014). Routine operations can be conveniently codified in programming applications and are therefore more likely to be done by computers (Autor et al., 2003). However, core human skills such as empathy, communication, and creativity are less easily replaced by computers, especially for knowledge-intensive jobs that require specialized skills and experiences. This is especially true for jobs that include social skills that supplement technical capabilities (Eichhorst, 2017). Therefore, a broader range of skills is required, from literacy and numeracy to the necessary socio-emotional skills for interactive and flexible employment (OECD, 2016).

A previous study, such as undertaken by Somers et al. (2020), explored the Dutch labor market's shifting need for skills. Additionally, Cedefop (2020) delivers reliable and timely insights into the evolving skill requirements across the European Union via its skills intelligence labor market data analysis. According to Cedefop's report on skills forecasting, most employment opportunities in the Netherlands will be within highly skilled jobs and professions (Cedefop, 2020). One reason for this is the automation process of low and medium skills workers (Acemoglu & Restrepo, 2018). Therefore, there is a need to investigate future skill-sets using data analysis, which provides new insights into the anticipated skills which will be required in business and administration experts. This paper applies a two step approach, which to our knowledge, is the first of its kind and has not been studied in this manner before. First, EU-LFS data for the Netherlands is merged with the U.S. database O*NET OnLine to identify important skill sets for high-skilled Dutch occupations in the next 10 to 15 years. In the second step, the results from this database are assessed through semi-structured expert interviews. The experts are professors and researchers who conduct research on human resource analytics and talent management as well as business administration professionals who operate within an organization.

Individual' skill sets, which enable them to participate in the future job market, are expected to evolve over time. Using this reasoning, a more complementary skill set will be required, spanning from reading and numeracy to the appropriate socio-emotional skills for collaborative and flexible employment (OECD, 2016). In this setting, research consistently emphasizes the critical nature of socioemotional (or *soft skills*) (Larsen et al., 2016; De Carvalho & Rabechini, 2015, Syed et al., 2010). Thus, this article aims to contribute to the development of a skill set that promotes the Dutch individual's labor market performance in times of changing workplace needs.

The aim of this thesis is to classify a future skill-set for both major occupational fields of "business and administration professionals" and "business and administration associate professionals" in the Netherlands. By delving deeper into how skills are valued in the labor market, the people responsible for developing educational curricula and those investing in human resources can better understand the skills needed for jobs both at present and in the future.

Based on the future need for a more comprehensive skill set and an increase in high-skilled labor supply in the Netherlands (Cedefop, 2020), this thesis is inspired to answer the following question:

"What skill sets will "business and administration professionals" as well as "business and administration associate professionals" require in the next 10 to 15 years?"

2. LITERATURE REVIEW

2.1 Skill Development in the Age of Automation

To begin discussing the subject of soft skills, we begin with a basic definition and a few features from the literature. While certain soft skills may be innate, it seems probable that many others may be learned and developed via a range of life events (Wickramasinghe & Perera, 2010). Employability skills or enterprise skills are sometimes used to refer to skills that are transferable across various sectors and occupations (Deloitte, 2017). An additional difficulty in defining soft skills is that they are often linked with attitudes, beliefs, dispositions, characteristics, and actions (Matteson et al., 2016). Finally, perceptions of soft skills vary greatly and from context to context (Schulz, 2008).

The phrase "soft skills" refers to broad, transferrable, and flexible skills in this context. Andrews & Higson (2008) define generic, transferable, and flexible skills as follows:

- Professionalism & reliability
- The ability to work under pressure
- The ability to plan and think strategically
- The capability to communicate and interact with others, either in teams or through networking
- Good written and verbal communication skills
- Information and communication technology skills
- Creativity and self-confidence
- Good self-management and time-management skills
- A willingness to learn and accept responsibility

Note: The authors refer to Elias & Purcell, 2004; Nabi, 2003; Tucker et al., 2000; McLarty, 1998.

Accordingly, soft skills are not specific to any one occupation and may be used in various situations under different circumstances. Following this approach, skills are subject to evolve during the individual's lifetime and thus amplify the human comparative advantage over machines.

2.1.1 Towards non-routine analytical and non-routine interpersonal skills

Between the 1970s and 1990s, the United States had a significant rise in the pay returns of cognitive skills (Autor et al., 2003; Ingram & Neumann, 2006). Since the 1950s, numerous OECD nations have also seen a significant increase in the employment proportion of management, professional, and technical professions that require a high level of non-routine cognitive skills (Handel, 2012). The skill biased technological change (SBTC) hypothesis states that highly skilled people are more likely to utilize computers and possess skills that complement computer-based technology (Autor, Katz & Krueger, 1999). As a result, highly-skilled employees benefit from greater productivity increases as a result of advancements in computer technology. Computer capital may progressively supplant highly-skilled labor, changing what it means for employment to be 'routine' (Autor, 2014).

In contrast to regular activities, non-routine skills that need substantial human contact have remained challenging to automate (Autor, 2015; Autor et al., 2003; Deming, 2017; Frey & Osborne, 2017). While computers are capable of replicating some elements of human social interaction, the capacity to recognize and react to human emotions in real time remains a technical barrier.

One possible reason for the growing value placed on interpersonal skills is that organizational transformation is skill-biased (Bresnahan et al., 2002; Caroli & Van Reenen, 2001). According to the concept of 'skill-biased organizational change,' technological advancements have resulted in an increase in workplace decentralization. Decentralization of authority shifts the decision-making over to work teams, defers management skills, and promotes multitasking. The changing nature of work puts a higher premium on employees who are capable of working in teams, communicating effectively, and influencing and coaching colleagues and subordinates. Due to the fact that skill-biased organizational transformation indicates an increased need for employees capable of managing complex organizations, one could anticipate an increase in demand for managerial skills. Numerous studies have examined the shifting rates of return on both interpersonal and management skills (related to direction and control). Borghans et al. (2008) make a distinction between two different interpersonal styles: directness and caring. While direct communication enables precise communication, care is required to foster a cooperative atmosphere conducive to job completion. Salespeople and managers, for example, must be more direct in their dealings with others. A large proportion of managerial, professional, and technical professions are located at the upper end of the pay scale. Prior research indicates that if interpersonal skills have grown more valued in the Netherlands over time, the reward for them would be most apparent at the top of the skill distribution.

2.1.2 Cedefop as the main driver to foster Skill Forecasts in the European Union

Cedefop, established in 1975 and headquartered in Greece since 1995, provides data and insights on trends affecting employment training to the European Commission, Member States, social partners, as well as offers advice as to how European VET policy might address the problems we face (Cedefop, 2020). Cedefop (2020) assessed the risks of vocations becoming automated as part of ~~its~~ digitization and the future of work initiative. The occupations most at risk are those that require a high proportion of tasks that can be automated – operation of specialized technical equipment, routine or non-routine tasks – and those that rely on communication, collaboration, critical thinking, and to a lesser extent, customer service skills.

Cedefop, the European Centre for the Development of Vocational Training, provides *Skills Panorama* to assist policymakers, policy experts, academics, and guiding practitioners in staying current on emerging trends, making meaningful comparisons to prior patterns, and anticipating future changes (Cedefop, 2020). *Skills Panorama* seeks to promote the creation or enhancement of skill requirements assessment and forecasting. This will pave the way for education and training systems to become more responsive to labor market demands, as well as for a more accurate match between skill supply and demand throughout the E.U.

Cedefop Skills Forecast offers in-depth analysis of Europe's future labor market developments. The forecast serves as an early warning system, assisting in resolving potential labor market imbalances and assisting various labor market players in making more educated choices. Cedefop's Skills Forecast is well-known. Cedefop was mandated by the Council conclusions on "New skills for new jobs: the way forward" in 2010 to predict trends in Europe's skill supply and demand every two years. The Skills forecast is also a critical component of the *Skills Panorama*, a flagship project of the Europe 2020 strategy's Agenda for New Skills and Jobs. The Skills Forecast is not intended to replace the efforts aimed at anticipating and predicting skills at the national level, which are often based on more complex methods and may provide a higher level of information (da Fonseca & Chattichristou). The Cedefop Skills Forecast's strength is that it makes findings comparable across nations and can be combined to give an overall view of labor market trends and skill development in the E.U. The findings apply to all E.U. Member States, as well as a few other nations. The Cedefop findings and methodology are verified by a panel of national specialists including academics, labor market economists, econometricians, and statisticians. The national experts come from each of the 33 nations included in the Cedefop skills prediction.

2.1.3 Future need of high-skilled labor force in the Netherlands

The Netherlands, as it has been for generations, is a nation with a strong global orientation. Around 80% of the Dutch economy and jobs are in the service sector (Cedefop, 2020). Although manufacturing employs fewer than 10% of the Dutch workforce, it is a highly competitive and export-oriented sector. The nation is known for its robust vocational education and training systems, which is regarded as critical to the country's industrial foundation (Cedefop, 2020).

In the future, job levels in the Netherlands are projected to rise somewhat between the next 10 and 15 years, as is the country's working-age population (Cedefop, 2020). Due to the fact that this research is based on Cedefop's "Netherlands - 2020 Skills Forecast" report, which covers the next 10 to 15 years, this study also demonstrates outcomes in the following 10 to 15 years. Thereby, it offers an estimate of expected developments in the Dutch's labor market, mapping a skill-set to the research's occupations. Employment growth will continue to be led by services such as lodging and food preparation, water and wastewater treatment, and education. The majority of new job opportunities are anticipated to be for office professionals, personal service employees, and technical managers. The fastest increasing professions will also be those in the service sector: office administration and associate administration professionals, as well as sales employees (Cedefop, 2020). Over the next 10 to 15 years, more than half of all job vacancies (including replacements for vacant positions) will require advanced degrees. Individuals with low credentials currently account for about a quarter of the Dutch workforce; nevertheless, the number of job opportunities requiring low qualifications will continue to decline.

While machines can already do regular activities (like as manufacturing vehicles or administering data), computer capital is becoming more adept at executing a broad variety of complicated tasks that are usually classified as non-routine, such as driving cars and detecting illnesses (Brynjolfsson & McAfee, 2014). It is unclear if the Netherlands has similarly seen a decrease in the returns to non-routine analytical skills since the early 2000s. In contrast to the recent slowing of high-skill occupation growth in the United States, the employment proportion of highly-skilled jobs increased in the EU-28 between 2015 and 2020 (Cedefop, 2021a; Cedefop, 2021b). Additionally, Hartog and Gerritsen (2016) show that the number of computer service and information technology companies in the Netherlands has exploded since the mid-1990s. This trend indicates that the use of computer-based technology in the Netherlands has continued to grow. As a result, one could

anticipate a growing return to analytical skills in the Netherlands during the next two decades.

2.1.3.1 Occupations and qualifications prospects

Over the next 10 to 15 years, as the working population ages, substitution demand in the Netherlands is expected to produce more than ten times the employment options as expansion demand (Cedefop, 2020). More than a third of all career openings in the Netherlands will be for professionals (high level occupations in science, engineering, healthcare, business and teaching).

The greatest number of work vacancies is projected to be in the comparatively highly-skilled occupation of lawyers, which is expected to have 1.5 million job openings, including 272, 000 newly generated workers (Cedefop, 2020). The majority of employment growth is projected to occur in business and management, as well as legal, social, and cultural practitioners and associate professionals, totaling about 180, 000 new jobs (Cedefop, 2020).

The skill set of "business & administration professionals" and "business & administration associate professionals" adapts to numerous developments, for example, when discussing the technological skills necessary as a result of digitization and automation, particularly in the context of Industry 4.0. (Torn, Pulles, & Schiele, 2018). Apart from technical skills, there are a number of additional skills that appear to be undervalued or unexplored but are still necessary, including interpersonal skills, internal enterprise skills, external enterprise skills, and strategic business skills (Tassabehji & Moorhouse, 2008). Thus, it is vital to do general skill research in order to ascertain the genuine nature of the business administration profession and to effectively prepare for the obstacles ahead.

Studying skills, particularly so-called Soft Skills, is a critical issue for professionals in the fields of business and administration. According to Cedefop (2020), two occupational areas will experience significant growth in the Netherlands: (1) "business and administration professionals" who are skilled office workers and who carry out a broad range of tasks that involve dealing with business, administration, sales and marketing issues. And (2) "business administration associate professionals" who perform mostly technical tasks connected with the practical application of knowledge relating to financial accounting and transaction matters, mathematical calculations, human resource development, selling and buying financial instruments, specialized secretarial tasks, and enforcing or applying relevant government rules. The function of business professionals is not to just handle a range of business, administrative, advertising, and marketing-related activities, but also to also serve as managers with a cohesive skill set. To name a few: problem-solving, establishing cooperation, and communication skills. A precise definition of occupational areas of study is a person who is employed in a particular environment and is engaged in a set of activities referred to as occupations, professions, or jobs. There are many classification systems for professions. For instance, the U.S. government uses the Standard Occupational Classification (SOC) System, while the International Labor Organization (ILO) has established an international classification, the International Standard Classification of Occupations (ISCO).

2.2 Towards reliable occupational skill-information

2.2.1 O*NET OnLine as primary source for occupational-skill information

We analyze the skill content of specified occupations in the Netherlands using the Occupational Information Network (O*NET) database.

The Occupational Information Network (O*NET) is a sophisticated system built by the United States Department of Labor to discover and preserve current information on worker and job characteristics (Dye & Silver, 1999; Peterson et al., 2001). It contains data on over 1,000 jobs in the United States economy, while this data is stored in a comprehensive database designed to take the role of the Dictionary of Occupational Titles (DOT) (U.S. Department of Labor, 1991). To preserve the database's currency, the National Center for O*NET Development engages in continuous data gathering procedures aimed at both discovering and preserving current information on employee and job characteristics. The O*NET database is populated mostly by data acquired from incumbents, occupational specialists, and occupational analysts.

To be sure, occupational analysts must have extensive profession data in order to grade ability and skill constructions. Additionally, some incumbents have been accused of intentionally inflating their ratings in order to influence policy choices on, for example, salary and training (Morgeson, Delaney-Klinger, Mayfield, Ferrara, & Campion, 2004). Due to the fact that skill assessments are more abstract and hence more difficult to check than more visible characteristics such as work duties, they may be more susceptible to such adjustments (Morgeson & Campion, 1997; Morgeson et al., 2004). Given these issues, occupational analysts, rather than incumbents, provide the O*NET database with capability and skill information.

We follow Aedo et al. (2013), Arias et al. (2014), and Goos et al. in adapting O*NET data from the United States to European nations (2014). While the assumption of job content similarity between European nations, Handel (2012) demonstrated that both U.S. occupation-based and non-US skill survey-based measures provide highly comparable results for European countries. Additionally, Cedefop (2013) demonstrated that two recent surveys in Italy and the Czech Republic (Hardy et al., 2016)) that were based on O*NET produced findings that were strongly correlated (usually around 0.8) with those of O*NET. Cedefop (2013) suggest that using O*NET data to create occupational metrics in the Netherlands, as one of the European nations members, is thus methodologically valid. Finally, we do not assume that jobs in the Netherlands are equivalent to those in the United States, but rather utilize U.S. data to approximate the overall skill intensity distribution across occupations.

2.2.2 The Chapter on the O*NET® Content Model

O* NET's primary organizational framework is a taxonomy of occupational descriptors dubbed the O*NET content model (Tippins & Hilton, 2010). The O*NET content model offers a framework for identifying the most critical pieces of occupational information based on job and organizational research and concepts. The model was created in part to meet three needs: (a) the capacity to define professions in a variety of ways; (b) a universal language of job descriptions applicable to all occupations; and (c) a taxonomic categorization system (Peterson et al., 2001). The model is composed of 277 descriptors gathered from O*NET applications.

In this paradigm, descriptors are either worker- or job-oriented and are divided into six categories: wo' characteristics, worker requirements, and experience requirements are all worker-oriented descriptors (e.g., competencies). The occupational requirements, workforce characteristics, and occupation-specific information are all job-oriented descriptors (O*NET Resource Center, n.d.a). This framework enables a focus on particular worker requirements (Smilor et al., 2007). Because the present research is focused on finding important, trainable skills for employees, we restrict our usage of O*NET to the worker requirements domain (Figure 1). Worker requirements refer to an individual's developed or acquired characteristics that may be linked to job performance, such as job-specific knowledge and skill (O*NET Resource Center, n.d.a).

To enable a more varied discussion of individual skills in the results section, we arrange the skills in the following paragraph according to two categorization methods. The O*NET Skills categorization (O*NET Resource Center, 2021) is the first classification method. This uses descriptors referring to work-related attributes acquired and/or developed through experience and education. Skills are classified into basic and cross-functional skills. Reading and other basic skills promote the learning of new information. These are further divided into content and process skills. Cross-functional skills, such as problem solving, develop capabilities that enable the performance of cross-job tasks. These cross-functional skills are grouped in five categories: social skills, complex problem solving skills, technical skills, systems skills, and resource management skills. A detailed overview of the O*NET Skills categorization (O*NET Resource Center, 2021) can be found in the Appendix.
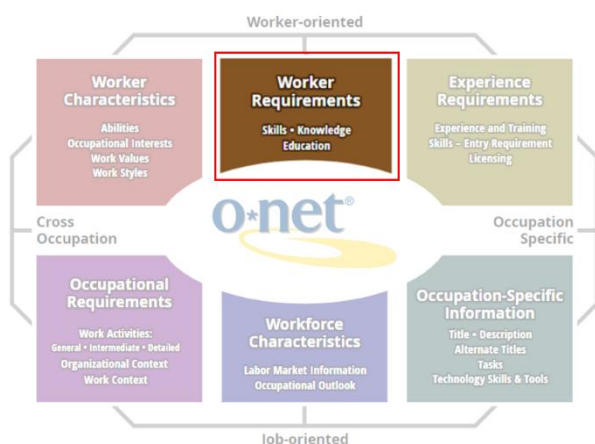

Figure 1. The O*NET Content Model

Source: O*NET Resource Center (May 25, 2021)

https://www.onetcenter.org/content.html#cm2

2.2.3 O*NET Skill Description Used for this Analysis

Mumford et al. (1999) propose three significant consequences for the O*NET definition of skills as "procedures for obtaining and dealing with knowledge" (Mumford et al., 1999, p.50). To begin, as previously mentioned, skills are not innate qualities of a person, but rather are acquired over time via experience and practice, and therefore may be more flexible. Second, skills may be defined at a variety of degrees of generality, with the O*NET

skills taxonomy serving as a starting point. Third, skills must be defined in terms of the performance area in which they are used. This connection to a performance domain served as a link between broad and general abilities and occupational skill definition. Mumford et al. (1999) identified five broad areas of performance that correspond to five broad domains of occupational abilities. Mumford et al. classify skills into two main groups. The first category is referred to as fundamental or basic skills. These are described as established skills that aid in the process of learning or acquiring new information. Basic skills are further classified into two categories: content and process abilities. These are composed of six and four skill variables, respectively, from the 46 total skills in the O*NET skill taxonomy. Content skills may be generally described as the capabilities that enable someone to collect and communicate information effectively. They represent the structures necessary for interacting with and acquiring more abilities. This category include the skills to read, write, listen, communicate, and do mathematics and science. Additionally, these skills are generally seen as necessary for the implementation of a good educational system. Using a second category, namely process skills, they are defined as those that enable the acquisition of material across domains. Thus, critical thinking is an integral component of process skills. This skill is strongly linked to another kind of general learning ability known as active learning. Another process-oriented skill is the ability to learn a new approach. When it comes to learning new things, this employs a range of 14 methods. Finally, monitoring is a continuous assessment of an individual's progress since it enables them to determine how effectively they are learning something or doing a task. The O*NET defines the second category of skills as "capabilities that enable people to function successfully in a range of work situations" (O*NET Resource Center, 2021). This skill description is sometimes referred to as cross-functional skills and is based on socio-technical systems theory in the O*NET Content Model.

3. METHODOLOGY

This research employs a two-step approach that has, to our knowledge, not been examined previously in this manner. To begin, the O*NET OnLine database is analyzed to determine critical skill sets for the highest-demand occupations for " business & administration professionals" and "business & administration associate professionals" over the next 10 to 15 years . Due to the fact that the O*NET database is entirely comprised of data obtained in the United States, the O*NET database is merged with the EU-LFS data for the Netherlands. In a second step, the dataset is evaluated using qualitative semi-structured interviews with experts to check the data relevance for the Netherlands. Despite the small sample size, human resource analysts and talent management researchers, on the one hand, and business administration professionals, on the other, will cover the future development of business administration professionals and their skills.

3.1 O*NET OnLine Database

3.1.1 Data Collection

O*NET data has been gathered in the United States since 2003 for roughly 1000 occupations based on the Standard Occupational Classification (SOC), and has been updated fifteen times as of July 2014.[2] In accordance with Acemoglu and Autor (2011), we use skill O*NET datasets for the professions specified in this research. The skill data includes descriptors that are

Employment Statistics codes. It was converted to SOC in 2003, which means that consistent task content measurements can now be computed.

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[2] O*NET is the successor to the defunct DOT (the Dictionary of Occupational Titles). O*NET was established in 1998 and is based on the Bureau of Labor Statistics' Occupational

quantified using scales such as the skill's importance, level, or extent.[3] Due to the strong correlation between the importance and level scales (0.92 in O*NET 2014 and 0.96 in O*NET 2019), we follow Acemoglu & Autor (2011) and use the important scale as our primary quantifier. In order to determine skill-sets for European countries, we merge O*NET datasets with the EU-LFS data for the Netherlands. Arias et al. (2014), Goos et al. (2013), Goos et al. (2014), Dicarlo et al. (2016), and Hardy et al. all previously used O*NET data combined with LFS data for nations other than the United States (2018). Handel (2012) demonstrated that measures based on occupations in the United States and non-US skill surveys provide fairly comparable results for European countries. Cedefop (2013) verified that using O*NET data to create occupational metrics in European countries is methodologically valid.

3.1.2 Data Analysis

We use the 2008 International Standard Classification of Occupations (ISCO-08) at the four-digit level. Due to the fact that the two-digit level occupations are derived from highly aggregated occupations with substantially different definitions in the SOC and ISCO, there may be major errors using the two-digit level. As a consequence, we choose four-digit level occupations with disaggregated SOC and ISCO occupations and aggregate the data on a two-digit level to arrive at valid findings for our ISCO occupations: *business and administration professionals* and *business and administration associate professionals*. In order to account for possible changes in the task content within occupations, we use the 2019 edition of O*NET.

We use crosswalks to match the O*NET task data for occupations (coded with an O*NET-specific extension of 2019 SOC classification of occupations) to the EU-LFS data (coded with an ISCO-08 classification of occupations). The complete set of crosswalks that we used are shown in appendix. As the EU-LFS data for our country sample contain a four-digit level ISCO-08 classification, we use the crosswalks for a four-digit level of detail of the ISCO classification, and subsequently aggregate it into means of occupations within a two-digit level of detail.

Each skill is assigned a significance score by O*NET, ranging from "Not Important" (1) to "Extremely Important" (5). They quantify important occupation-related skills using a mean significance value of more than or equal to three. To make results more intuitively understandable to users, descriptor average ratings were standardized to a scale ranging from 0 to 100 (National Center for O*NET Development, 2021). The equation for conversion of original ratings (1-5 importance scale) to standardized scores is:

$$S = ((O - L) / (H - L)) * 100,$$

where **S** is the standardized score, **O** is the original rating score on one of the three scales, **L** is the lowest possible score on the rating scale used, and **H** is the highest possible score on the rating scale used.[4]

We concentrate on skills essential to business and administration (associate) professionals by examining only those with an importance score higher than or equal to 50. O*NET does not have predetermined definitions of what scores constitute **as** important, very important or extremely important skills (Klusek & Bornstein, 2006). In their Skills Search application, O*NET uses scores greater than or equal to 69 as the value to represent "Very Important" skills (O*NET OnLine, 2021). Based on this, we arbitrarily set scores between 50 and 68 as "Important"; those

between 69 and 88 as "Very Important"; and those greater or equal to 89 as "Extremely Important."

To provide a more distinct perspective on the study findings in the results section, we employ the O*NET skill classification (in basic and cross-functional skills) as well as Acemoglu and Autor's (2011) analytical and interpersonal skill classifications.

Table 1 summarizes the assignment of skills relevant to the results. Because the O*NET Resource Center (The O*NET Content Model, 2021) represents the O*NET skill classification, it is easily adaptable. Acemoglu and Author (2011) assigned a skill categorization based on the following approach.

Applying a two skill classification method, we closely follow Acemoglu and Autor (2011) in defining occupations that need non-routine cognitive analytical skills and non-routine cognitive interpersonal skills. We divide analytical skills into three categories based on three defining factors: (i) "analyzing data or information," (ii) "thinking creatively," and (iii) "interpreting the meaning of information for others." Interpersonal skills are classified using the following defining factors: (i) "creating and maintaining interpersonal relationships," (ii) "guiding, directing, and motivating subordinates," and (iii) "coaching and developing others."

Skills	Acemoglu & Autor (2011) Skill classification	O*NET Skill classification
Active Learning	Analytical Skills	Basic Skills (Process)
Active Listening	Interpersonal Skills	Basic Skills (Content)
Complex Problem Solving	Analytical Skills	Cross-Functional Skills (Complex Problem Solving Skills)
Coordination	Interpersonal Skills	Cross-Functional Skills (Social Skills)
Critical Thinking	Analytical Skills	Basic Skills (Process)
Instructing	Interpersonal Skills	Cross-Functional Skills (Social Skills)
Judgment and Decision Making	Analytical Skills	Cross-Functional Skills (Systems Skills)
Learning Strategies	Interpersonal Skills	Basic Skills (Process)
Management of Personnel Resources	Interpersonal Skills	Cross-Functional Skills (Resource Management Skills)
Mathematics	Analytical Skills	Basic Skills (Content)
Monitoring	Analytical Skills	Basic Skills (Process)
Negotiation	Interpersonal Skills	Cross-Functional Skills (Social Skills)
Persuasion	Interpersonal Skills	Cross-Functional Skills (Social Skills)
Reading Comprehension	Analytical Skills	Basic Skills (Content)
Service Orientation	Interpersonal Skills	Cross-Functional Skills (Social Skills)
Social Perceptiveness	Interpersonal Skills	Cross-Functional Skills (Social Skills)

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[3] The scales have different ranges (e.g. the importance scale has values from 1 to 5, the level scale from 0 to 7).

[4] For example, an original Importance rating score of 3 is converted to a standardized score of 50 (50 = [[3 - 1] / [5 - 1]] * 100).

Speaking	Interpersonal Skills	Basic Skills (Content)
Systems Analysis	Analytical Skills	Cross-Functional Skills (Systems Skills)
Systems Evaluation	Analytical Skills	Cross-Functional Skills (Systems Skills)
Time Management	Interpersonal Skills	Cross-Functional Skills (Resource Management Skills)
Writing	Interpersonal Skills	Basic Skills (Content)

Table 1. Two Skill Classification Methods

3.2 Expert Interview

3.2.1 Data Collection

The investigation is based on qualitative semi-structured interviews, in which personal interviews will be conducted with a row of experts in the field of automation of knowledge-intensive work and the resulting future skill sets. Semi-structured interviews are defined by the presence of a guide of questions and the interviewer's ability to ask follow-up questions throughout the course of the discussion. Thus, more information may be gained by delving deeper into the interviewee's remarks (Lazar, Feng & Hochheiser, 2017). This style is more appropriate for an open discussion since it may disclose novel problems and experiences connected to the interview's subject. Additionally, it is beneficial to tackle complex issues with probing or follow-up inquiries. Finally, new issues may emerge for either the interviewer or the participants (Wilson, 2014). As a result, the interview is a frequently used technique for eliciting user needs throughout the human-centered design phase. Unlike surveys or questionnaires, semi-structured interviews allow the collection of thorough and precise information on a subject, making them an ideal technique for researching the subject of skills, as deeper insights are necessary (Harrell and Bradley, 2009).

3.2.2 Unit of Observation

The small sample consists of specialists and researchers who are located in the Netherlands. Many of the interviewees in this analysis have either completed background research on future soft skills or currently work in the specified occupation. Given their seniority within a company, such as a "business and administration (associate) professionals", the interviewees serve as subject matter experts in the field of future expertise. Four experts were interviewed across different fields of expertise, two within research and teaching and two business professional employees. The professionals came from various disciplines and backgrounds, performing distinctive day-to-day tasks. All four experts are working or researching within a human resource or marketing sector. Two are researching and teaching human resources and skill development. The university faculty members who teach "hrm. technology & innovation" share their insights on cutting-edge perspectives and developments in fields such as self-managing teams, new methods of operating, employee-driven innovation, human resource optimization, automated human resource management, resource sharing for human resource management, and the role of line managers in human resource management. The other two specialists work as business and administration professionals within a company. One individual is employed as a marketing manager and the other individual is a human resource business partner. Overall, the diversity of jobs and activities represented by respondents provides a more complete picture of skills, and the O*NET database results may be more widely supported by the Dutch business and administration professional experts.

The interview guide questions (appendix 2) focused on individuals' experiences transitioning from researching and working in the business domain: perceptions of current employment situations; reflections on key business skills; experiences with work-based learning; possession of business-related skills; and the utility of interpersonal and communicative skills. Each interview, which lasted between 30 and 75 minutes, was video recorded via Microsoft Teams and transcribed using Microsoft Stream. Next, the transcripts were analyzed in regard to the research objective to clarify the future skill set necessary for business and administration (associate) professionals.

3.2.3 Data Analysis

To address the research question, the information from the semi-structured expert interviews was reviewed in line with the research objective. For this purpose, three areas are recorded to capture the most important themes from the interviews.

4. RESULTS

The study's objective was to conceptualize and identify critical business-related skills required for business and administration (associate) professionals in the future due to the automation of jobs. The following results section will describe the O*NET database mapped to the EU-LFS data analysis findings in a first step and, in a second step, contextualize them for the Netherlands through expert interviews.

4.1 O*NET OnLine Database Results

Table 1 und 2 show the skills-set for the two sub-major groups: "*business & administration professionals*" and "*business & administration associate professionals*" (2-digit ISCO-08 occupation). The skills per occupation were ordered according to the evaluation of the standardized importance scores on a scale from 0 to 100, whereas we considered only skill scores between 50 and 100 ("Important" to "Extremely Important").

Skills	Importance	Importance std. scores	Level
Speaking	3.99	75	4
Active Listening	3.99	75	4
Reading Comprehension	3.98	74	4
Critical Thinking	3.93	73	4
Writing	3.77	69	4
Judgment and Decision Making	3.72	68	4
Complex Problem Solving	3.62	66	4
Social Perceptiveness	3.54	63	4
Active Learning	3.53	63	4
Monitoring	3.51	63	4
Coordination	3.41	60	4
Persuasion	3.38	59	4
Systems Analysis	3.33	58	4
Time Management	3.33	58	4
Systems Evaluation	3.26	56	4
Service Orientation	3.24	56	3
Negotiation	3.18	54	3
Learning Strategies	3.17	54	3
Instructing	3.15	54	3
Management of Personnel Resources	3.08	52	3
Mathematics	3.00	50	3

Table 2a. Descriptive Statistics of Skills for Business and Administration Professionals (scoring at least 50)

Skills	Importance	Importance std. scores	Level
Active Listening	3.84	71	4
Speaking	3.79	70	4
Reading Comprehension	3.76	69	4
Critical Thinking	3.62	66	4
Writing	3.46	61	4
Judgment and Decision Making	3.31	58	3
Complex Problem Solving	3.27	57	3
Social Perceptiveness	3.26	57	3
Monitoring	3.25	56	3
Active Learning	3.22	56	3
Time Management	3.22	55	3
Coordination	3.20	55	3
Service Orientation	3.13	53	3
Persuasion	3.04	51	3

Table 2b. Descriptive Statistics of Skills for Business and Administration Associate Professionals (scoring at least 50)

When comparing the two tables, the number of skills required for each occupation is particularly striking. In Table 1, which contains descriptive data about the skills required of business and administration professionals, 21 skills are identified as being "important" or "very important". In other words, they have a minimum importance score of 50 on the standardized importance scale. Five of the 21 skills for business and administration professionals were rated as "very important" skills. These include: speaking (std. score = 75), active listening (75), reading comprehension (74), critical thinking (73), and writing (69). Similar skills have emerged as important for business and administration associate professionals. Three skills, out of a total of 14, are regarded as very important for this occupational field. The very important skill-set consists of: active listening (71), speaking (70), and reading comprehension (69). It is remarkable that none of the skills evaluated are ranked as "extremely important" (greater or equal to 89) for either of the two occupational sectors examined.

By incorporating the two skill classifications, more generic findings can be made. Following the O*NET skill categorization (The O*NET Content Model, 2021), the skills for both occupations labeled "very important" reflect basic skills. According to the O*NET Research Center (2021), basic skills are described as "developed capacities that facilitate learning or the more rapid acquisition of knowledge."

4.2 Expert Interview Results

After the semi-structured interviews have been conducted, the next step is to explore the results. When reviewing the transcriptions, differences between the experts become evident, as they place varying degrees of focus on the topic of skill sets. Despite this, each expert was able to provide insights based on important and vital work requirements. Additionally, all experts recognize the possibility of a skill gap as a consequence of growing job automation. As a result, all persons agreed on the need to upskill the future workforce. The next section examines the interviews in respect to the study's objective.

Three main themes emerged from the study as a result of the expert interviews. These are divided into distinct areas of skill development:

- Interpersonal Skills (*Soft* business-related skills);
- Analytical Skills (*Hard* business-related knowledge and skills);
- Future Skill-Set Changes & Work-Specific Learning Implications for Skill-Set

4.2.1 Interpersonal Skills (Soft business-related skills)

The interviewees identify communication skills as one of the more important skills to perform their task:

Communication in many forms is definitely number one… Run the risk of losing simple communication with people because we are more self-sustainable in all the systems … (Interviewee A)

You need to have good communication skills to be good at it… because you're communicating about your company to a customer… (Interviewee B)

Interaction of course. It consists of multiple soft-skills: It's about listening. It's about asking questions… (Interviewee C)

Every situation you encounter is different… Every working situation is different. So, the communication part is crucial… (Interviewee C)

Another skill mentioned as being an important part of their professions was adaptability:

And also adaptability… being able to adapt to new situations is always important… (Interviewee D)

What I always have to do is be diplomatic and adaptable into situations (Interviewee B)

The interviewees were also talking about everyone's own unique set of soft skills:

I just think everybody has their own set of soft-skills… if they just happen to have the right soft-skills for the job you want, then that's good… (Interviewee B)

Everyone of my colleagues has a broad skill set… All of us are good at multiple soft-skills… (Interviewee B)

4.2.2 Analytical Skills (Hard business-related knowledge and skills)

The second theme is analytical skills, which, according to respondents, are likewise the most important skill. It reflects an individual's ability to think in a critical and applied manner:

The Analytical Skills, being able to work with the data, with the technology to adapt to new situations… (Interviewee D)

And Analytical Skills are to define the situation that you're in ,so you connect properly… (Interviewee C)

[Analytical and analysis skills], they're actually skills I would already put in right now… (Interviewee B)

As stated by the Interviewees, Analytical Skills are tightly linked with other skills:

Decision-making and judgement skills can be used for that ability… Analytical skills are a big part of it… I'm always analyzing the situation… (Interviewee C)

First analytical, decision-making, and judgment skills, problem solving follows… (Interviewee A)

4.2.3 Future Skill-Set Changes & Work-Specific Learning Implications for Skill-Set

The last theme is meant to describe changes in future skill-sets. In addition, interviewees also discuss work-specific learning opportunities for skill-set growth.

First, the interviewers' estimates of the future skill-sets required are offered. They consider the trend toward automation as a favorable development for the future importance of analytical skills:

Besides interactional skills, analytical skills will be really important… (Interviewee C)

Look at automation if you look at skills… Analysis skills will be one of the biggest that people in in my line of work need to develop… (Interviewee C)

Adaptability skills and analytical skills … are the two main skills that you need to prepare yourself for the fast changing future… (Interviewee C)

In order to be equipped with the right skills for the ever-changing labor market, the ability to adapt and be flexible will be important:

Adapt to new situations … the job is also changing towards working with technology and with data, so I think that's one of the most important developments in terms of skills… (Interviewee D)

Being adaptable, because changes will be ever more quickly… (Interviewee A)

Time management would be reduced, and adaptability comes more into place… (Interviewee B)

Manage to maintain the knowledge you have to use software things, so adaptability… (Interviewee C)

One of the respondents may picture the feeling of connectedness under complementing future skills:

Self-management, feeling of connectedness, and maintaining relationships… Having a sense of feeling connected to the organization is also a skill that will need more attention … make us feel like a member of the community, the sense of community is very important… (Interviewee A)

Finally, the interviewee's different opinions on the automation impact and the soft skill importance are addressed:

Artificial intelligence [automation aspect] will reach a point anywhere soon, where it could be better than what I do, if I do my job well … machine learning [automation aspect] is important because of the counterpart … will be really important In the combination of humans and machine learning… (Interviewee C)

I don't think machine learning will replace soft skills… I think soft skills will stay fairly important… (Interviewee C)

I definitely think machine learning can add something… (Interviewee D)

I definitely don't think that everything can be automated, but many things can be augmented as it's called… so you get more information… (Interviewee D)

Second, interviewees highlight work-specific learning implications for skill sets:

There are more and more information available and you have to be able to find the right data source… (Interviewee D)

Be updated with the latest development, the important trends in the area. So keep yourself informed is a upskill… (Interviewee A)

The jobs will change a lot, so either you will be automated … or you go to trainings to acquire new skills and be able to work in a new situation… (Interviewee D)

A profile to be visible for what you are, and make a selection of skills or characteristics that fit your organization… (Interviewee A)

Interviewee D summarized the learning implications for a skill-set as follows:

For the future it's important to be aware of what is asked, what is required in these new types of jobs … You can also be proactive … Like I see my job changing, I have to work on my skill set to be able to provide and keep delivering value in the future… (Interviewee D)

5. DISCUSSION

The previous section discussed the research findings. This part will delve deeper into the findings and make the connection between them and the study's purpose. This research developed a novel method for assessing the future skill sets required of "business and administration professionals" and "business and administration associate professionals," with the goal of circumventing constraints and a shortage of comparable data on future occupational skill requirements. By combining data from many sources, such as the Skills Panorama, to identify future skill gaps and by utilizing the O*NET database to assess the relevance of certain future skill sets.

The purpose of this study is to anticipate trends in the value of non-routine cognitive analytical and non-routine cognitive interpersonal skills over the next decade to fifteen years in the Netherlands. Given that the Netherlands presently provides only imprecise measures of employment-related abilities, we build occupational skill profiles by connecting skill measures from the US O*NET system to the jobs of Dutch employees.

The Dutch economy is now through a phase of labor market tightening. Due to population aging, future labor supply growth is anticipated to be relatively moderate. The distribution of training resources becomes critical under these circumstances. They should be prioritized above job-specific or generic abilities that are most likely to be in short supply. Forecasting the labor market quantitatively is riddled with uncertainty. However, the issue of allocation is fundamentally a quantitative one. At some point, someone needs to determine what courses should be offered, and that choice, by definition, should be guided by a vision of the future. Qualitative studies, such as those included in the Employability Skills for the Future study, can help inform such a vision, but qualitative concepts must finally be given concrete form. If the allocation choice is not quantified using formal labor market projections, it must be quantified using informal or intuitive forecasts, and there is no reason to believe the former is more uncertain than the latter. Indeed, formal techniques give a framework for bringing together enormous amounts of pertinent information in a cohesive manner, a feat that is not possible with informal approaches. In any event, the two are not mutually exclusive, and a decision maker might see quantitative projections as one of several sources of information to evaluate. Quantitative uncertainty increases when it comes to generic or employable skills. Generic skills are typically less well defined than job-specific skills, and as a result, their economic significance cannot be effectively elicited using the conventional approach of polling market participants. However, the US O*NET professes to identify critical quantitative components of that function through expert interviews in the form of the "importance" and "level" indications it links with its range of generic skills. Due to the lack of a comparable data source to which the O*NET assignments may be compared, their efficacy

must be determined by the methods used. The O*NET method appears to be appropriate for the purpose and has been executed fully. Thus, one might plausibly claim that the indicators include critical information that complements the rather lengthy qualitative debate of employability skills in the Netherlands and elsewhere. One objective of economic research is to build analytical tools that will enable economic policymakers to make more informed decisions. This criteria is met by the modeling system presented in the study. The O*NET indicators have been interpreted in a way that is consistent with their description and allows for the inclusion of employability skills in current Dutch predictions of employment by occupation. The exercise demonstrates that the structural details of the economy's future state do indeed have a significant impact on the relative demand for various types of employability skills, and that qualitative considerations alone provide an insufficient basis for allocating training resources among those skills. Although the forecasting approach was adopted from a database in the United States, it is susceptible to further improvement to integrate the perspectives of relevant Dutch experts.

As is customary when forecasting the future, there is considerable uncertainty. This is particularly true for abstract and ethereal concepts, such as soft skills.

We see an increase in demand for non-routine analytical abilities. Our findings indicate that in the Dutch job market, non-routine analytical abilities are growing increasingly valued. The increasing pay for analytical abilities bolsters the idea that demand for non-routine occupations (i.e., interpreting and analyzing data) has increased in lockstep with the increase in productivity of routine processes brought about by computerization (i.e. due to declining costs of retrieving and manipulating information). Our findings indicate that employees doing non-routine activities in business and administrative jobs benefited from increased productivity in routine tasks. Additionally, the growing premium implies that over the previous two decades, demand for analytical abilities has outpaced supply. Given the relatively inelastic supply of skilled workers, this makes logical. While the number of employees with vocational or higher education degrees continues to rise in the Netherlands, completing an upper secondary or tertiary education program and entering the job market typically takes at least four years. While many actions in many middle-skill occupations are automatable, the sector's increasing return on analytical abilities indicates that many positions in this group will continue to require a changing combination of skills. As a result, it will remain essential to promote the development of analytical abilities not only in higher education, but also in study programs offered through vocational education and training.

In terms of compensation for interpersonal abilities, this study supports the notion that growing organizational complexity has raised the need for interpersonal communication and managerial skills (Bresnahan et al., 2002; Caroli & Van Reenen, 2001). As a result, the demand for managers may have surpassed the supply of individuals with strong interpersonal and management abilities. This finding is consistent with research indicating that management interpersonal abilities are becoming increasingly valued in the labor market (Autor et al., 2003; Borghans et al., 2007; Weinberger, 2014). While interpersonal skills are generally required in service occupations as well, the supply of interpersonal abilities may have grown faster than the need for such talents.

6. CONCLUSION

However, as a result of the capitalization effect, new businesses, occupations, and sectors are formed, amplifying the need for continual development. The chance of success in the future labor market is expected to increase as a result of lifelong learning,

motivated by passion and fuelled by curiosity. The complementarity effect may serve to emphasize the need of human-machine collaboration. To begin, the Routinization Hypothesis demonstrated that routine duties in a profession are most likely to be automated. On the one hand, this means that employees are empowered by technology, allowing them to exercise their inherent human ability in ways that machines cannot.

This may suggest that the need for non-linear thinking will be emphasized. Linear thinking refers to the capacity of computers to adhere to rule-based regular activities, in which machines may make use of their underlying data set. By contrast, non-linear thinking refers to the aptitude for thinking beyond the box. Non-binomial and out-of-the-box thinking tasks, on the other hand, remain outside the scope of computers. Even Nevertheless, if technological advancements continue, this frame is expected to grow. Cognitive (thinking) abilities, which refer to the ability to interpret information outside of a predefined scheme, are regarded to be humans' comparative advantage over machines. Following this, the notion of unconventional thinking will evolve in lockstep with technical advancements.

Numerous organizations have sought to determine the most critical skills and competences required of the workforce in the twenty-first century (e.g., Binkley et al., 2010; Finegold & Notabartolo, 2010). These frameworks are often established by expert panel discussions and/or a study of the available research literature. We used a different strategy in the current study by establishing a future skill set for business and administration (associate) professionals in the Netherlands. We did a skills analysis of the O*NET OnLine database in two steps and supplemented our findings with semi-structured expert interviews.

This study investigates future trends in the returns to non-routine cognitive analytical and non-routine cognitive interpersonal skills in the Netherlands over the next 10 to 15 years, using a two-step approach. Given that only imperfect measures of the skills used in employment today are available for the Netherlands, we constructed skill sets for Dutch occupations with the most job openings and the highest growth in the future by matching skill measures from the U.S. O*NET system to the EU-LFS. These data are combined with insights from semi-structured expert interviews to gain findings applicable for the Netherlands. The occupations are "*business & administration professionals*" and "*business & administration associate professionals*".

A research question was presented at the beginning of this report, directing the objective and execution of this study. This question will be addressed in the following sections.

The first research question was: ***"What skill sets will "business and administration professionals" as well as "business and administration associate professionals" require in the next 10 to 15 years ?".*** The major important skills for the research occupational fields are the following:

For "business & administration professionals" (Table 2a.) speaking, active listening, reading comprehension, critical thinking, and writing are critical skills.

While "business & administration associate professionals" (Tables 2b.) active listening, speaking, and reading comprehension.

6.1 Validity

6.1.1 Classifying the SOC 2019 to the ISCO-08
The occupations represented in the O*NET database do not correspond to those reported in this study. O*NET occupations

are based on the Standard Occupational Classification (SOC) of the United States, although certain SOC jobs are further classified into more specific occupations. A first step in recoding these O*NET occupations into more widely used occupational categorization systems. The International Standard Classification of Occupations is widely used in European statistics (ISCO). Official crosswalks have been established between the two categories. There is no straightforward mapping from SOC 2020 to ISCO-08, even at the most precise level of the classification (unit group). Numerous job titles listed as part of a single unit group in SOC 2019 are classified as part of two or more unit groups in ISCO-08. Similarly, certain job titles categorized under a single ISCO-08 unit group are found in many SOC 2019 unit groups. Therefore, mapping each SOC unit group to a single ISCO unit group was performed, using a subjective job comparison (i.e. matching the titles that are most closely related). However, since the O*NET features of SOC unit groups within ISCO unit groups are usually comparable, the various methods are unlikely to provide significantly different findings. Additionally, we gather data at a highly disaggregated level of detail (Level 4, Unit Groups) in order to derive aggregated conclusions (Level 2, Sub-Major Groups).

6.2 Research Limitations

Numerous factors, most notably the techniques used and the study equipment, may restrict the research. These limitations will be thoroughly examined:

One aspect of the study instrument to examine is the semi-structured interviews utilized to adapt the O*NET database's findings to the Netherlands. Semi-structured questions were chosen to prevent self-assessment questions, in which participants must assess the importance of a certain ability. Self-assessment questions are frequently plagued with validity problems. Respondents may exaggerate or underestimate their own skill, and there is no way to determine their true score. While semi-structured questions are still vulnerable to responder self-evaluation to some extent, they are less subjective and are based on data that respondents can analyze. It cannot be ruled out, however, that responders will provide a socially desirable response.

Additionally, the sample size for this study is quite small. It indicates the extent of the findings, however repeating the research with a bigger sample size may yield further discoveries. The small sample size is due to the low response rate for this research.

However, the approach utilized in this study has a number of limitations and downsides in terms of applicability. Due to the fact that this study used a convenience sample of four interviews, it is hard to generalize the findings. Nonetheless, given the precision and clarity of the findings, one may conclude that similar results would have been obtained through interviews with other firms. To demonstrate, communication talents as Soft Skills appear to be universal, regardless of the type of work or role performed by the interviewee, especially when this ability is also recognized in the literature.

Another major constraint to consider is the exploratory nature of the data analysis described here. Although the O*NET content model informed the current study, the experiments were mostly motivated by facts rather than theory. As such, it may be beneficial to test a new hypothesis about how job skills should be arranged in the future and compare the new findings to the established ones.

Finally, this study contains several flaws. To begin, O*NET allocates work tasks to professions and hence ignores job task variability amongst individuals with equivalent employment. Numerous studies illustrate the critical importance of occupational diversity (Arntz, Gregory & Zierahn, 2017; Autor & Handel, 2013; Cassidy, 2017). Thus, occupations and the observed future skill requirements recorded in this study should be attributed to occupational skill demand variation and occupational structure changes. Given that occupations alone may not sufficiently reflect the sorts of activities undertaken by employees, future research on the returns to skills should ideally be based on individual-level skill evaluations of Dutch workers. Furthermore, such data will be more resistant to measurement errors.

6.3 Future Implications

The findings have the potential to enhance the skill analyses and predictions of business and administration (associate) professionals with vital information. Assume leadership and accountability for the development of critical business skills in order to promote resilience and the capacity to innovate in the face of rising competitive threats and market volatility. Businesses must work across industries to address significant skill shortages as part of their sectoral development strategies. Attracting, developing, and keeping world-class talent will become an increasingly essential differentiator in global markets.

Additionally, the critical nature of equipping the workforce with necessary skills for the future of work cannot be emphasized. Thus, education providers should place a greater emphasis on soft skills within schooling, shifting away from a narrow concentration on technical hard skills toward a more holistic approach that incorporates both hard and soft skills. This integration would necessitate a paradigm shift in education, from the acquisition of traditional factual and rule-based knowledge to the acquisition of the ability to think critically and creatively. This transformation would very definitely result in increased capacity for innovation. Additionally, a change away from a system in which all students are taught the same thing and toward a greater emphasis on an individual's interests and talents will pique the individual's excitement while allowing for increased inquiry. Following that, a change from education as a foundation to the recognition of lifelong learning through self-development is advocated. Thus, skills from each of the four major clusters of soft skills should be developed individually throughout one's life. Each individual is responsible for being adaptable to future developments and for continually improving their own talents via self-motivated excitement and curiosity.

Additionally, due to our increased reliance on others, the necessity of interpersonal skills should be reinforced throughout the educational system. The same is true for unconventional reasoning skills, which should be used more frequently to identify inventive solutions and new routes to a bright future. Nonetheless, different influences may determine the future of employment. Large-scale demographic changes or continuous globalization may have a significant influence on the future and define labor market circumstances. This means that changes in the skill needs for the prospective workforce may be influenced by various factors. Finally, research examining the development of soft skills should be conducted in more detail, taking into account not only formal education but also an individual's upbringing. As potential disparity may increase over time owing to changes in the skills and knowledge required for new sorts of activities and professions in a more computerized working world, chances for up-skilling and re-skilling may be regarded important in the future.

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9. APPENDIX
9.1 Appendix X – O*NET OnLine Skill Definitions by Category

Skills are proficiencies that are developed through training or experience. The 35 skills in the O*NET database (italicized) are divided into basic skills and cross-functional skills. Basic skills, such as reading, facilitate the acquisition of new knowledge. Cross-functional skills, such as problem solving, extend across several domains of activities. Under these two broad headers, the skills are grouped into smaller categories.

Basic Skills: Developed capacities that facilitate learning or the more rapid acquisition of knowledge.

- ❖ Content — Background structures needed to work with and acquire more specific skills in a variety of different domains
  - ➢ *Reading Comprehension* — Understanding written sentences and paragraphs in work related documents.
  - ➢ *Active Listening* — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
  - ➢ *Writing* — Communicating effectively in writing as appropriate for the needs of the audience.
  - ➢ *Speaking* — Talking to others to convey information effectively.
  - ➢ *Mathematics* — Using mathematics to solve problems.
  - ➢ *Science* — Using scientific rules and methods to solve problems.
- ❖ Process — Procedures that contribute to the more rapid acquisition of knowledge and skill across a variety of domains
  - ➢ Critical Thinking — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
  - ➢ Active Learning — Understanding the implications of new information for both current and future problem-solving and decision-making.
  - ➢ Learning Strategies — Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.
  - ➢ Monitoring — Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

Cross-Functional Skills: Developed capacities that facilitate performance of activities that occur across jobs.

- ❖ Social Skills — Developed capacities used to work with people to achieve goals
  - ➢ Social Perceptiveness — Being aware of others' reactions and understanding why they react as they do. Coordination — Adjusting actions in relation to others' actions.
  - ➢ Persuasion — Persuading others to change their minds or behavior.
  - ➢ Negotiation — Bringing others together and trying to reconcile differences.
  - ➢ Instructing — Teaching others how to do something.
  - ➢ Service Orientation — Actively looking for ways to help people.
- ❖ Complex Problem Solving Skills — Developed capacities used to solve novel, ill-defined problems in complex, real-world settings
  - ➢ Complex Problem Solving — Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.
- ❖ Technical Skills — Developed capacities used to design, set-up, operate, and correct malfunctions involving application of machines or technological systems
  - ➢ Operations Analysis — Analyzing needs and product requirements to create a design.
  - ➢ Technology Design — Generating or adapting equipment and technology to serve user needs. Equipment Selection — Determining the kind of tools and equipment needed to do a job.
  - ➢ Installation — Installing equipment, machines, wiring, or programs to meet specifications.
  - ➢ Programming — Writing computer programs for various purposes.
  - ➢ Operation Monitoring — Watching gauges, dials, or other indicators to make sure a machine is working properly.
  - ➢ Operation and Control — Controlling operations of equipment or systems.
  - ➢ Equipment Maintenance — Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.
  - ➢ Troubleshooting — Determining causes of operating errors and deciding what to do about it.
  - ➢ Repairing — Repairing machines or systems using the needed tools.
  - ➢ Quality Control Analysis — Conducting tests and inspections of products, services, or processes to evaluate quality or performance.
- ❖ Systems Skills — Developed capacities used to understand, monitor, and improve sociotechnical systems

- ➢ Judgment and Decision Making — Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- ➢ Systems Analysis — Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.
- ➢ Systems Evaluation — Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.
- ❖ Resource Management Skills — Developed capacities used to allocate resources efficiently
    - ➢ Time Management — Managing one's own time and the time of others.
    - ➢ Management of Financial Resources — Determining how money will be spent to get the work done, and accounting for these expenditures.
    - ➢ Management of Material Resources — Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.
    - ➢ Management of Personnel Resources — Motivating, developing, and directing people as they work, identifying the best people for the job.

9.2 Appendix X: Expert Interview Guide

1. General aspects

- − First, in the interest of good practice, do you agree if this discussion is video recorded? The recordings will be used in the subsequent analysis.
- − After the thesis is completed, the recording will be deleted after the participant's request.
- − The study will be done in an anonymous manner. Company/Institution names, participant names, and other identifying information will be changed with Company/Institution X, Interviewee A, and so on.
- − The final document will be delivered to you if you request it.
- − For any further questions or clarifications, the researcher's e-mail address will be shared.

Goal of Study:

➢ *To research "skill gaps" in the Netherlands, specifically the so-called "Soft Skills": personal (self-oriented) and interpersonal skill sets for business and administration (associate) professionals. Skill gaps are a result of the increased automation of many jobs.*

Terminology:

Soft Skills are divided into two categories: "personal skills" (knowledge and reasoning) and "interpersonal skills" (relationships with others). "Soft Skills" are non-technical and unrelated to the work, whereas "Hard Skills" are technical and relevant to the work. The word "soft skill" is indefinable, and the list is nearly endless. Soft Talents are "intangible" skills that relate to "human skills" and are referred to as "people skills" as a synonym, whereas Hard Skills are "tangible."

Automation: The growth in computer power over the last few decades, along with the decreasing cost of automation, has provided an economic opportunity for businesses to replace human labor in repetitive activities with machines (Autor, Katz & Kearney, 2006; Goos & Manning, 2007; Goos, et al., 2014; Michaels et al., 2014). Routine operations can be conveniently codified in programming applications and are therefore more likely to be done by computers (Autor et al., 2003).

2. Introduction

A. Please introduce yourself as well as the company/institution you work for. These can include information on position, size, company/institution purpose.

B. Please provide information about the department /function you work for. E.g. what are your tasks? What are your responsibilities?

C. How would you describe the working atmosphere with collegues? Is it tight, collaborative, individual-working, motivational, creative, etc.

D. Familiarize yourself with the "Goal of Study" and the "Terminology". Please take a moment while understanding the research goal and definition of Soft Skills in mind:
- o Do you feel your job is affected by automation? If so, in what sense?
- o When you hear the term "Soft Skills", what does it mean to you?
- o How did you learn your recent Soft Skills. For example, a training, your studies, your profession, a further education, etc.

E. General Soft Skills within the company/institution:
- o Do you actively use/apply your Soft Skills in your company/institution?
- o Do you have opportunities to grow in your Soft Skills? For example by conscious application, or by training programs.

o   If not, what do you think which Soft Skill would/could play a role in your company/institution?

3. Main Body

A.   **Which Soft Skills are present in your (associate) professional job?**
- o   What would you say, which of these "softer" or "hidden" skills do you think are present in your job?
  - ▪   Which ones are important?
  - ▪   Which of these are becoming increasingly important?
  - ▪   Which skills are not essential yet but may become crucial in the future? Can you think of reasons behind that?
- o   According to this research and Lecis et al. (2020), the most fundamental Soft Skills are:
  - ▪   Communication Skills
  - ▪   Time Management Skills
  - ▪   Decision-Making and Judgement Skills
  - ▪   Team Spirit Skills
  - ▪   Adaptability Skills
  - ▪   Analytical Skills
  - ▪   Autonomy Skills
- o   Consider the "Administration" function, Soft Skills which are required for administrative jobs are:
  - ▪   Memory Skills
  - ▪   Emotional Intelligence Skills
  - ▪   Attention in Detail Skills
  - ▪   Multitasking
- o   Which of the above mentioned Soft Skills are more important, and which are less relevant in your job? Please rank them in order of their importance, beginning with the most critical Soft Skill. Give reasons as well.

B.   **Which Soft Skills are important in your (associate) professional job today?**
- o   What is be the most remarkable Soft Skill in your function that comes to your mind?
- o   Why is particularly this skill important in your job?
  - ▪   Will it continue to be important in the future?
  - ▪   If not, can you think of any particular reasons or situation that would cause this Soft Skill to change?
- o   Are there any additional Soft Skills useful in your job other than those listed in Question 3A?
- o   What's the point?

C.   **Which Soft Skills will become increasingly relevant in the future (automation)?**
- o   Which of those skills, in your opinion, will be important in the future?
- o   Why?
- o   What new skills do you think will become useful in the future?

D.   **Do you believe there are any aspects that contribute to the need to prioritize Soft Skills? – Having the automation process in mind.**
- o   Soft Skills are not static, they evolve throughout time as a result of external environment and technology (automation). Can you think of factors that influence the requirement for soft-skill development?
- o   Explain how these factors affect Soft Skills and their relevance.

E.   **What is the relationship between Soft Skills and your job performance?**
- o   What impact do Soft Skills have on your job? Which of these skill sets are most important in your day-to-day work, and why?

F.   **Do Soft Skills contribute to the company's/institution's competitive advantage?**
- o   In terms of Soft Skills, why do you believe that these skills distinguish you from your competitors, and do you think that the skills provide a competitive advantage in your position/function?
- o   Do the skills contribute to business'/institution's corporate success? If yes, how?

Closing question:
- o   Is there anything that you would like to add?
- o   Thank you!

9.3 Appendix X: Bureau of Labor Statistics Crosswalk From ISCO-08 to 2019 SOC

ISCO-08 Code	ISCO-08 Title EN	part	2019 SOC Code	2019 SOC Title
2411	Accountants	*	13-2011	Accountants and Auditors
2411	Accountants	*	13-2031	Budget Analysts
2411	Accountants	*	13-2082	Tax Preparers
2412	Financial and investment advisers	*	13-2051	Financial Analysts
2412	Financial and investment advisers	*	13-2052	Personal Financial Advisors
2413	Financial analysts	*	13-2041	Credit Analysts
2413	Financial analysts	*	13-2051	Financial Analysts
2413	Financial analysts	*	13-2061	Financial Examiners
2421	Management and organization analysts	*	13-1081	Logisticians
2421	Management and organization analysts	*	13-1111	Management Analysts
2422	Policy administration professionals		13-1199	Business Operations Specialists, All Other
2423	Personnel and careers professionals	*	13-1071	Human Resources Specialists
2423	Personnel and careers professionals	*	13-1075	Labor Relations Specialists
2423	Personnel and careers professionals	*	13-1141	Compensation, Benefits, and Job Analysis Specialists
2423	Personnel and careers professionals	*	21-1012	Educational, Guidance, School, and Vocational Counselors
2424	Training and staff development professionals		13-1151	Training and Development Specialists
2431	Advertising and marketing professionals	*	13-1161	Market Research Analysts and Marketing Specialists
2431	Advertising and marketing professionals	*	27-3043	Writers and Authors
2432	Public relations professionals		27-3031	Public Relations Specialists
2433	Technical and medical sales professionals (excluding ICT)	*	41-1012	First-Line Supervisors of Non-Retail Sales Workers
2433	Technical and medical sales professionals (excluding ICT)	*	41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products
2434	Information and communications technology sales professionals	*	41-1012	First-Line Supervisors of Non-Retail Sales Workers
2434	Information and communications technology sales professionals	*	41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products
2434	Information and communications technology sales professionals	*	41-9031	Sales Engineers
3311	Securities and finance dealers and brokers	*	41-1012	First-Line Supervisors of Non-Retail Sales Workers
3311	Securities and finance dealers and brokers	*	41-3031	Securities, Commodities, and Financial Services Sales Agents
3312	Credit and loans officers	*	13-2071	Credit Counselors
3312	Credit and loans officers	*	13-2072	Loan Officers
3313	Accounting associate professionals		43-3031	Bookkeeping, Accounting, and Auditing Clerks
3314	Statistical, mathematical and related associate professionals	*	15-2091	Mathematical Technicians
3314	Statistical, mathematical and related associate professionals	*	15-2099	Mathematical Science Occupations, All Other
3314	Statistical, mathematical and related associate professionals	*	19-4061	Social Science Research Assistants
3314	Statistical, mathematical and related associate professionals	*	43-9111	Statistical Assistants
3315	Valuers and loss assessors	*	13-1031	Claims Adjusters, Examiners, and Investigators
3315	Valuers and loss assessors	*	13-1032	Insurance Appraisers, Auto Damage
3315	Valuers and loss assessors	*	13-2021	Appraisers and Assessors of Real Estate
3321	Insurance representatives	*	13-2053	Insurance Underwriters
3321	Insurance representatives	*	41-1012	First-Line Supervisors of Non-Retail Sales Workers
3321	Insurance representatives	*	41-3021	Insurance Sales Agents
3322	Commercial sales representatives	*	41-1012	First-Line Supervisors of Non-Retail Sales Workers
3322	Commercial sales representatives	*	41-3099	Sales Representatives, Services, All Other

3322	Commercial sales representatives	*	41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products
3322	Commercial sales representatives	*	41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products
3323	Buyers	*	13-1021	Buyers and Purchasing Agents, Farm Products
3323	Buyers	*	13-1022	Wholesale and Retail Buyers, Except Farm Products
3323	Buyers	*	13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products
3324	Trade brokers	*	41-1012	First-Line Supervisors of Non-Retail Sales Workers
3324	Trade brokers	*	41-3031	Securities, Commodities, and Financial Services Sales Agents
3324	Trade brokers	*	43-5011	Cargo and Freight Agents
3331	Clearing and forwarding agents	*	43-5011	Cargo and Freight Agents
3331	Clearing and forwarding agents	*	43-5071	Shipping, Receiving, and Traffic Clerks
3332	Conference and event planners		13-1121	Meeting, Convention, and Event Planners
3333	Employment agents and contractors	*	13-1071	Human Resources Specialists
3333	Employment agents and contractors	*	13-1074	Farm Labor Contractors
3334	Real estate agents and property managers	*	11-9141	Property, Real Estate, and Community Association Managers
3334	Real estate agents and property managers	*	41-1012	First-Line Supervisors of Non-Retail Sales Workers
3334	Real estate agents and property managers	*	41-9021	Real Estate Brokers
3334	Real estate agents and property managers	*	41-9022	Real Estate Sales Agents
3339	Business services agents not elsewhere classified	*	13-1011	Agents and Business Managers of Artists, Performers, and Athletes
3339	Business services agents not elsewhere classified	*	13-1051	Cost Estimators
3339	Business services agents not elsewhere classified	*	13-1199	Business Operations Specialists, All Other
3339	Business services agents not elsewhere classified	*	13-2099	Financial Specialists, All Other
3339	Business services agents not elsewhere classified	*	41-1012	First-Line Supervisors of Non-Retail Sales Workers
3339	Business services agents not elsewhere classified	*	41-3011	Advertising Sales Agents
3339	Business services agents not elsewhere classified	*	41-3041	Travel Agents
3339	Business services agents not elsewhere classified	*	41-9099	Sales and Related Workers, All Other
3341	Office supervisors		43-1011	First-Line Supervisors of Office and Administrative Support Workers
3342	Legal secretaries		43-6012	Legal Secretaries
3343	Administrative and executive secretaries	*	23-2091	Court Reporters
3343	Administrative and executive secretaries	*	43-6011	Executive Secretaries and Executive Administrative Assistants
3344	Medical secretaries	*	31-9094	Medical Transcriptionists
3344	Medical secretaries	*	43-6013	Medical Secretaries
3351	Customs and border inspectors	*	13-1041	Compliance Officers
3351	Customs and border inspectors	*	33-1012	First-Line Supervisors of Police and Detectives
3351	Customs and border inspectors	*	33-3051	Police and Sheriff's Patrol Officers
3352	Government tax and excise officials		13-2081	Tax Examiners and Collectors, and Revenue Agents
3353	Government social benefits officials	*	13-1041	Compliance Officers
3353	Government social benefits officials	*	43-4061	Eligibility Interviewers, Government Programs
3354	Government licensing officials	*	13-1041	Compliance Officers
3354	Government licensing officials	*	43-4031	Court, Municipal, and License Clerks
3355	Police inspectors and detectives	*	33-1012	First-Line Supervisors of Police and Detectives
3355	Police inspectors and detectives	*	33-3021	Detectives and Criminal Investigators
3359	Regulatory government associate professionals not elsewhere classified		45-2011	Agricultural Inspectors

9.4 Interview Guides

9.4.1 Expert Interview with Interviewee A

	INTRODUCTION

Interviewer:	*"OK, perfect, so it's recording now. Let's start with the interview, and so there's a goal of study on the terminology we come to that later and so. Let's start with the introduction, the second part, and please introduce yourself as well as the institution you work for, and this can include information on position, size, or institution purpose. Yes, my name is Anna Maria reader."*
Interviewee A:	*I am the* ▬▬▬▬▬▬▬. *But my employer is nowadays called* ▬▬ *and that means are we recently changed names. I think department or section for Entrepreneurs:* ▬▬▬▬▬▬▬▬▬▬. *That's quite a big and diffuse group of researchers and teachers. In the areas I just mentioned, I think we are a group of about* ▬▬ *now and we are part of the* ▬▬▬▬.
Interviewer:	*OK, and so and please provide information about the Department of the function you work for. You already mentioned a few, but this can be your responsibilities.*
Interviewee A:	*Come in, my function is* ▬▬▬▬▬▬▬▬ *I'm responsible for. The individual* ▬▬▬▬▬▬ ▬▬▬▬▬▬▬. *And that means that I try to coach them. On the way to developing skills individually. Skills of their own choice. My responsibility is further that I see to it that they. Pass their work and that their grades are delivered to the exam office. And where they are put in Osiris, I have no rights to Osiris, so myself. I also see it part of my duty to remind the students if they are behind. Basically it's an individually and self directed program also. But when students seriously seriously get behind, I. Involve them again. What else can I say about it? My play, my responsibility is so my responsibility is mainly towards the educational department. Of the organization? Not so much research, not so much admin or management. OK, that's it. I think OK.*
Interviewer:	*Sounds good so far and a bit more to your to your working atmosphere. Like how would you describe the working atmosphere with your colleagues? Is it more tight collaborative, individual working motivation or creative working atmosphere?*
Interviewee A:	*My work is highly individual. I hardly have any contact with colleagues. It's just kind of standalone job within the organization. My department is varied. Most of my colleagues are a lot younger than I am, which naturally creates a distance. Between them and me. But it also means for me that it's very vivid an inspirational and there's a lot happening and it's very interesting what they do and I can learn a lot from them. Uhm? I also think they could sometimes learn something from me, but I'm more or less on my own and they're a big group so. And especially when you don't speak to each other at the coffee machine. That doesn't happen really easily, but it's a nice place to work, and I like the independency and the trust people have in me for letting me do this. Yeah, that's great. And also like on the other side, not only the colleagues but you also work, for example with me right now with students together.*
Interviewer:	*And I think this also very pleasurable work that you have.*
Interviewee A:	*Yes, I, it's really great to be able to work with students and they're all very different. And. They are inspirational as well and at the same time to be quite honest, I wouldn't like to be in your shoes at the moment for all the choices you have to make. Yeah, but that's really nice to be able to work with students, true.*
Interviewer:	*Yeah, especially now is also for me to look for the master thesis, so I'm not quite sure what to do in my masters so maybe I do a few intern internships as a as a gap year, but yet a lot and huge decisions I need. Yeah, and a lot of other students as well.*
	And so let's come to the study goal and terminology, and please take a moment while understanding the research colon definition of soft skills. Just come. It's on the upper page. So the goal of the study is to research a scare gaps in the Netherlands as specifically for so called soft skills, personal, self oriented and interpersonal skills set for the occupation of business and administration associate professionals. And this scale gap is a result of the increasing automation of many jobs. And to the terminology, but I think you're already quite well aware of it. Soft skills are divided into two categories of personal skills and interpersonal skills and soft skills are non technical and unrelated to the work, whereas hard skills for example, are more technical and relevant to the to the work and.
Interviewee A:	*So the words I understand this definition for this particular purpose because personally, and you know that perhaps you remember it from the skills guide the definite order, the study guide, the definitions I use are different, and I try to avoid the word hard and soft, but for the purpose of this study and in this context, I understand that you make this distinction makes sense, yeah.*
Interviewer:	*OK, perfect. And now coming to the follow up questions. Do you fear that your job specifically is affected by automation, and if so, in what sense?*
Interviewee A:	*Uhm, my job. Yeah, well, I don't know exactly if if there is a kind of definition of automation. But as I see it, it's the replacement of teaching individuals by teaching videos and books, and that kind of thing for my answer. That is my view on automation. So I definitely think that a lot of teaching will be affected by that, especially after Corona. You already see it now. There's a huge progress in the digital delivery of teaching and digital options of cooperation. And Coinciding perhaps, but also because of the further globalization and the individualization, there is also a big*

tendency of individual programs that are really tailor made to individual people, and for that you need a lot of digital content to to assemble into and a personal program also across borders. So yes, I think the the individuals now involved in teaching will be the ones that need to that will regularly update the content of teaching materials. An will have the role of coaches to students to find their way in suitable clusters of content that will lead to a useful grade for the future. So yes, I think there is a big change coming.

Interviewer: *OK and like also. Like not only when it comes to automation regarding more like video lectures and like that everything is more shift two to Internet based. Tools but but also do you think automation affect your job in specifically? Like do you get like tools that help you reduce your work amount or? Because I would say USA a skilled professional like teaching this to students and your job is not really at risk that your job is automated in the future because it can be fully done by computers or by by the by the whole automation. But do you think it's influencing the way you work automation?*

Interviewee A: *It could be. As I mentioned before, I think teachers will will always have a role as coaches. An upgrade is of content keeping that alive and action actually because of the research input. And and I indeed don't think my job will disappear. For time reduction I. I have hoped to get a tool for students to do peer feedback because I have roughly each year 200 students that I have to review work from and. When we started this, we had about 100 students coming in each year, but they grew and my head didn't grow. So it's really a bit too much so. For two reasons 2. Make my work yeah to to make my work more doable in capacity, but also because I think it would be great for students to have an A really at all and I know it exists, but I haven't worked with it yet. Tool for good peer feedback. And I can think of other things I can think. For example, that's a bit far fetched perhaps, but for. Kind of search tool through documents that searches for certain words. Or certain, how do I say concepts that students put in their work that are then easily more easily recognized? For me it's sometimes quite hard to. Some students are good at they. They explicitly demonstrated the concepts that I'm looking for, but for some you have to search for them. So. In a sense, well, yeah, I could make the the the job more fit to be automated. I could do that, but I think then I would lose the value of the of what we're trying to do here. Making students aware of their individual needs and their individual. Need for setting their own standards and setting their own goals and being their own assessors so away from Stan, from from curriculum standard studies.*

Interviewer: *OK yeah, good and. And so when you hear the the term and that you don't really like soft skills or how you would say like personal or interpersonal skills…*

Interviewee A: *I would I would use transferable skills. The one or portable skills, the skills that you. Always need, irrespective of any job.*

Interviewer: *OK, so if you hear the term now transferable skills, what does it mean to you?*

Interviewee A: *Well, other than what I just said, the type of skills that you take with you from from what? For the rest of your life and that sort of make you also stand out. Partly it's they are. Uhm, the skills that you need in life currently, but partly they will also be the skills that make you stand out from from others. That allow you to distinguish yourself. Uh. I don't know if this is the answer you're looking for, but perhaps I don't understand the question quite right.*

Interviewer: *It's it's more generally speaking like it. Yeah, so that was that was good. So and then I'm also curious about the like how how did you learn your recent transferable skills, like I wasn't the cause of trainings you did your studies or your profession? Or is it because of further education?*

Interviewee A: *Yeah, it's it's a. Mostly in general I would say yes, simply by experience. And by working in very different contexts. And. Let's say looking at the way you function in a certain context. When you've moved away from it into another. Makes you see what was up. Specific what is specific for context and and what is valuable to take with you and to to develop further. So moving on changing contexts, having different experiences. For me it helps me to sort of put one and one together. It's like the well the famous example of the fish doesn't know it's in water until it's out of the water. In looking back in in sort of redefining what you actually learned somewhere. To make an to adapt it to a new situation or to simply say I don't need this anymore. Losing skills also, I think in when you grow older you are also aware that you lose skills, things you could do and can't anymore. So yeah, and of course formal training. I did a university study at a much advanced age. Which I've since regretted that I didn't do it before when I had the chance. But that that. Was really. A sort of eye opener and that gave me finally just sort of tools in incense making. Of your experiences, past experiences of your challenges of what you had. Learned in the past. Somehow it gives gave the tools to place everything gives things. Yeah, place learning the vocabulary to make sense of. All the things I had done, so yeah, it's it's a mix but I'm not the typical candidate. The typical career person so. Yeah.*

Interviewer: *OK, so that's it of what I have understood is that skills are either developed more, more indirect, more, maybe not. So where by real life experiences that you make or more actively and you're more aware by choosing like programs or like tools as Coursera. So do you think what is the biggest part of? Or do you think more people would improve their skills by a more indirect approach is just because of experiences they are pushed or put in on or they have to do it more proactively using Coursera courses or like participating like applying for for online courses.*

Interviewee A: *I think you give a very good summary of the two parts. Here this is an interesting topic because as you know from the skills individual skills development I always push towards formulating goals, an sort of trying and quantifying them in a way. And for some people that just doesn't work. They have to go along well, take my route. Let's put it like that. In the ideal world, I would say. That it's more effective and efficient. If you want to build a career to be proactive and to do like we propose in the individual skills program. But if you do that at some point, I think you*

shouldn't forget the other part. If you follow the more trial and error route, let's put it like that. You have to realize that and that's what I did well in the end, in time that at some point you still need to. You want to move on. You will need additional training and education because otherwise you don't get beyond certain points. So ideally I would say goal oriented proactive focus on what you want. But nothing is lost. If you go the other route by trial and error, as long as you pick up what you need to make the next step, because the risk is that you sort of get stuck because you you lack the necessary qualifications at a certain age to move on at the same time, I still think that for building a career. You need to 1st root for perhaps having a. Uh, another sense of a full life. You can do the first route, no, and maybe in future you know with jobs. Jane, probably changing so quickly and functions being born. Like who would have thought that influencing would be a way to make a living and a good living. 10 years ago nobody. The second route will probably become more relevant as well. So try also try to if if you are on the goal oriented route, you may have to decide at some point that you need to switch because your goal is no longer there. He sees, so it's yeah. Is this clear enough?

Interviewer:	*Yeah, and I also think that like gaining this kind of skills online or via like more, more indirect approach is, let's say it's also. It's all fun and games, but it's also only a basis. I think you're really into to really implement these and put it put it also in your mind. I think you also need to experience it in real life experiences to reduce…*
Interviewee A:	*But to make sense of it it. Quite like you say I mean for for that I wish I would have done my university studies at the normal ages. So to have a good base. Yeah, but but then it's the experience that really makes you aware of what your skills are and being able to articulate them. Is something else again? I mean, you can know for yourself, but well, explain to somebody else that's very hard because you have to solve level level with someone you need to have the same same playing ground to make it clear, so that's awesome. It simply you need to know who you're talking too. If you want to explain it. And that's also hard.*
Interviewer:	*Yeah, and that's what the skills, skills line teachers us because of course, like also in primary or secondary school and. We also may be aware of like team building or like these adaptability skills but actually write them down and and think about them is is quite a different level. I would say yeah. Now we come back to your to your institution. To your. Are you as an employee and like? Do you actively use or apply the transferable skills in your institution and and do you have maybe opportunities? I think we talked a bit about them already, like do you have opportunities to grow your transferable skills in your institution?*
Interviewee A:	*In my institution, there are really plenty of opportunities. We have a lot of opportunities for really skills training, like improving your professional. Well thinking and acting that that is what it's mainly about. It's and of course we have this free good habits. Offer from HR. At which I'm actually trying one of the courses I'm doing at the moment. And I think that's great because you can do it at your own time, at your own leisure. Of course we have. Meetings dedicated to informing each other about what we're doing, so that's also, but that's my mostly research oriented, so. But I think that's a great way for the researchers to actually. Let's say mix mix and match and and to form of collective learning as an institution. I think at the same time, from a sort of outsider perspective, I think research becomes an and that is maybe a danger that I see. It happens in research. In my view, it becomes so specialized that it gets harder to find common ground for progress, and if you're. And this tendency toward specialization has of course the risk that you know all about a topic the size of a stamp. But you can't really communicate with others anymore if. If your field is so specified so small and so framed, yeah, then. But I lose track of your question. Yes, there are plenty of possibilities for for skills improvement in contact with colleagues and the formal training programs. And we have the. Of course the Surface Department's like says who offer us all kinds of tools and new knowledge and support for. For further learning and something like that, the quality, quality, quality criteria like a. A Baker, oh what's the English term? I don't know. You have to bake out. Oh, and the advanced version that's that's really a professionalization training. So that's also very good.*

MAIN BODY

Interviewer:	*I'm sounds great that your employer gives you opportunities to dramatically improve your skills and so now we come to the to the main body of the interview guide and this is probably the. The section where you were like OK, this is this really meant for me because it always say associate professional jobs like this actually meant for people who are working in an industry and but with a few. Also with a few people from the university, I just wanted to to back up this thoughts of these people who are working on that.*
	So I'm what would you say of these softer or hidden skills and do you think are present in your job and we already talked about a few? Which ones are important and which of these are becoming increasingly important in the future? Like if you think now about concrete transferable skills or hidden skills. And yeah in your job or what you can assume for people working in. These professions?
Interviewee A:	*Uhm? Yeah, you have of course all the universities have systems administrative systems for. For employees and for all kinds of things, for arranging your holidays, and for for having your annual talks. An all kinds of stuff. And these systems keeps changing, so you need to be sufficiently computer and digital literate to find these systems an advantage instead of a bother. Innocence. For example, if you have now also. Previously, now I can arrange my holiday, I can just put it in the system. I don't need anyone's permission and I don't need to discuss it with anyone. That's a bit of freedom. I can find my way around in these systems because I didn't. I didn't miss a step I with all the next versions or the new system I can still find my way, but to make the most effective and efficient use. I probably miss out and it makes sense that I talked to the secretary or somebody else and like, oh, can you tell me I can? I can*

do it, but what's the best way to do it so? You run the risk of losing simple communication with people because you are more self sustainable in all these systems. Uhm? Can you repeat the core of the question? I think I lost it.

Interviewer: *So. And what would you say? Which of these transferable or or hidden skills do you think are present in your job and which ones are important and which will become important in the future?*

Interviewee A: *Yeah. Come. You still need to be in touch with people, I think. Asking for help without being embarrassed. Building good relations with the ICT department. Building yeah building having good relationships with the department that are more or less replaced by these systems or who service these systems. So. Maintaining relationships. In an organization I think is vital. Uhm? And I might hope that they remain Vitaly also because of this. Yeah, people tend to work more and more individually, I think. After Corona we will never return to our office life as we did before where working in the office still was the norm and you could also work a day outside. I think that will be completely reversed. Up and feeling having a sense feeling connected to the organization is also a skill that will need more attention because the university has always tried to make us feel a member of the Community, their sense of community is very important. I have personally always found that very difficult. I don't know why, but I think it's. Uhm? It will be much more important in the future, and it's something that shouldn't be forgotten with all these. Also, in the tendency to make individual to make learning and more learning for students and more. Uhm? Individual individually based thing like they're trying to do with the CI you right now having this individualized. Curriculum. If you think the sense if you think having a community is important, it will require a lot of attention to make people feel that they are in a community, and perhaps for the digital natives, it's it's more easy. If you've always been used to much more. Keeping in touch digitally. I don't know, so yeah. And then of course you get these stuff like a physical health, mental health. Yourself sustain, you're also more self sustainable in that. No campus walks with colleagues. So yourself management skill is also more important I think. Yeah, let's keep it to that. OK, self management feeling of connectedness and maintaining relationships. OK, that's what I would say.*

Interviewer: *Yeah, three really important and fundamental skills. So according to my current research, so I did. That expert interviews are my second source of like. Information and my first I want is I analyzed the database and it's it's the ONET database a US database and and they did. They work now for a couple of years. For 20 years I guess and they track as skills to specific occupations or jobs. Yeah, so they I filtered for the two jobs of the two occupations I want to research on and my research. And the work of Lecis at all two. 2020 and found the most fundamental soft skills in this area are communication skills, time management skills, decision making and judgement skills. Team spirit, adaptability, analytical and autonomy skills, and considering more the administration function. Transferable skills which are required for administrative jobs are memory skills, emotional intelligence, skills, attention in detail, skills and multitasking skills and so. First of all, what comes to your mind. Hearing of these skills, which you agree, would you say OK and do you have? Like how would you rank them in order of their importance, beginning with the most critical soft skill and also maybe explaining a bit why you think that this is maybe a bit more important than the others scale.*

Interviewee A: *I haven't remembered 10 by heart. The one that you mentioned. Well, I think from what I said before, I think communication in many forms is definitely number one. I think you said analytical. For me, analytical skills decision making and judging are more or less the same. Or are are in the same area? Let's put it like that. I think they are very important as well.*

Interviewer: *Uhm? Yeah, and we got for example time management at Team Spirit. You always mentioned that you already mentioned team spirit in your previous explanation, adaptability, autonomy.*

Interviewee A: *Yes, I think. Autonomy is very important too, because it's sort of the core from where where you all start. So maybe I would find that even more important than communication if you start with the person I I would say autonomy. First analytical decision making judgement skills, problem solving. And then you start the sharing part with the outside world. Then you start the communication. So yeah, it starts with the individual. Team Spirit and team collaboration. For me that is in a sense, building relationships. Being able to trust people I would call trust also a necessary skill. Because trust is what you give first, you can't. Yeah, you need to deserve it as well. But first, it's something that you give. So that also starts with an attitude of the individual. Am I missing out others? I haven't focused on the administrative part yet. There it says eye for detail. Yes, I think so. Multitasking. I don't know if that's important I, I assume, but that's that's I don't know. It's always said that multitasking is not not very productive, so. That's the only one I tend to disagree with OK, and the other two. What were the other two?*

Interviewer: *Memory skills and emotional intelligence skills.*

Interviewee A: *Memory skills. Memory skills. Yeah, that that's too. I don't know what assumption there is behind that. I think memory skills is useful for everyone. Not specifically for administration, I think to be successful as a professional memory skill is crucial because the best, the most the best ideas come when you suddenly combine things from 2 context or you see the opportunity. And that's always memory. You remember something from here and you remember something from there and you make a new combination and there you have something new. So memory skills in that sense would be important to everyone. And social or emotional intelligence. I would say that's important for everyone as well. OK, in feeling and being able to put yourself in somebody else's shoes. Being empathic, especially if specialization. It continues. I think that's very important to still be able to. To be able to be empathic and try to and put yourself in somebody else's shoes.*

Interviewer: *Yeah, yeah, so it's quite interesting to see here and that you you still. I think you still have your three favorite skills here, like autonomy, analytical and decision making, judgement, skills and communication. But it's also quite*

difficult to rank all these skills because they are somehow interwoven like interconnected and basically all scales are quite important.

Interviewee A: Yeah, and it depends on. From the perspective of the individual, my ranking is as I said, if I were an organization, my rank. If that is the unit of analysis, the ranking would probably be different, but we are people. So yeah yeah.

Interviewer: I'm. OK, now we come again a bit more to the topic because this is also what my research is about and to research the skill gap that exist in the Netherlands till 2030 and so looking more in the future and which soft skills are. Let's stick to the wet transferable skills will become increasingly relevant in the future. So in in your opinion and what what do you think? Why this is the case? Also, keeping in mind the huge topic about bout automation that also jobs. Like more. Coming and going and jobs are more equipped with also robotics and AI is also huge area like what skills do you think are important in the future?

Interviewee A: Uhm? I think that. Yeah go be goal setting. The ones I mentioned will also be important in the future because. Up I think it will become more and more important to decide as a person how you want to interact with these systems. If and if you work in a company where. Yeah, where the systems. Define how the person should work. That's a distinction you should be able to make, whether that is what you want or not. So you need to be. I think you need to keep yourself. Yeah updated with the latest development that the important trends in that area. So be keeping yourself informed is a skilled up. Uh is even more important in the future and how what is necessary for you. Sorry…

Interviewer: And how do you get that information from like journals like newspaper? Where do you keep up to date when it comes to new trends?

Interviewee A: Trustworthy sources? Of course I think. And there your goal comes to mind because there are so many sources of information that you need to be able to make a selection. And I think it will. It will sort of. Branch branch information. I hope at least that if you graduate, you people are aware of a certain area that they want to be employed in so that they follow up on that area. But then two probably to avoid getting into a bubble. Yeah, you will also need to hear a little bit of opposing fuel, it's. Because there's there's of course also that the critical followers of developments like critical newspapers or critical news organisations. That you need to follow in order to be able to make your decisions. Uhm? So you need to be technologically updated. Uhm? Yeah, and you get of course all this stuff with fake news and deep fakes and and being able to distinguish what is valid. I mean what is true? I don't know, but what is valid for you? Uhm? Also, being able to. Uh, yeah, if you want to live with uncertainties, that's also something that I think so then you get back to autonomy. Have your basis in yourself. Uhm? Being adaptable because changes will be ever more quickly. Uh. Knowing knowing what what kind of self self knowledge. Knowing who you are and what makes you tick. Uhm? Is ever more important, I would say. Perhaps? They are in. I go back to this goal setting. Perhaps you new should be able to formulate some milestones for yourself and keep in. Yeah, keeping in touch with keeping in touch with others. Having a still trusted group of people that you can sort of mirror what you want and that you discuss these things with. So I basically say what I said before, right?

Interviewer: And there's like a you're you mentioned one specific and term about that. In the future we also need to maybe prioritize or distinguish between certain skills. Becaused with. Now all the news and all the trend journals they are flooding us with a with a lot of inputs like you need to have this skill and the skill and everything is important basically and so I already heard. That you believe that there is a need to prioritize a transferable skills. Yeah, I'm also having the new demand for employees in mind and so we know transferable skills are not are not static, so they evolved throughout time as a result of external environment and technology. So there we have automation again and can you think of factors that influence the requirements for soft skill development?

Interviewee A: Factors you mean environmental factors or or natural factors? It's always be important. It will always be important to be able to to be visible as a person so. The skills employers can see. I say whatever they want, but if you're not skilled in a certain way then you're not and you'll probably never be, so you should be be visible and authentic as a person. As much as possible, so focus on that factors that well, yes, factors that. Will make changes you have currently was happening the last era I would say was the era of the extroverted people show off. Be there, make as much noise as possible. Be on every social medium that you can. And there is. There are some people who say that due to pandemic, the world becomes a bit more quiet and maybe there is more room for the for the introverted people so. Being visible, yes, but as the authentic U and find you. I don't know if this of this if this trend is actually really happening, but things like major. Major worldwide changes. Can really. Change the whole. Can't find the word the whole situation we live in. They say for younger people right now. I mean you will know much better than I am. That their their life has been. Awful for the past year, let's put it like that for for quite a few. I think these things will happen again, so that the awareness that there is no guarantee that life will always be nice. Uhm? That's something you have to learn to live with. At the same time, we have the environmental environmental threats, the climate threats. That's basically more for my generation. I think we have to learn that many people of my in previous generations say oh, we worked for it. So we we have a right to you never have rights to anything so this adaptability. Tutu. Natural circumstances and making the best of it. There's no point in complaining or looking for your rights when they're not there. Being adaptable, being flexible, being uh, still curious. Being not becoming risk avoidant or. Hiding yourself and looking yourself up. Stay in touch with. What's happening around you? I think that's that will be still important. Uhm? Because the certainties we thought we had day. Are not there.

Interviewer: OK, yeah. And I totally agree with that. And maybe for the. As the last inside maybe or think or thought. And imagine yourself or try to put yourself in the shoes of a person that is working in a in a company like a business professional and how do they are transferable skills contribute to the company's competitive advantage, and so in terms of

transferable skills, why do you believe that these skills distinguish you from your competitors like first of all from you as a person and to the people you compete about that job and more in like the wider scope? How does the skills distinguish you from your competitors in the market? And so do you think that these skills provide a competitive advantage in your position or function?

Interviewee A: *I have worked for a for a. I worked in the biscuit baking industry which was highly automated by then. And. I I think. At a company level. You have to be able to communicate very clearly to your perspective. Employees. What what your vision and mission are? So that you attract the right people. So communication. You can use that at this. At the same time, to have a clear profile compared to other. Companies in your industry. Be visible as a an industry not just because of the products or services you offer, but also about the staff you hire and the policies you have. It's all about inclusivity nowadays. Well, that's not an easy task for. Uhm? For HR Department's perhaps how to do that? Uhm? And be authentic about it. If you say you have it but you don't. If you you say it but you don't live it. This authenticity will backfire against you very quickly. So have a profile be be visible for what you are and make a sort of selection of skills or characteristics that fit your organization. An will fit the people that use that you are looking for and and spend time on it. To really find out what what your core is on an individual basis, how would you be able to make a difference in a company? I think, especially in an automated world it's important that you have. People who are able to inspire you. Because your job maybe not that inspirational. People who inspire you too. Well, there was this tendency that you, the East situation, is wrong. It should always be zall and you should always look for things that for things to improve and. Uh. Some people have that by nature. If you want that to happen, make sure you have the people that have that by nature and don't. Uh, harass others with that that message. So that also means suitable people, but inspire them to do. To find their strength in this automation. One of the skills that you mentioned earlier was eye for detail. In many jobs, eye for detail is seen as a disqualifier because then you don't see the big picture, but you see the details. If you think that is important, find some people who see the details but don't bother the big picture sees with that. A message so. Really don't treat the people you have as an as an extension of the machine, but see them As for what they are and select them for what you want. And I think in that sense, if you have people with these different strength, it's also known within an organization that people have different strengths and you don't perhaps get this gossip like, oh, he can't do this or he can't do that, no, because he wasn't asked to do that. He wasn't hired for that, so I think inclusivity is not everybody being able to understand and do everything, but respecting that everybody has his talents and his opportunities. And and you are hired especially for it. So maybe hiring people becomes. Even more important now they hiring people. CV reading is also highly automated. I think for the first shift that makes sense. If you want to go for a diploma, but there are also trends saying you diplomas are maybe not so important. You should go for the skills, so maybe automation, HR or CV checking automation should change as well. And looking for different things. But if you have automated systems, never forget to look for what, yeah, what what you think is important for what you want. And spend time on making that right.*

Interviewer: *OK, I'm to finalize maybe with a more philosophical question, and So what do you think will be or is now and will be also in the future. The biggest competitive advantage between like an automated robotic industry and humans.*

Interviewee A: *The biggest what are you asking for exactly?*

Interviewer: *The biggest competitive advantage. Advantage between robotics and humans are like an automated industry and one with human beings.*

Interviewee A: *Well, I think the biggest advantage is that. Computers will start. Uh, learning. As well, so they will resemble some of the good and bad things that humans now are specialized in. At the same time, I think somehow humans become more. Feeble innocence, more sensitive. Uhm? Yeah. That we are not humans. I will not let so much passed by. They stand up. They want their life to be OK. So if I think really for a simple production. Like you have now half a sting. Harvesting Aurora car industry or where you can really make. Big big loads of the same thing. I think automation will be always preferable. But at the same time. Weather human factor. Can play a part in the product or service you deliver. I think the human input. At least. In the systems that will automate, it will. Be important. And I don't know. Maybe we, maybe humans can in the end make automatic systems that. Have all the qualities that we like in humans. Now only the qualities are not the defaults. Let's put it like that, yeah, but then you get a discussion. What is equality and what is a fault? And also partly context dependent. But if you manage to. Uhm? In the Western world, if you manage to have the human factors that we consider important in the automatic systems. At that point they were level. If you were in China, I think the automatic systems will always prevail over the human. May human. Input in products and services and process is.*

Interviewer: *Yeah, and as you just described the Western world and this is how I wish honestly to have like our future work designed to have maybe automation or robotics that go hand in hand with humans. Yeah, and so they're just like the maybe the hard work. Let's say is automated by robotics, but still the interaction between humans. Yeah, yeah, the routine work, but the creative work that this is still in the hands of humans. That would be ideal.*

Interviewee A: *I would say yeah. For example, if you have elderly people who now have to or people who have to do all kinds of practices, practice gym, that kind of stuff to remain a bit a bit fit. It would be great if you could automate that really, that oil muscles are trained for you that you can just lie down in a machine, watch a nice movie and all the exercises done for you that I would really love that yeah. Motivation is such a big problem for that kind of stuff. So yeah, if you could be motivated to things that are good for you, but not necessarily pleasant, that. That could be automated or wonderful, yeah?*

Interviewer: *Yeah, but it's a world and the future I think offers a lot of opportunities and maybe this will be one part of our future we don't know yet. No so. That would be the main interview guide. Do you have anything, anything to add? So far, or is it? Do you think you said everything important?*

Interviewee A: *Yes, I think so. Before I, I thought of a few things that I thought were important and that's and I've been able to say that, so I hope I haven't drifted too far because it's nice. It's really nice to sort of think about these things when when you're not in a meeting and it doesn't have to be an end result. After two hours. Sure discussion, so that's nice, but I know I have a tendency to drift.*

Interviewer: *Yeah, and that's and that's in this sense. It's great because it's also my approach was more to have a semi structured interview, which is you have kind of a structure, but it's also more open chat kind of yeah. So yeah, so I hope that my questions will lead to find the skill gap in the Netherlands and I hope the questions also give were interesting for you to maybe give some new insights or were fun to think about. So yeah, I just want to say thank you very much again for taking the time. I would now end the recording.*

	INTRODUCTION
Interviewer:	*OK. So thank you very much Lea for participating today in my for my bachelors leaders. About yeah, automation of knowledge intensive work is the better cycle and I look for the for the for the skill gap in the Netherlands and for business professionals.*
	So let's start with the introduction and the first. Please introduce yourself as well as the company you work for and this can include information on position, size, company or company purpose.
Interviewee B:	*OK I am Lea. And I work for* ▮▮▮▮▮▮▮▮▮▮▮. *It's a technical Dutch company that produces* ▮▮▮▮▮▮▮▮ ▮▮▮▮▮▮▮▮▮ *we have. Medium sized company. It has around* ▮▮▮▮▮▮▮ *worldwide in daughter offices and headquarters. We have a lot of distributors around the world. I forgot unfortunately how much but you can check that on our website. Yeah, and we are in a niche market we have. Usually like around 10 competitors that are as big as we are, but we have the biggest market share. But we have a bunch of custom competitors that are forcing us to put more action into marketing.*
Interviewer:	*And that's where your role is located. So that leads to the second question, so please provide information about the department or function you work for and for example, what are your? What is your task or what are your responsibilities in that company?*
Interviewee B:	*It's a bit different to other jobs, I would say because I work for the German daughter office and the headquarters. So in Germany we only have me as the whole marketing department. So in Germany what I do is I do competitor research I. For example, did an analysis on. What marketing materials the competitors in Germany publish on their websites? What position do they focus on? So for example. We have one competitor who is positioning themselves as specialists in the analytical market, and so I did an analysis on what markets they focus on in comparison to us. I do usual marketing activities like social media posts newsletter PR, trade fairs when they actually happen. I did online trade fairs now as well. Bro shores. You know online offline marketing and Google Adwords? The usual marketing stuff in the headquarters. We have two department's on strategic, marketing and marketing communications and I switch between those all the time. But I'm mainly in the strategic marketing. What I do there is focused more on worldwide marketing, so I'm strategically planning. Plans for how to grow in different kinds of markets. We for example also do analysis on which products work best on which markets. I do a lot of customer interviews today. For example, I did an interview about the customer journey. So what can we improve because of digitalization? It has a lot to do with UX research. Yep.*
Interviewer:	*OK, nice yes. So a lot is familiar when I think about how much your digital marketing in network businesses. There's quite a lot and yeah, you talked about that. You are the person for the marketing person, for for Germany mainly. And this leads to the second question. And if you have maybe also like a contact a lot with a Dutch person who is responsible for the market in the Netherlands and how would you in general describe the working atmosphere with your colleagues? Is it the tide, collaborative, individual, working, motivational, creative? Or can you think of some words to describe your atmosphere? Working atmosphere.*
Interviewee B:	*Do you want me to focus on my work in the Netherlands or in Germany?*
Interviewer:	*In general for your position as a marketing person for that company.*
Interviewee B:	*OK, because it's differing quiet heavily so. Basically have two interviews in one. So I'm working in Germany with my colleagues because they have absolutely no idea of marketing because they've, yeah, they're not educated in marketing. They have never had marketing person, so it's it's quite new to them. It's not that cool… Well, kind of. It's more individual working because I do all those strategic plans individually, obviously. So I I plan what's the best way of growing the market? What's the best way of of combining sales with marketing? How can I support sales with my activities? How can I attract new customers to our website? And then in return that they call and ask for an offer. Uhm? So that's more individual working, but on the other hand I need a lot of support from the area sales managers, so that way it is really collaborative because. For example, with my interview today, I had an area sales manager at my side because he knows the customer and then in the beginning we had a little briefing on what the customer is doing. What's the company doing? How can I, you know, wrap the customer around my finger so I can get the information out of him that I would like to hear. So that kind of style is really collaborative, so it's it's kind of. I would say 60/40, so 60% individual working and 40% collaborative. Uhm? I would say a man in Germany. It's really. Hierarchical so you really understands where you're really put into place by the people that are, you know, like in in a hierarchy, a little higher. So I always have to. Tell my boss what I'm doing, what my outputs are, what my results are. And in the Netherlands it's completely different, because the hierarchy is completely low. I talked to I have four bosses like we have. Basically, a board of four bosses, so there's not only one CEO, but we have a CEO and a CFO and CIO, so we have four different owners. No, it's not owners, but let's see, you're saying like that so, but I'm on first name basis with them and I talked to them like they're my friends, so it's really not hierarchical. They don't ask me what I'm doing. I don't have to show outputs, so it's really independent. I can do what? I want. I just yeah we have these quarter analysis where we screen online marketing measures. And I mean if Germany isn't then not working well then I have not a problem. But then I have to defend myself why it's not working well. Uhm? So it's basically kind of free willed and and the working atmosphere in general is more collaborative. It's not really individual working. We are always in project teams and well you have small little jobs yourself in that project or in those projects, but usually you're in a team working together all the time, so that's not really individual working and*

it's highly motivational because Dutch people just really give you compliments on everything you do like while in Germany you only get wow. Good job if you show the results and they're good. In the Netherlands, you get praised for the steps you do before you actually get the output.

Interviewer: *Yeah, but but I think that's also a really what when you think about the German mindset when it comes to working. I think this really could reflects how German people work basically. So it sounds like you get the good thing when it comes to working atmosphere from the best from both worlds. Like in Germany working more individually which is also nice from time to time and in the Netherlands more more in a team, more collaborative and I think it's also interesting and a huge asset for you as a person and that you see like both hierarchical hierarchical structures like in Germany, where is quite conservative, like quite a deep hierarchy and in the Netherlands where it's quite flat. So this is quite interesting, I would say.*

An so the next question, or the next point is more too. Get familiar with the goal of the study and the terminology, so please take a moment while understanding the research goal and definition of soft skills. So the goal of this study is to research a skill gap in the Netherlands, specifically the so called soft skills which are personal, so self oriented and interpersonal skills for business and administration, associate professionals and the skill gap is a result of the increasing automation of many jobs. When we think about robotics, AI, these kinds of things and talking about soft skills, they are divided into two categories of personal skills, which is related to knowledge and reasoning and interpersonal skills. So the relationship or the interconnection with others. Soft skills are non technical and unrelated to the work was hard, skills are technical and relevant to the work. For example Excel skills or like how you work with the computer are categorized as hard skills. And the word soft skill is indefinable, and the list is nearly endless, so soft skills are intangible skills that relate to human skills and are referred to us people scale as a synonym an having this in mind, I hope you understand the terminology and the goal of the study.

And do you feel your job is affected by automation and and if so, in what sense?

Interviewee B: *I think there is parse… It's partly affected by automation. I think it will increase in the future, and it's not that bad yet, but I think especially because Google is huge when it comes to automation and AI and they're just really smart and everything they do I use mainly all Google related marketing tools. So what Google is doing for example in Google Adwords or yeah, let's let's stick to Google Adwords what Google is doing is they build their algorithms and they improve their algorithms all the time so they get smarter and smarter every day. And by feeding your information to Google, they create recommendations for what you can do better. And by giving me all those recommendations. I don't have to think myself that much anymore, which results in them taking over my job because my job is usually creative thinking. But with all the recommendations, it it gets less. I still have the decision making. In my mind, like is what Google is recommending me to do. Is that smart for me is not smart, so I think we're at a good level of Google giving me recommendations that are nice, but I am still very decisive on what I want to take over in what I don't, but I think that it might increase in the future and that Google ads will be fully automated by Google itself.*

Interviewer: *OK, and looking in the future, would you say that by your job being affected by automation and you as a person, are you more afraid of the future or do you look in the future as like the automation or like the AI processes will help you or assist you in the future and not automate your job for example.*

Interviewee B: *I'm not afraid at all. I think it's nice if they would do my job for me, because then I have time to do other things because I'm loaded by different kinds of jobs and I do task switching all the time, which is reducing my effectiveness of doing my jobs. So I'm I'm not afraid at all, I'm just. Yeah, happy if it goes more smoother than. Yeah, because then I can. Well it's it's not like automation will do my whole job. I think it will just switch my job to something different I think because as I've said already is it's right now. Creative thinking and strategic thinking. And I think it will all move to decisiveness. So me having the role of. The decision maker, so I have to decide. There will probably be a 1000 companies that have automated systems for what I'm doing and they will all contact me and be like we can do your job. We can do your job. And then I become the decision maker to decide OK which automation would help me the most and then which? Which yeah? Which which tasks or which which decisions should I take in order to make the best strategic decision for my company.*

Interviewer: *Yeah, yeah, I was saying that. I think it sounds like you you will have a huge like advantage so far compared to automation or robotics. And more generally speaking, when you hear when you hear the term soft skills or transferable skills, and what does it mean to you?*

Interviewee B: *I like defining it as soft and hard skills because I think soft skills are. Not. Everyone has a lot of different soft skills and is good at soft skills. Because for example, I have colleagues that are really, really really good at hard skills so they can program. But in soft skills like communication or decision-making where. Anything really, they just suck at it, so I think softskills for me it's. Kind of well your. It's kind of already in your gens, so when you're born, you get this predefined set, and then it's more of your surroundings and you're grown up by your parents. What you really develop, so I was heavily developed in in communication skills because from when I was in primary school I had to do presentations in front of 300 people. So I was already like developing myself quite heavily and in in soft skills. Not only communication but also creative thinking decision making. Yeah, what else is there? I was thinking of, Oh yeah, that's what I have to do all the time at my work. Now is I have to be good at diplomacy because I'm I work for two different not different companies but different. You can actually say different companies because they have different mindsets. Yeah, I have to be diplomatic all the time because otherwise I. Would not be able to to function or like in in relation to diplomacy, have to be empathetic, because if, like I've I've learned being empathetic from while I was young, like my, my mom is the most empathetic person ever and my dad isn't, and so I always notice the*

difference and my mom would always, you know, like teach me to become like her and not like my dad. And yeah, she was because she's a kindergarten teacher. I think she she had a good. Idea of how to teach me soft skills?

Interviewer: *OK, yeah you already mentioned a few really good ones. For example, I never thought about being diplomatic, but it's actually quite quite a good soft skills that you also need to have to also act as a, let's say. How do you say like if there's kind of a fight, not a fight really, but disagreement that you act as a like a diplomatic person that sends. This leads us. You already mentioned a few but but this leads us to the next question. And how did you learn your recent soft skills? And you already mentioned your mom teached you a lot and for example, did you actively participate in a training or during your studies or? In your profession right now of further education, so where did you learn all your skill set that you have right now?*

Interviewee B: *Well, definitely my mom and also my dad because my dad is. I learned the the. The kind of. Oh, what's it called? Like the more nicer soft skills like being diplomatic, being empathetic? Adaptability also. I learned that from my mom, but then also creative thinking, by the way, because she's the most creative person ever. But from my dad's because my dad is CEO of a company as well. So I learned the other side of management soft skills from him because I was always at my dad's company. I've been through business meetings with him and so I learned. Yeah, adaptability as well because I was speaking to different cultures all the time. Problem solving because I was also when I was working for. Or actually it's it's it's conflict solving more more or less because I was working in customer relations at a company where the customer that had remarks where something went wrong, they would always come to me and I had to, you know, you know, do conflict solving so that increased by me just having hands on. Yeah, hands on task and work to do with that skill. Uhm, critical thinking was also always a big thing. With my dad we always did that when when I was younger that we. Yeah, we were always. Taught, also in university to have this critical thinking like. The first sentence in university we were taught was it depends, and I think this also gave me yeah the necessary sentence in my mind that changed my my critical thinking.*

Interviewer: *OK. It was only your parents help you evolve your your soft skills. Or could you think of other? Because I think we can distinguish between soft skills that you gain or develop more indirect like let's say because you're in certain real life experiences that you gained. But you can also develop or actively learn. Improve your soft skills actively, like participating in a Coursera course for example or training, and could you also think of something that you actively worked on your skills?*

Interviewee B: *Uhm? I had one course. That I did. By myself, not score related. When I was still in high school, it had something to do with the law. And I know that I also learned like critical thinking because we had to do all those kinds of law situations and we had to decide. Yeah, if we would be on the side of the victim or not and things like that. So of course on that one. I think I've never actively done anything for my soft skills. I think it was all. Indirect because I was also for plenty of years on the captain of my of my volleyball team or I was volleyball coach. So like I, I mean I actively. Became captain or coach.*

Interviewer: *Yeah yeah I know what you mean, yeah. And also this helps at being captain of like volleyball team. I think is also helps you be more like a team, team leader or like a team player.*

Interviewee B: *Leadership skills like not only team teamwork but also being the person that represents the team in front of a jury. Or you know referee. So taking really position to need people.*

Interviewer: *Comming back to your company, so general soft skills within your company. Do you actively use or apply your soft skills in your company? Like if you have a meeting, for example, you're going that meeting are like OK today. I need to be a good. Team leader or I need to lead the people in a kind of direction, especially when you have in mind marketing and then you think of something.*

Interviewee B: *Yes, I use myself skills all the time, especially when I have meetings with different cultures. Because there it's really, really important that I'm not my usual German self, because this is not really wished because a lot of cultures cannot deal with my honest direct way, and so sometimes I need to be. A little fishy in my in what I'm saying or. For example, if I have meetings with my Dutch colleagues, it always frustrates me so much because we have so many meetings and there's never anything like no action coming out of a meeting and I cannot work like that, and so I know that my Dutch colleagues. Value that I always say like in in the middle of a meeting when when there's just discussion going on then I'm always the one disrupting everyone and saying OK guys. You know, nice conversation, but I need you to or we need to create an action plan. I don't want to go outside of this meeting and just having this discussion in mind that I will forget in a matter of days. I need actions that everybody is doing something about this project to bring it further and. I know that this adaptability towards different groups is definitely a soft skill that I use all the time, also time management. After like when it when I began working for a blog post, my time management sucked. I was. I was feeling down I couldn't like I was I was having so many different jobs and I I couldn't handle it anymore and so I did. Actually I did a course on time management is my actor. Participation yes time management yes but yeah yeah, I had a course on time management because I notice that I suck at it and so I was improving it and now I still kind of suck at it. But I got better and I'm still working on it. But it takes a bunch of time. As you know soft skills are harder to develop as hard skills. Uhm, yeah. And diplomacy as I've told you my German boss and my Dutch boss, they have quite different views and so I have to be diplomatic all the time. So that they are not ripping their heads off.*

Interviewer: *Yes, so so. Congrats for your improved time management. A bit jealous because as you can see with my bachelor now that I'm also sucking at time management.*

Interviewee B:	*There is a really nice course on LinkedIn learning.*
Interviewer:	*Yeah, I write it down. Or maybe I find something on Coursera and because of our skills portfolio I'm also quite into that right now. Yeah, you can also see it on my LinkedIn profile.*
	OK, you already talked about it quite a bit and but you have because the next question is leading to the opportunities where you can grow your soft skills. But I think for you it's it's really made in your meetings like in your real life experiences with colleagues and where you especially learn. And this was also very striking. The adaptability part about being aware of maybe different cultures and especially in the sense I mean we in the Western culture are more or less similar. It can imagine that the Dutch people in German people are still a bit different, but having for example, people from America or Asia in the same boat or in your team demands really really high adaptability skills, because what I read they're not really open about the directness of the Western people.

MAIN BODY

	I'm so OK that was the part for the introduction and let's get to the main body of the interview. So now we come, especially to your position as a business professional, and you're working in the marketing department. So which soft skills are present in your professional job? So what would you say? Which of these software or hidden skills do you think are present in your job and which ones are important today? And what do you think, which of the soft skills are becoming increasingly important in the future? Can you think of of some?
Interviewee B:	*If I relate now only to marketing. Not really of me being between two companies. I think time management is a really big one at the moment at least. Because. We basically. Have like every month there is something new happening, so especially now with Corona we had to completely move around our marketing. So in the beginning we had traditional marketing, we had trade fairs and then suddenly there was nothing happening anymore in person and so I had 100 more jobs at the same time which completely exhausted me. And that's how time management, like the soft skill of time management, really needed to to take place or needed to to be effective and in my terms. And then also communication. I mean obviously I have to do all the PR I've to talk to magazines to the press. We have to do YouTube videos, blogs, application notes so everything related to communication is really. Yeah, you need to have a good communication skill to to be good at it. Also, creative thinking like all the marketing campaigns that needed to be raised even though it's kind of restricted because we don't have that much freedom to do marketing campaigns. Because we have our marketing communication department to do so. That is still something that we really need. Yeah, I mean the list of soft skills you need is is just endless. I mean I can just say it all over again. Teamwork is also very important problem solving, critical thinking. Everything just plays a role, kind of but. Definitely the most important I would say is communication time management and creative thinking. OK, in the future …*
Interviewer:	*Yeah, because it's for now. It seems like these these are skills that are really, really important nowadays. So yeah, the next question maybe now, do you think that these skills will also be as important in the future? And do you think there is no need for for? Like for new skills or for skills that are not essential right now? Or maybe it's there's a shift in the skill set for you as a marketing person?*
Interviewee B:	*I think it might be that time management would be reduced. And adaptability comes more into place, but only if there is. Situations like. I mean technology is changing all the time, so I think in the future there will be a lot of like when we related back to automation and what I told you about all those. I don't know companies that have different programs of how they can support you. I think adaptability will be. Anything that might be increased in the future because you have to adapt to all those new tools that are on the markets and. Just like with Corona now adapting to the new situation. Uhm? But crucial in the future … It's hard.*
Interviewer:	*Right now I just can think of because you already mentioned you work a lot with with Google Ads and Google programs and and because that is like increasingly getting getting smarter and smarter, as a software. I think maybe that in the future if this takes a more important role, Google and that maybe for you as a marketer, analytical and analysis skills might be important. Would you agree on that?*
Interviewee B:	*Yeah, yeah, definitely. They're actually skills I would already put in right now, but I haven't thought of them. Because I also use them all the time. But yeah, and decisiveness I've I've said it before and I think it will definitely increase in the future. That you need to be more decisive in choosing what's the best for the company.*
Interviewer:	*Yeah for me, just as a side note, because just came to my mind. Maybe it's also not really that new skills evolve or that you need at the skills set you need will change or shift, but mainly just the interconnection with within your skill set need to be more more improved or like the amount of skills in your toolbox need to be just increased and more progressive worked on.*
Interviewee B:	*Yep, definitely.*
Interviewer:	*OK, so I'm according to my current research and leases and the most fundamental soft skills are communication skills, time management, decision making, judgement skills, team spirit, adaptability, analytical and autonomy skills. So, so far we talked about most of the skills I think except for autonomy skills and considering the administration function, soft skills which are required for administrative jobs: Memory skills, emotional intelligence skills, attention to detail skills and multitasking skills.*

Interviewee B:	*I hate multitasking. Not really personally, but I think it's stupid and I think that if somebody who is doing multitasking is just doing a bad job because you cannot focus on two things at the same time and do it both at a same amount of efficiency. So if somebody needs to be multitasking to become a manager, I think that's stupid. Sorry my opinion.*
Interviewer:	*No, that's a valid objection and it sounds like you already talked with Annemarie because she has the same opinion. So, but but let's focus on the above mentioned one and do you have the script to still open?*
Interviewee B:	*Yes, but I have different skills on here: Communication, delegation, emotional intelligence, training, inventorship and problem solving.*
Interviewer:	*OK, I sent you an old version. I'm sorry for sending you the old interview guide. So which of the above mentioned soft skills [new interview guide] are more important and which are less relevant in your job and please rank them in order of their importance, beginning with the most critical soft skill and maybe also give some some reasons why you think this is more important than another soft skills from the seven we just talked about.*
Interviewee B:	*I would love to have. The ones the older ones because it was easier to rank them. Because the new ones are all very important, and if I now ranked team spirit as the least important one, it just sounds like I'm not a team player, which I am.*
Interviewer:	*You can also focus on your top three, maybe if that's easier like not from 1 to 7, but maybe if you go all to the seven ones, what are the most striking ones for you when you have to pick three?*
Interviewee B:	*OK decision making, definitely. Uhm? Communication. The thing is, autonomy, adaptability and time management are super important as well. OK, and let's take out autonomy. Adaptability is really important decision making and communication.*
Interviewer:	*OK, yes. Sounds good and then we come back to the point on which soft skills are important in your professional job today? Waht are the most remarkable soft skills in your function that comes to your mind? You don't have to stick to the ones that we were talking about.*
Interviewee B:	*Yeah, definitely. Yeah, personally not really marketing related, but personally what I always have to do is be diplomatic and adaptable into situations. And marketing wise, definitely communication and problem solving.*
Interviewer:	*OK. And why is particularly that still important to your job?*
Interviewee B:	*Because usually marketing is called marketing communication. It's because you're communicate about your company to a customer, and if you're bad at communicating, you do well, You're not the best at your job. I would say. I mean, you can always learn it, but you need some kind of communication skills to do marketing. So that's why it's particularly important. Yeah, problem solving, because there is always a new situation coming up, like if they're doing analysis because I think, OK, we have this one competitor who's just way better than us. So I do an analysis. So the problem is OK, the competitor is better than us, then they're doing it answers and I figure out why he's better. And then that's the problem. And so one problem leads to another problem to another problem to another problem and you. Solving those problems is really important to do your job and to to become better and grow in your market. So that's why problem solving is also really important.*
Interviewer:	*And when you talk about communication and is it only the traditional communication with customers or colleagues or is it also in the? I'm not sure if you maybe are also working on like visual communication if you have like a prospect or something similar.*
Interviewee B:	*Yep, I do that as well. I'm not creating those, but I do concepts and then I send it over to our marketing communication department and they deliver what I wanted. But it's also the emotional space. So right now I'm for example, doing a video strategy for our company and I'm trying to psychologically put like emotional, just like for example Apple. Apple is, I would say the best company marketing wise they have so many good people that do such a good job. They're just really, really good at what they're doing, and every time I watch the new product releases from Apple I watch not because they like the products but because I wanna see what they do marketing wise and they have so many psychological things that they put into their videos. For example, if they say something about a new product, they put a sound behind a specific word, or they use words a bunch of times like awesome product, awesome new function, awesome blah, blah blah. So they. With what they're saying, they do something in there in the minds of the customer. And psychologically, try to you know, like change or create a feeling in the customer and that's what sticks in their minds and so it's not communication in the old terms of just communicating, but it's also you know looking behind the fasade and trying to wrap them around your fingers emotionally and directly.*
Interviewer:	*Yeah, that's a really good aspect. Also to have, like the human scales of psychology skills in mind. And when it comes to, I think you also referring to a normal marketing and that you know what happens in the mind of the customer and satisfy that specific demand. And also when you are talking about the advertisement of Apple for example. It also just came in my mind, that one of our module was digital marketing, where we also looked at an advertisement with the eye tracking device so that it's also really about where's the customer looking at. What do you need to design your advertisement? Also, especially when you work with humans on them or like animals and that's how the view of the young customer goes.*
Interviewee B:	*Yeah, definitely we do that as well in the company.*
Interviewer:	*Where you really analyze, with eye-tracking technology?*

Interviewee B:	Yeah, we were actually building a new website and we had purchased like customers coming over to the company and they had an eye tracker on and then we showed them different styles of new websites and then we saw where they were trying to look for information and then yeah we get that all the data and finalize where we would put things where the most people would look for those things.
Interviewer:	OK nice yeah. So soft skills will become more and more important or increasingly relevant in the future, having automation in mind. And so a lot of low skilled or medium skilled, people are already am afraid of their jobs being automated. For example, the harbor in in Rotterdam where they have one part that is completely automated, so there are no humans involved anymore. Not allowed at all because it's a closed area. Again, which of the skills, in your opinion, will be really important in the future that distinguish you from automation or robotics?
Interviewee B:	An yeah, I think I will just go back to my example from the beginning. I think that programs like Google will just become way smarter than they are right now and will give you more recommendations all the time, so I think. What I would consider now to be problem solving my switch not really switched problem solving but will still be a thing. Just like you said, but decisiveness will be the over ruling soft skill that I then need to. To have.
Interviewer:	OK, and do you believe there any aspects that contribute to the needs to prioritize soft skills? 'cause I think right now you're also checking your LinkedIn on a regular basis, I would say and also people who are aware of different trends in articles or newspapers. Am a lot of these big companies or big papers are saying OK, you need to have this skill and that skill will be important as we are flooded with different skills that are important. So back to my question. Do you believe that it might be important in the future to prioritize soft skills? An yeah 'cause yeah, as we figured out already, soft skills are not static, so they evolved throughout time as a result of external environment and technology and we're talking about automation. And can you think of factors that influence the requirement for your soft skill development or the privatization of soft skills?
Interviewee B:	That's a hard question.
Interviewer:	OK, maybe we can split the question set, 'cause it was also quite a long long one. Maybe I should more in separate questions. So first of all, is there need to prioritize soft skills?
Interviewee B:	I mean, prioritize from what prioritize over hard skills?
Interviewer:	No, within the soft skills. We talked about soft skills are basically endless and prioritizing personally.
Interviewee B:	I mean. It's hard to say because I think it's just. It differs from job to job. So I think if you would generalize prioritizing soft skills, everybody would just use the most general one, which would probably be communication because it's valuable for all jobs. So I think prioritizing is a. Is a yeah. It's hard to say because I think if you want to prioritize it, you have to define where you want to prioritize it. So if you only want to prioritize it in marketing is also hard to do so because there's a bunch of different sub categories for marketing. So for online marketing I need more problem solving skills and for offline marketing I need more communication skills. So I would not talk about prioritizing. I just think everybody has their own set of soft skills and. If you just happen to have the right soft skills for the job you want to have, then that's good.
Interviewer:	OK, so we can agree on that for different kind of jobs or occupations that you're working in, you need of course different soft skills. OK, so except from automation and and can you think of any other external factors that influence the requirements for soft skill development? Another example, not only talking about automation, but talking about the current pandemic and we could see that skills are changing even in this. Pandemic as an external factor. For example, we need to be very more equipped in being adaptable to to online education to seeing maybe customers. Online you cannot see them in person, probably, especially during the peak in the pandemic. So how does this influence your soft skills? And this pandemic and are there may be other factors that you can think of that might change soft skills.
Interviewee B:	Uhm? Other factors I would say is. The hierarchy inside the company. So if I would work for Germany completely, I. Because I know that there is a hierarchy, I don't have to be. Do I have to be more diplomatic? Yeah, I do have to be more diplomatic, so my soft skill of diplomacy needs to be higher. When I work in a higher and higher hierarchy company then if I just work for for the Netherlands where there is no real hierarchy, I don't have to be that diplomatic because I can just be saying OK at what you're doing was stupid or your idea is stupid. Because everybody is kind of at the same level, so I think also the the company structure is influencing what skills you should have.
Interviewer:	Yeah, especially today companies are looking for new ways of structuring their company and just a recent example: ING is looking since 2017, for organizing the whole business in a way working groups can be more independent. And of course this yeah you can also see this maybe as an external. Influence for your skills, but an internal one for that company. But this also active factor that change with what skills you need to be equipped with.
	And where you heavily affected and in terms of your soft skills and for the pandemic?
Interviewee B:	Oh yes, because. Obviously all offline marketing activities changed to become online marketing activities, so all of my communication skills didn't really matter anymore because I was not really talking to customers anymore. I did go to trade fairs. So it all changed too. You know, like creative thinking and problem solving. And analytical skills obviously to analyze our online performance. That definitely changed.
Interviewer:	And do you think your skills and how you need to conduct business right now, are there some good changes of the pandamic as well, or do you want to go back to how things were before the pandemic?

Interviewee B:	*I think it was good because in the beginning I had everything at the same time. So I had to use all the soft skills for all the jobs that I did. And with the pandemic it kind of changed to only being one job which is online marketing. So it reduced my amount of stress by only using some of the soft skills. While usually I used more. Uhm? But I also think it was quite useful, but that's just marketing related, because the founders of the company as well as my boss didn't really believe in online marketing. But now they didn't have any choice and they had to believe in it and now they see that it's working. So that is just a little celebration for online marketing.*
Interviewer:	*Yeah that's nice. It is a good development to now recognize the need for online marketing, and besides it is way easier if you get the full support of your managers.*
Interviewee B:	*Now even give me as much budget as I want. It's quite funny, but now they trust me.*
Interviewer:	*That's good. I'm glad to hear that. Last but not least, the last block of questions. Do soft skills contribute to the company's competitive advantage? So in terms of soft skills, why do you believe that the skills you are mentioning distinguish you from your competitors? First of all, on an individual basis, like how is the skill set that you are equipped with and give you an advantage to people who are applying for the same job. And also company wise like with the skill set that maybe exist within your company and that the different employees spring. How does this give in competitive advantage to maybe your competitors to other companies?*
Interviewee B:	*I think what we are good at at bon class is just really being versatile. So I think everybody of my colleagues has a broad skill set. It's not that one person is really good at time management and one person is really good at communication. It's that all of us kind of are good at multiple soft skills and are really good at soft skills like multiple ones and not only at one because usually you see that people are only good at one, but I think we have a bunch of people that are good at multiple. I think that gives us a competitive advantage. I. Yeah, because I mean you can be. Good in your position if you are very good at communication, but you are better if you are very good at communication and very good at problem solving. I think we're just and when I had my my job interview, my boss was also really checking your soft skills. So or my soft skills. He was kind of asking questions or trying to. To understand where you're good at by not directly asking, but asking those questions where you. Kind of have to show what your true self is like. My boss was asking me about his history, like because he he loves history and I hate history and then he was like: "Oh yeah, you are from Osnabrück! Tell me about the history of Osnabrück." I'm like: "Sorry, I have absolutely no idea. I'm born there, but I'm just. You can talk to me about sports. You can talk to me about soccer. You can talk to me about everything sports related, but history. I'm sorry I cannot talk to you about." And then he knew, ok she's honest. She owns up to her mistakes. It's like that, so yes.*
Interviewer:	*Yeah, honestly, I think it's a really great way of getting to know you and your soft skills better. Because like other people might just come up with some lies about history of Osnabrück. But just being fully honest, also builds better trust in you. Honestly, I also don't know much about Osnabrück's history, which is a pity I would say. But anyways.*
	You were talking about the company and organizational level and that your company more focus on multiple soft skills and a coherent skill set that you and your colleagues have. But how would you distinguish yourself from other business professionals? Do you think that you are actively aware of your skills is already a good first step? Do you have specific skills in mind that you are really, really good at?
Interviewee B:	*I think. What you just said I fully agree with it that I'm aware of my skills, but also I have a bunch of people that tell me that I'm good at those skills. So there's this one side where you believe. That you are good at something, but if you actually get. The praise that other people see that you're actually good at it. I think that's also very valuable and gives you strength in in believing in what you're doing and how how you're dealing with situations and also. Because adaptability, for example going back to that subject, I've spent so many months in different countries and then studying in the Netherlands, living in the US, living in Canada, living in Czech Republic, living in Germany, living, you know, living everywhere basically, and having having had the opportunity to talk to so many business. Partners from my dad's side, also from Asian companies. I think that I just know that I'm good at adapting to situations because I've done it so long.*
Interviewer:	*Yeah, and yet what you were just mentioning. This is quite a good point that maybe getting the feedback on your skills development during a life might also be good. For example, if colleagues come to you and say OK, how you let's say time managed the meeting today was either really good or you can improve these kind of things and this might also help to get better. And the second point with living in different cultures, let's say different cultures or continents and also helps. Getting to know their culture and how the people mind set work for me for example I was one of the luckier students who could do their study abroad in the pandemic, and it was also in in South Korea. And even if I didn't talk with a lot of companies there and but just theoretically talking in class about how Asia is conducting business and also just talking with people there helped a lot to adapt to these kind of situations.*
Interviewee B:	*I think it's also a big difference if you actually lived the situation so you actively. You are in the situation where you have to use it and you learn something about it compared to just reading about it. Because I've read that Americans are very. Through the flower and. And then being there is just giving you. More you know, like more it sticks in your mind how it's really. Oh my God it's getting late my English is bad. You know what I mean?*
Interviewer:	*Totally. I totally agree on that and I also during my whole process in my for my research for the best receivers now. I also figured out it's all fun and games. The skills that you work that you learn theoretically like in Coursera Courses or reading about and, but you just know them theoretically and not getting to know them in real life experiences*

depends them and give your real life experience to that so it strengthen the skills that you theoretically learned. I think that is what you meant, right?

Interviewee B: *Yeah, exactly.*

Interviewer: *We talked about the last point. I need go a few points back because I I missed one question and it's about your employer and if your company provide you with opportunities to work on your skills, apart from the meetings of the real life experiences you have in your day to day business? But are there extra trainings or opportunities where you can work on your skill improvement?*

Interviewee B: *Yeah, in Germany we get the opportunity to choose. Some trainings that we want to do, but it's it's not really, it's just our boss gives us the opportunity to do so. So we have to find out ourselves if there are courses, what courses we can take, and then we just ask him. OK is it? Can I do this course? And then he's going to say yes or no? And then we do it at an Academy in the Netherlands. We have a whole training department. Where you can learn more the hard skills, I would say. But still we have a training department and we also have two external. People that do the Oh my God, what's what's it called? There's this method, like the Meyer-Briggs-Test. Something like that where you have house with different personality types in there like a. It's. Oh promoter, and rebel and. Things like that. So we have two external people that promote this test and we do that at the moment actually. So we have time scheduled. Where they teach you to find out or two to screen your colleagues or the person you were talking to in terms of if this person is more of a logical thinker? Or is he more of a creative rebel so that you know? OK, he's, he's like that. And I'm like this so I need to talk to him like this so that he likes me. It also they give us opportunities definitely, and since I've been there for 1 1/2 years, I have a mentor. And with her I talk about time management and she gave me the LinkedIn learning registration thing so I can do my time management course there. So we have we have a bunch of opportunities. Yeah I would say.*

Interviewer: *It's really nice that your your company is doing something and to to actively work on that an so. Just let me check again, but I think that were all the questions so far and it was a good conversation. Is there anything that you would like to add and when it comes to soft skills your position that you can still think of sharing?*

Interviewee B: *I think we've talked about it plenty today, right?*

Interviewer: *OK, yes. Thank you very much again for taking the time and talking with me. Talking about skills and your company in specific. So yeah, I will stop the recording now.*

INTRODUCTION

Interviewer: OK, perfect. The recording just started. So it will be a quite a natural chat, so to say. So not a strict interview and interrogation or something. So so let's start with the introduction part piece. Introduce yourself as well as the company you work for. These can include information on position, size or company purpose.

Interviewee C: OK, so I'm ███████. I'm an ████████████████████████. ███████ is a company which makes ████████ ████████████████████████████████. So there are some challenge in SoC. Prefer preferably very social with high social importance and then a company are a government or whatever can come to us and say, OK we've got a problem. We think we need a technical solution. So we need someone to figure it out for us and that's when them come comes in and we were in a lot of fields like we make all kinds of robotics, unmanned fact vessels who. Yeah, I could do any kind of job where humans or big big machines are not being able to use. We work in the high tech industry, so for like a smell, the big chipmaker we make all kinds of machine for them. We work in the medical field we start to work in defense right now security not weapons but. Security issues, so we've got a very wide range of technical solutions. We offer to all kinds of problems. In my role as ████████████████, I am responsible for connecting all issues that regard human issues with team or with the individual to any kind of solution so that you know manager is managing the team, he's responsible for his people and I'm the one who's chatting with the manager about. OK, so where are your challenges right now? It can be about sickness. Someone wants to go on a big leave. Someone is not functioning well. Or sometimes someone's been functioning very well and needs to be promoted and needs. We need a new challenge for the person. It can go about training just any. People related thing I will be the partner of the manager who's managing the person and I'm connecting all the different kind of. Institutions that we have within them console. We've got, you know recruitment HR services who are making contracts and putting leaf in the system and those kind of things. But we also have talent management talent development so we have a lot of different ranges of of HR tools that we can help use to help develop people or get rid of them if needed or whatever like make them better. And I'm the spider in the web for all of those I just connected. That's my role, I guess.

Interviewer: I'm called, yeah, that sounds great so far. Very interesting and so we also talked about a bit about your your task, you responsibilities and will come to the point at talent management later because it's it's a quite interesting topic. Also for the later questions and and how would you describe the working atmosphere with your colleagues? Is it more tight, more collaborative, individual working motivation maybe or creative? What would you say?

Interviewee C: I would say it's mainly collaborative. Becauses yes, definitely collaborate. If so, I've got like an individual function. I've got my own manager group who I need to give advice, and besides that, I also do some projects like new software that we need to install for HR purposes. So that's a side part of the function. But my main part is having my own curriculum of managers, my own group of managers. But to manage them well, what I'm doing all day is a talking with them, so that's the first part, and after that I have to go to the talent, developed a talent management professional where if I have to go to our recruiters or two to DHS services but also to other parts of the company, like to legal, if someone needs to work another company we need to fix contracts. I go to legal. So there's a lot of different ranges in there, and I'm always collaborating with people I cannot do most part of my job I cannot do on my own, so there's a very close understanding with my fellow colleagues on the HR department and also around the HR department.

Interviewer: OK, so in the next step you should familiarize yourself with the study goal a bit more. In the terminology I use, so please take a moment to understand the research goal and the definition of soft skills and and automation. And so as I already told you previously, the study goal is to research a skill gap in the Netherlands, specifically the so called as soft skills are transferable skills and that our personal and interpersonal skills. Set for business and administration professionals and this skill gap is a result of the increasing automation of many jobs. And to the terminology, soft skills are divided into two categories, personal skills and interpersonal skills and soft skills are more non technical and unrelated to. The work was hard. Skills are technical and relevant to the work. For example, Excel would be supposed to be like a hard skill that you have and adaptability would be a soft skill for example, and very quickly to automation. What I mean with automation in my study and because of the growth of. Computer power over the last few decades, along with the increasing cost of automation, has provided an economic opportunity for businesses to replace human labor in repetitive activities with machines. Routine operations can be conventionally codified, and programming applications and are therefore more likely to be done by computers. So this is only as a understanding and now to the to the question. And do you feel your job is affected by automation, and if so in what sense?

Interviewee C: Is slightly up. Well, mainly you know the HR job is affected by by automation. So for the whole department like we have flow around 600 employees and 800 if you count some contingent workers and interns and back in the days like 10 years ago, 20 years ago. Maybe it would have taken you like four or five HR employees. So not my role mode patrol. More operational the mind to make contracts to make changes for people. I will take four or five people to manage such a big crowd of people in a company. Now we've got two and one is not even working full time. So because of better technologies because of Implead O'shea's who are now online instead of in a big cabinet. You know, with all of them where you could take them out, that that has taken a big effect on how many people need to do the administrative work in HR. So that's very that. Had a lot of impact in my current function. The impact is smaller if you look purely at the function 'cause the function has always been to advise managers. It's a bit easier to find the information these days. It's a bit easier to make changes in systems if you want to. You know, I think back in the days, it was quite a hassle to put someone from one department to the other, probably with some writings and

signatures of directors and everything. At these days you can just do click click in system, then it goes to someone who approves it and you're done. So it has made some small adjustments and improvements, but for my function not a lot has changed in the past. Yeah, no. In the past 20 years. It's not a variable function. I think this didn't really exist 30 years ago.

Interviewer: *So yeah, OK, and for so you said for your role, it has less less big impact. But for the HR department, for example, a bit more of a result that you could see that people are basically automated. Would you say that it's a good development like? That's maybe robotics. Automation and humans are going hand in hand because they assist the humans and that routine task or like easy task are put away so they can focus on the big and important task.*

Interviewee C: *Well, that's a pro site, it's mainly a pro site for the organization because it the software costs less than human and the biggest win of course is the. The chances of mistakes being made in this quite crucial part, you know, writes a letter, salaries, write dates and everything being copied. Uh, there's room for errors is way smaller, so that's the biggest win. So I definitely think it's a good development, even though there's probably quite a lot of people who are less who can have the job. So for SoC you could say that's a down side or the other side. There will always be new jobs opening up. So yeah, I definitely think it's a good development, and it's of course it has to work with humans. Humans need to be able to work with it, but the main thing is that it's just a good development that these things go digital. And if we could make more things digital which we are, you know in the process of then then we will definitely want that.*

Interviewer: *Yeah, OK, yeah, it might be also quite interesting development to see how it will evolve. Still in the future. And we now talked about automation. What about soft skills? If you hear the term soft skills or or transferable skills, as some people say, what does it mean to you or what comes to your mind?*

Interviewee C: *Come the first thing that will come to my mind this interaction. Soft skills is all about interaction with each other and how if you would see, say it as a skill so you can be good or bad at it, you know there's a range, then it's how good are you in with interaction with other humans? That would be how I describe softskills.*

Interviewer: *OK. The current soft skills that you have and how or where did you learn? Learn them, have more, more indirect cause you are in real life. Experiences like team meeting. So you could work team team management for example. Or did you more actively choose to do trainings for improving your soft skills? How did you learn your recent soft skills?*

Interviewee C: *I think a big part of soft skills is genetic because some people. Uh, I just born with, you know, a fluent way of reaching out to people how to interact. And of course in the early days, you know racing someone will affect it, but I think a big part of it is just yeah genetic. And after that for my case. So I think I've had some luck in that case with. Yeah, with a proper genes that make me able to have these conversations without really any trouble and I get energized by it to have conversations to use myself skills besides that. How did I develop most of it? Well, big part of them I developed during my studies. I did an HR study and a lot of the study contained a. Call SIS for soft skills for communication. It was literally called communication. 1.0 communication 2.0. So there you learned a lot of interview techniques or just conversational techniques like you know, ask open questions. How do you give feedback? Uh, how do you do a bad news conversation? You know you start right away with the bad news, those kind of things are soft skills because you need to know what attitude do you have to take? What tone do you speak on? When do you give someone room or not? So for my professional part, definitely. When I have conversations who are more, have more body or when I am very interested in getting more information, then you can just you can't just ask. Yes no questions because then you won't get anywhere. So that's a big part that I learned in my studies. And I practiced it a bit in the studies, but where I really learned to use it was in the field, so it's a. It's a mix between first genes. Then you have to learn the theory. How do you do it in a professional way? But then the only way to really adapt the scales is to do it and just get yourself in situations. Well, you need to use them and then reflect afterwards. Oh **** I didn't get any information out of this interview or out of this conversation. What did I do wrong? Oh yeah, wait, I put him in a corner there. I I focus just on that part while the other part was still open. Yeah so. Yeah, if you learned if you heard of the 70/20/10 ruling. 7021 regarding to 70. 2010 regarding to development and no not yet. It says 70% of what you what you what you learn is by doing it is by bringing it into practice then 20% is being learned by feedback or coaching from team members or peers or whatever and just 10% of what you learn is learned in courses or in school or in well, you know, online classes, whatever. I think it's the same here. I learned 10% is that I learned it in school. Which was very important, but then I only really learned it by doing it and then making mistakes and doing it again. So that was 70% of what I learned. I think it's about. It's it's very nice theory.*

Interviewer: *Yeah, it's also really interesting because that only doing there are also a lot of online opportunities. Probably heard of Coursera, where can can also actively choose some courses, but this only count for 10%, but it's quite quite interesting and you really need to apply this in real life experiences to to implement these skills and and yeah.*

Interviewee C: *Yeah, but the biggest part when one of my managers sends people to training, I always ask them always. OK, so they're going to the training. What are you going to do in the free months after that to make sure that he's going to use it? So that is actually going to learn it, and then I see a lot of it. Why? Why would I do? Well, because of the 70/20/10 and I explained that theory to them. And then they actually do it. And then after three months they come to me and say. It actually worked. He's using it now because we actually actively spoke about it. How are you going to do it?*

Interviewer:	*OK, that's good. And also an important part is I think the feedback and if your colleagues are maybe managers give you feedback on how you perform. For example the team meeting or or while giving feedback. So that's also good bridge to the next question where it comes a bit more to soft skills within your company. Do you have situations where you actively use or apply your soft skills in your company? For example, that you go in a meeting and be like OK today I need to be more of a team leader to manage everything here that we get some output and do you have these situations?*
Interviewee C:	*I think 60% or 70% of my job is using my soft skills. Yeah, so a lot. I always have to wonder what role am I in in this conversation. What is my goal? Do I want to just get information out? We just want to make someone comfortable if I have a job interview where I call Habitat web which echoed with the manager, then you know you're only busy with OK, how can we expect this much information? How can we give as much information as possible so at least 60 percent? 70% of my job is purely using my soft skills.*

<div align="center">MAIN BODY</div>

Interviewer:	*OK, I'm so that was it with the introduction. Now we come to the main body of the this interview. There we really focus on your position in the in the professional job and so which soft skills are present in your professional job. And you already mentioned interaction for example and so now we come to the point, what would you say? Which of these software hidden skills do you think are present in your job and which ones are important right now? And what you think? Which of these are becoming increasingly important in the future?*
Interviewee C:	*Yeah, so well yeah, interaction is of course it direction consists out of multiple soft skills I think right? It's about listening. It's about asking questions. And of course it's about you know body language. So those are a few very big parts of it. Uhm? I see I see a list in the interview protocol. You know after after this question you know decision making, judgment skills to use for that ability, analytical. Uhm? To me personally and analytical skills is a big part of it. That's a big part of what I use it, which is very important because I'm a very analytical person and what I'm doing constantly. If I'm in a conversation or an even in an email exchange, even though it's not face to face. Uh, it still requires soft skills because you need to be able to understand what is someone typing. What is the message behind it? You know, I'm always figuring what is the message behind? So that's why analytical skills is very important for me. I'm always analyzing the situation, where are we at or what does the person need? How can I give it to him? Or why would he want it? And is it actually what he should want? So that's a big that's a big one. Besides interactions, interactional skills, analytical will be really important for me.*
Interviewer:	*OK, yeah, and and you already mentioned. Now that the skill set in the for the next paragraph. So so according to the current research I did, and so I use the ONET database. It's in the US database and they track different jobs or different occupations and the skills that are required in the future for these. Occupations and skills. So they it's they do it now for more than 20 years, so it's quite an elaborated and could database. I would say, and according to this research, into leases at the most fundamental soft skills are communication skills, time management, decision making and judgment, team spirit, adaptability and analytical and autonomy. And which of the above mentioned soft skills are more important, and especially in in your role and which are less relevant to your job? So so please rank them in order of their importance, beginning with the most critical soft skill. And also maybe think of reasons why you think this is more important than another soft skill for example.*
Interviewee C:	*OK, well uhm, I think communication skills the most important part for me personally. After that you would have analytical. After that you would have adaptability. After the decision making and judgment. After that time management. Opposite autonomy and the last one is team spirit skills. Uh, which is cause in my function is it's it's more individual function, you know. So I I'm mainly talking with the people who are responsibility, our responsible for the team spirit skills, but not me. Personally, because I'm not responsible for a team and I think that will be a more important skill for my manager. For instance, who manages the HR team? Yeah, autonomy, yeah, I'll tell me is very important, but it might experience definitely my function. People who do not have them will not get into the job and it's more important that the organization gives them. Then at the person has them. If the organization gives a lot of autonomy, people in general will will take it. I think.*
Interviewer:	*Yeah OK. And so now we come get a bit more to skills that are important today. And will be important in the future. And we talked a little bit about that, but so why is particularly this softskill important in your job you mentioned? And interaction and communication and analytical skills. And why is this? Again specifically, really important for your job?*
Interviewee C:	*I have it is the job that's exactly, you know what, what, what we're doing. We're not applying some basic rules or or tactics on something. Every situation you encounter is different. Like I've got in my groups. I've got like 8 employees who are sick for a long period of time. In every case is completely different, even though it's a sick employee at the same company and that's the same law who has to make employees better, you know, in the Netherlands it's called port button. It takes 2 years, but every situation is completely different. Every employee has a different problem. Every working situation there in this difference so. The communication part is crucial. Where is the problem and then you have to analyze OK, what's the problem? What's the combination with the work? How can we fix it? So there's I I cannot do. A simple trick and just repeat it. Everything is different than you need communication skills and analytical skills to define the situation that you're in, so you connect properly.*
Interviewer:	*Yeah, and for your position, having automation and machine learning in mind. Do you think that this case will continue to be important in the future?*

Interviewee C:	*Well, for my job, automation will be a bit less important as long as there are still people working. 'cause I don't think uh, artificial intelligence will reach a point anywhere soon, where they could, you know, be better than what I do if I do my job well. But yeah, machine learning is important mainly because of the the counterpart. That's something that would be really important in the combination of human and machine learning. You know, if you have some. See how much is a person working with sick? You know it's 50 percent, 60% and 20 than 10 and then 40. And I think a machine learning that would definitely be lessons to learn if you just put in 10 thousands of 64 and the way that they develop and then at some point you can see someone is making a certain movement in a certain point in the thing that machine learning gives signal. Hey, be careful in the experience of all the cases that we had you at some point where the employee might snap now. So put some extra effort into that, you know. Make sure that you go to the employee, say so. How are you doing? Is everything still fine? Because you know we need to be careful at this point in the reintegration that you have. Some people experience a fall back. Are you experienced the same are you? Can we do anything to to catch that you know to to prevent that? So I think definitely machine learning can add something, but I don't think in a very long time and that's why I think I talk about 25 to 30 years because it's impossible to look further in the future with the crazy technological. Developments with for the next 20-30 years. I don't think machine learning will replace it, and I think the soft skills will stay fairly important in these cases and this just this is just with sick employees. You could do the same with the development of employees or. The salary discussions with employees. You could probably do a lot. Of this in there yeah yeah so so.*
Interviewer:	*Even if automation it does not have such a huge impact on on your job in in the near future or also in the medium to long term, future and but still, even if it has a slightly influence. And do you think you need new skills and that you need to learn to become that will become useful in the future. And I can think of 1 hard skill. For example if you need to work more with with. Computers are a machine learning, and maybe it's a hard skill. You need to be equipped with programming, for example. But can you also think of maybe soft skills that you need to adapt or to learn? Having the increasing automation in mind.*
Interviewee C:	*Am I see what you mean with the programming? I don't think it will become part of this job because you can always, you know, just have people who are good at it. It might be possible for smaller companies who do not have a full time HR business partner or HR advice or whatever. You name it position that it would be a good combination if someone would be able to decently use and change these programs and have good conversations as well. But to be honest, no, I don't think that those hard skills are needed. The main high skills that are needed is the ability to. You know, use the software programs that you are going to do so, so that will be a big part. If I would look at like a lot of my colleagues, not directly from them, comma who I've seen in the field who are like 50 or 60 and we have a lot of trouble already with managing Microsoft Outlook, well, it may be one program which manages sickness of employees so and they have really they struggle a lot to use it. That will be a big improvement needed because. The programs and software things are going to yeah, and those are hard skills. You know, using those programs will become a bigger part of your job. Also for recruiters also for whatever you will need to use more software and lean more on the number. So in that way for hard skills I think using software is the biggest improvement needed for my colleagues do. If you look at automation if you look at soft skills. Then edit ability will be one of the biggest that people in my line of work really need to develop, because there will be a lot of changes and like in order the loughmore everything will work, quadruple is. That's how fast it goes. So software will also do the same, so you need to be able to. Manage that I maintain the knowledge that you have and use the software things so adaptability. Is one of the biggest softskills that needs to be. Developed by people need to be on point. And if you have dead in a high regard, then you will probably also, you know, manage the other soft skills that need to be changed because you're adaptable. Yeah, I mean, it's the most important.*
Interviewer:	*Yeah, duct ability is a good fun good point. Also regarding the globalization of the world that you also need to work with different people with different cultures. Also being adaptable to them might be quite a huge asset. So I don't know if you experience the same, but right now I'm quite often on LinkedIn to to look at my profile. Looks good for maybe future employers and I'm also quite into like getting a lot of news like journals where sales OK, these are the scales, the soft skills that you need to be equipped with. So there I think right now I'm at least are flooded with different types of skills. That you have people say are important in the future. I'm not sure if you experience the same, but do you think? And there's a need to prioritize soft skills in the future. Because there are just so many like the list of soft skills is basically endless and do specific job or departments need to prioritize skills in order to get get along and not be flooded with all of them.*
Interviewee C:	*Well, I think it disability is the biggest one in there and then it really depends on the job that you have or the function in the company that you have. Which one will be the biggest. If I will speak for Dem con? Then then the other day after the adaptability skills and I think the analytical skills because if you are adaptable and your analytical so you can see OK what's happening where and you are able to adapt to it, then you know those are the two main soft skills that you need to prepare yourself for the fast changing future future which will go change even faster in the future. Probably. Yeah, OK, celebrating.*
Interviewer:	*Yeah, so so as a result of a lot of external environmental and technological factors. For example, automation and all right now we have also the COVID pandemic and we can see that soft skills are maybe changing or shifting. And can you think of any other factors or external? External factors that might influence the requirements for soft skill development, for example, due to the pandemic, and we can see that we need to be more more adaptable to online learning. For me online learning for you may be conducting your business online. Can you think of other factors that might influence the soft skill development?*

Interviewee C: *Yeah, the internationalization is a big one. More companies doing having a lot of international employees having international customers. And we as Duchess a very much focusing on OK. How can we? How can we adapt yourself to the other country? You know we have Chinese business partner. How do we business in Chinese? We have a German business partner. How do business in German? Because you know in German you can't just go to the highest manager in an element. You can just go to the COA. Somethings wrong in your company. This is not good, so that's a big of cultural difference and I think we as the melons are way ahead of the rest of the world with that. Because we are always adapting to other. Countries, but you bear rarely see other countries that take to the Netherlands, yet you never see a a Chinese or Japanese group of this is people thinking. Oh, how can we do business in the Dutch way? You know that's just doesn't come up in them, so those will be one of the most important skills which is also yeah, I don't know if it's adaptability. You know it's more cultural awareness. Cultural. Yeah, so so. Cultural being able to change cultural, that's going to be a big one because the world is getting smaller and smaller and smaller place because everyone is connected. Uh, and I think if a lot of companies if another countries companies in countries who have a very. Own way of doing business will not be able to change their cultural behavior. Yeah, they will get in big trouble because if other countries do and other companies in other countries do, then they will have a big advantage over the ones that don't.*

Interviewer: *Yeah yeah, and I think this is what you were just describing. The way the Duchess of the Dutch people are adapting to two different business partners, I think there's also where your success lies. 'cause you are just so open open to different business partners and this is I would say, why within elements are so successful and what you are doing. So one more thing, it's also built to to your company and your competitive advantage. Having soft skills in mind. So in terms of soft skills, why do you believe that the skills that you were mentioning distinguish you from your competitors and so do you think that the skills provide a competitive advantage in your position of function? So I mean, first of all, what makes you unique and compared to? People who are looking for the same job like in in in your job and also accompany wise like why does the skill set that DEFCON that your company provides gives the company competitive advantage to rivalry in your market?*

Interviewee C: *Oh OK, well, so there's there's no big difference between me personally and the company, of course, because the company is a tech company and I'm in HR. Why I why? I think that I have advantage. Uhm? Like like I said, I'm a I'm very analytical but I'm quite I'm able quite well as well. To use all this soft skills like good conversational technologies, giving people a good feeling like OK. It's safe to talk to him. I can be honest, I can be open. Those kind of things are a big plus in the HR field because a lot of people in the HR field are. Ask after being honest. I'm scared of being straight and scared of using the analytical skills that they have. To just do it, it's a lot on based on feeling. Which is great, but I I think a big advantage for me is that I also have a lot of analytical skills which I can use so that I'm not only basically feeling with our what does my stomach say? What should I do now? I have very good cause. And then a consequence, analytical skills and not a lot of people in the field that I work in do. Which gives me an advantage if you look at the company. The biggest part of our work is not engineering dissolution, but figuring out what the exact problem is. And then being able within the team that you work in as an engineer to find the right solution. So we are better in that pod. We have very technical people who are also very well capable of talking to an employer or talking to a customer and really finding a problem and what we do. In most cases the customer already has an idea what needs to happen to fix the problem. And then we are able to find the real problem because usually the problem they think they have is not a real problem with their something different and to find a solution for that. So first we have to convince the customer that's not your problem, this is your problem and then we have to convince him. And yeah we have to pay us because we're going to fix it. While he doesn't didn't even know it was his problem. And our company has the people. And those people have the soft skills to do that. So, besides being very very smart, we only have like we only have university NP three years in a company, almost only, that's how that's a intelligent rate. But because they're able to explain. What's going on in their head to the to the customer? That that's where our? That's why we're doing really well.*

Interviewer: *OK, and sounds good, especially for for your part, and I think it's also your unique selling point. Might be also the good interconnection between the skill set that you have not only having all the scales one by one, but the good interconnection in them. So I'm young and. This was for the interview guide so far, and is there anything that you would like to add?*

Interviewee C: *Well, not in general, it's just you know. I think the soft skill question next question is very interesting and you're focusing now on on jobs. You're focusing mainly on HR jobs right now, so that's of course already a big soft skill party. You know, being good in HR field is already reliant if you're good in HR then you have to be good at soft skills. But it's also going to be way more important for people with hard skills like engineers. Which is why we're doing so well then gone, so that's a. That that's that's very nice. That's very nice development because you know technical solutions. It's just going so fast you know if you are a very good one, has given five years is worth nothing because there's a new software language, or a new whatever.*

Interviewer: *Yeah yeah yeah. For example, one of my friends in Germany, he's working as a like. How do you say like text controller? Basically like he's consulting different companies, but when it comes to only like the. Tax analysis and a lot of programs can already do this, and we never thought that accountants can be so easily automated due to a software, so that's really, really interesting. And this is the root of my research, not only of course in in the. Border off like a better fevers like it's not better book in the end or*

Interviewee C: *No no no yeah OK, well that was it I think for my side.*

Interviewer: *Yeah from my side as well so again thank you very much for taking the time. I hope it you gave some really nice nice insights that I can. Yeah hopefully stage like result my fevers and I hope it was also a bit interesting for you. Maybe to have some some different thoughts or some different inputs. With these questions. So at first of all I will stop the recording now.*

9.4.4 Interview with Interviewee D

Interviewer: So yeah, I invited you to take part in my expert interview for for my bachelor theaters and I will first start with with a quick introduction.

So please introduce yourself as well as the institution you work for. This can include information on the position, size, company, institution, purpose or role.

Interviewee D: OK, yeah, my name is ██████████. I am a ██████████████████████████████. Started working here ██████████. In the ████████████████████████████. And the university is quite a big institution. It has around ████████████████████████, so it's quite a large organization. I would say. And yeah, it's involved in education and research. I guess you know that.

Interviewer: OK, and and please provide information about the department that you work for and the function you have in there. So what are your tasks and what are your responsibilities?

Interviewee D: Yeah, that's a good one because we just merged with another department. So officially I'm in the ██████████ ████████████████████████████. There's no engineering emergency information systems, which is quite a big group now with over 80 people and. Yeah, it's it's focused on many different things now because we do more to people, sites and the Davis. Originally Ibis people do more the industrial engineering and processes, operations, etc. A man, in terms of my responsibilities. Teaching is a big responsibility, so lecturing module coordination involved in three different modules currently. And next to that it's doing research. Uh, supervising students. And also involved in all kinds of. Other work groups, such as ██████████████████████ ████████████████████████████, etc. So quite quite diverse number of tasks I would say.

Interviewer: OK, great and yeah, interesting that also from time to time like departments or how things are put together are changed. And like in what areas do you research?

Interviewee D: My main areas, human resource management and innovation. And so I focus on how enough the behaviors of employees can be stimulated and facilitated in my dissertation, I focused on employee driven innovation, which means innovation. Bottom up, innovation from the workflow by employees who are not necessarily tasked to do innovation. So anybody can be enough. That's the assumption. And how can this be facilitated by for example, hmm? Activities like training and performance management etc. And after my promotion I also continue with. Studies on more digital HMM and the use of artificial intelligence in HRM. So for example in recruitment and selection there are many developments going on in terms of. Automating recruitment processes. Sing AI to do all kinds of selections and predictions, so that's mainly in new to pay or not. Not new anymore, but. That's my research topic after I finished my dissertation.

Interviewer: OK, interesting, and by facilitating or like equip the workforce to make them more or to stimulate innovation. Does it also mean maybe to equip them with kind of skills? Or is it not so in your focus area?

Interviewee D: Well, it's definitely part of it. It wasn't my specific focus, but you are, for example, training and development is an important part of getting to new ideas and making sure that these ideas also can be implemented in organizations. So skills is not mentioned as such, maybe, but it's definitely an important part of it. Really example is sometimes people think. Especially in managers think that workflow employees like the professionals working on the shop floor don't have the skills to be innovative. Whereas metal, my assumption is everybody can be enough to have. Everybody can be creative with you have to provide the right circumstances.

Interviewer: Yeah yeah. And to let them be a normative and quite an interesting topic with skills just we'll come back to that later. Just one more. One step back to your to your working atmosphere with your colleagues. How would you describe it? Is it like more tied? Is it collaborative? Is it a lot individual working? And do you think it's a motivation or creative atmosphere you work in?

Interviewee D: Well, it's actually very much. There is a very good team atmosphere. I would say in HRM group specially because yeah we've merged with Ibis during lockdown. So actually we haven't seen many of the new colleagues in in person. But with our direct colleagues there is a very good working atmosphere. Also, in terms of teaching, well, you also know that teaching teams are different every module, so you have to work with many different colleagues. And that's also a stimulating. And then also sometimes challenging I must say, but in general the atmosphere is quite positive. I must say in terms of research is often more. Individual individual work work with Co authors. But in general, I would say we have very good team atmosphere.

Interviewer: OK, great. Yeah and I hope that you have the chance to meet. Also the people from Ibis soon. So maybe if now restrictions are lowered maybe for some drinks or also to have. Dinner together, let's say.

So let's familiarize ourselves with the goal of the study and the terminology, and so please take a moment while understanding the research goal definition of soft skills and automation. So the goal of this study is to research skill gap in the Netherlands, specifically a so called for so-called soft skills. So personal and interpersonal skill sets for business and administration associate professionals. And this skill gap is a result of the increased automation of many jobs and based on that I also not only find the skill gap but also the skill set that you have business and administration professionals need to be equipped with. So we already talked about the soft skills a little. It's. Divide into two categories, personal skills and interpersonal skills, whereas the soft skills are more than non technical and

unrelated to the work whereas The hard skills are more technical and relevant to work. What I mean, I understand with the term automation is the growth of computer power over the last few decades, along with the increasing cost of automation, and this has provided economic opportunity for businesses to replace human labor in repetitive activities with machines. So routine operations can be conventionally codified in programming applications and are therefore more likely to be done by computers. But I think you're also well aware. All these terminologies just for the script and.

So do you feel that your job specifically is affected by automation, and if so, in what sense?

Interviewee D:	*My job as a teacher you mean?*
Interviewer:	*Yeah, in deed!*
Interviewee D:	*Well. Not a large part can be automated, because actually we do a lot of. Work that cannot be that it's not routine work and it's work in personal contact with or about students mostly. So I wouldn't say a large part of of my work is automated at this moment.*
Interviewer:	*OK, and if you think about the area research in like a human resource and management, do you think there's a huge shift? In that like that, jobs are affected by by automation?*
Interviewee D:	*In human resource management. Yeah, yeah, definitely! Especially in in the last decades, I think we see a lot of digitalization of homp and, well, that's the first step to go from paper to digital solutions. But the next step is. That we have all these digital information now or the data and with the data you can develop algorithms and you can develop insights, smart systems etc. So that's what you see currently happening a lot that that HRM functions are changing with the use of these data data driven systems.*
Interviewer:	*Yeah, and what I also heard that for example the bigger companies have also they are. Reading this CV or like the application process, automate by having like some AI and if you have specific words in them then you get on a next pile. So like maybe in the end real human being can can read over them. But to get there it's fully automated in a lot of companies already, at least in the bigger ones.*
Interviewee D:	*Yeah. And there are also software providers who provide these services like. One example is HigherView company that. Uh. That develops like AI system that can also screen your face during for example a job interview and see emotions and try to assess like personality based on your face, your expressions and also tone of voice. So these are pretty creepy developments that also a lot of privacy issues are involved here, obviously.*
Interviewer:	*Yeah, it sounds insane like that. It's even faster developing than we might see at some point. So when you hear the term soft skills, what does it mean to you specifically?*
Interviewee D:	*Well, soft skills sometimes are. The are the hardest to manage. Because it's also a question of what is meant by soft skills. I don't. I personally don't really like the term soft skills. Because yeah, then you may have to make a distinction between soft and hard skills. But what I would say is that soft skills are mostly interpersonal skills or communication, empathy and. Emotional. Capabilities. And so things that's. That's a robot. Can cancer heart can hardly do, although there also developments in terms of death, but. Until now, it's like the person to person. Nope, I would say.*
Interviewer:	*Yes, so maybe a better word to describe to not have distinction between soft hard skills and might be interpersonal skills as you already set or transferable skills. So yeah, but that is indeed true that it's the compared to what I first defined us as hard scales like no. Know how to to apply Excel, for example, soft skills are way more unique selling points for human compared to robotics or machines.*
Interviewee D:	*So maybe one example is interesting in terms of recruitment, but we discussed just now is that there are companies that use these algorithms to scan CV's to scan resumes. Yeah, often times people put their hard skills on their resumes like a job experience, software skills, etc. But not the soft skills, because how can you get explain soft skills on a paper? That's that's something you need to show or experience. You can say I'm a good communicator, but yeah, how how? How to prove this? Yeah, good team player. Maybe that's also an important soft skill. To be to be. To be able to work together with all kinds of different persons.*
Interviewer:	*It's also good to have these approaches that we have next to our study. For the bother, the skills learning line. I'm with Annemarie Ridder and there we basically had the chance to choose three skills improve them over one year, and then we also need to have kind of an academic writing about it. Like why did we improve the skills and what real life experiences, so it's good to see that their approach is for us to be aware of our skills.*
	And how did you learn your? What do you think? Where or how did you learn your recent soft skills? For example, more actively by doing a training or like a course on kozyra? Or do you think it's more indirect by just being real life experiences or interacting with your colleagues?
Interviewee D:	*I think there are multiple ways, but mostly it's experience or. And also getting feedback on from from colleagues or from people around you. So you have to you have to just experience many things to to learn it, but you can get help. I mean you can do presentation skills, you can do intervene into vision with students. I mean I'd also followed courses to supervise students and then you get like tips and tricks how to interact with students. If they have a problem or if they are demotivated. So those are also kind of soft skills you need at it as a teacher to be able to. But to tailor your approach to the student that's in front of you because you may be a person who can deal with pretty harsh feedback. But if I would say all this is all wrong to another one, so the other students he or she could start crying and don't*

know what to do anymore, so. Yeah, you have to. You have to develop this. There are training possibilities, but in general I think it's also experienced.

Interviewer: *OK, I'm now I become a bit more back to to the university and the the skills the interpersonal skills within your institution, and so do you actively use or apply your skills in your intuition institution. When you think of working with colleagues.*

Interviewee D: *Uh, well mostly implicitly, so yeah, it is acting the way you are. I'm I'm not acting. Just being myself. But I, as I said, training and development and getting feedback helps. So for example, if there is something important that you want to achieve from a meeting, then you may. Well consider before end OK. How am I going to approach this? How should I communicate my message? How can I make sure that my point comes across as as the best point or you want to achieve something so? Well, these are things that you can do too. To use your personal or yourself soft skills in the best way I guess. But mostly people. I think 95% of behavior is automatic behavior, so it's only 5. I'm not. I'm not the exact numbers, but it's only a small percentage that you can actually change.*

Interviewer: *Yeah, Yep, and I totally agree with that. I can think of one example. Maybe we had once at a team meeting for project and they are because I think my my team members we need to get there. Things together, let's say in a nice way, so I tried to be a bit more proactive and say OK today I need to be quite a good team leader to get like the output in the end that we are aiming for. Maybe in these let's say extreme situations. Maybe we need to be a bit more proactive and to be aware of them, but otherwise I totally agree with more like natural behavior and more intuition.*

Interviewee D: *Yeah! What would you say is also, I also like this principle having these different hats on so in in one setting you need to put your hat on like a very indeed straightforward proactive person. In another situation, you can be bit more laid back and or try with humor. I was like 2. That's also maybe it's off scale to try to. Create an atmosphere. Good atmosphere with with sense of humor because it's also relaxing for other people, especially if you can also. Make jokes about yourself. For example.*

Interviewer: *Yeah, that's important indeed. So also being able to adapt to different situations, maybe? So you have talked about it a bit so far? So about your opportunities to to grow your soft skills and or transferable skills within the university. And for example by conscious application or by by training programs? So again, are there for especially for you working in the HR department specific traineeships. And to to do or to apply for?*

Interviewee D: *Yeah, there is actually a whole department for a professionalization of teachers. It's called chess. Maybe you are aware of this, but this there's a whole department that helps to develop teachers to offer trainings you can think of almost anything and you can do training. There's there's more than you can actually do, so if you want to train something and maybe I'm lucky, I don't know, but most of the times it's it's feasible and you can. You can go to training. The. And then there's also like programs written mentor ship, so you can get a mentor, especially if you're like aged around my age. I guess after your PC is finished. Between your 30s and your 40s maybe? To get a mentor that can be helpful in career development? So yeah, there are so many opportunities to do this kind of trainings, but the downside is you have to find time to do it. Sure, we all have pretty busy jobs as teachers and religious or other things so.*

Interviewer: *Sure, and and yet it's interesting. And not only that, these kind of opportunities are offered in a research or university surrounding, but I remember the the previous job that I worked for. We actually had a head of human resource development so so next to the head of human resource. Also for the development of it, and especially for the employees there. And I think it's a good. The development to see that the human resource itself gets more and more importance within a company because for some time I think it was lacking. It was only looking for for the performance the output, but not really looking at the human being itself. So this is a nice development we can say.*

Interviewee D: *Yeah, definitely.*

MAIN BODY

Interviewer: *And so let's get to the to the main body of this research. So now you need to put yourself more in the shoe of your research area, like not you as yourself as a professor. But working in the HR department, but the the area you research. So which soft skills are present in the job of professional like a business professional, and So what would you say, which of the software hidden skills do you think are present in their job?*

Interviewee D: *Well, it's very difficult to say because there are so many different types of HR jobs. Uh. Well, maybe general development is that HR people need to be able to work with data and technology more and more. Because like I said, the whole profession is digitalizing and it means that professionals working in HR department also needs to be able to work with these kind of systems. The. And to adapt to adapt to the new situation in which. I think many people in HR work in HR because they like to work with people. But the job is also changing towards working with technology and with data, so I think that's one of the most important developments in terms of skills also.*

Interviewer: *So how would you see or how would you describe the future then? Is it more because it now sounds like the person working in the HR department is in the near future, not fully automated by by machines or by AI, but that it's more like an interaction. That both AI or automation and the professional in HR department are going hand in hand and that it's more like an assisting kind of situation.*

Interviewee D: *Yeah, exactly so. HR is always been a apartments criticized at. What's the value of HR? What kind of value at? But now with all the numbers and data available. If you are able and if you have the skills to do so, you can make these*

reports based on the data that show that people perform better that that skills are developed. People are recruited. The retention rate goes down all kinds of evidence that you can show based on data about you have to be able able to translate the data to a message that you want to. For example, present to a board of directors. So we have to be able to work with the data and I definitely don't think that everything can be automated, but many things can be augmented as it's called, so you get more information. There's, oh there's more and more information available and you have to be able to find the right data sources and to make sense of it all. Yeah, maybe in the in the past it was easier because yeah, yeah, it's limited information available, which is also the constraint of course, but now you have so much information. Do we have to be able to to deal with it?

Interviewer: *Sure, yeah, there are so many channels also and and journals and articles that that are currently flooding us with OK, you need to be equipped with that skill in the future, and this might also be important, so we need to find out what is your profession and what are the sources that you should use or are important because not everything is good and not everything is valid. I would say for for you in your profession.*

Interviewee D: *Now an HR professionals are busy with or developing employees, but I think it's also important that we should think about their own role. So what? How would my own profession look like in five to 10 years? And what skills do I need to be? To continue working, 'cause if you are 60 and or that's maybe not a good example. If you are 50 and you know that you still have to work for almost 20 years. The job will change a lot, so you have to. Either you will. It will be automated. Or you. You you go to training and go to acquire new skills and be able to work in a new situation.*

Interviewer: *According to to my current research Lecis et al., the most fundamental as soft skills are communication, time management, decision making and judgment team spirit, adaptability that we just quickly talked about and also analytical skills. There we come back to to the data and that this needs to be also kept in mind and the autonomy skill. So which of the? Skills, would you say more important if you need to rank them and which are less important for the job as a HR, proficiency or professional?*

Interviewee D: *Yeah, you mentioned quite a number, yeah?*

Interviewer: *So OK, and you don't need to rank them like from 1 to 7, but only what are maybe the three most important ones. So I really repeat them quickly and communication time management, decision making and judgment. Teamspirit adaptability, analytical and autonomy.*

Interviewee D: *Yeah, well communication is definitely. One of the most important ones. And also adaptability and I think at debate is also somehow and I discussed earlier like being able to adapt to new situations and communication is always, it's always important. In every in every job. Less important is I guess, time management. The problem solving and analytical skills are also pretty important. And I would say something that I didn't hear is creativity. It's somehow linked to adaptibility maybe? But creativity I think is also very important skill for for this kind of job.*

Interviewer: *OK sure. Going at bit deeper into the topic, which transferable skills are interpersonal skills and are. Important and in your or for the HR professional job today. So what is the most remarkable skill in in that position that comes to your mind?*

Interviewee D: *For an HR professional. The most important skill. Yeah, well I would say it's it's difficult to say to mention one. I would say two if it's a lot. So on the one hand, the communication and interpersonal skills. It's like one set of skills. And on the other hand, the analytical skills so being able to work with the data with the technology to adapt to these new situations.*

Interviewer: *I'm and you know what you were just thinking about this maybe also reflection of the future development. I might assume that it's not really one or two specific skills, but it's and this is hopefully also the output of my research that we need to have like a coherent skill set in the future to be equipped. It's not picking different skills, but also apply all in a kind of a skill set. That is important so. What would you describe as? Do you think the skills will dramatically change, or it's more or less the same, with some deviations or some more adaptation of skills? Or is there a huge huge development?*

Interviewee D: *Well, I think there is a huge development but. We always tend to look like five years ahead, and if you don't compare situation five years back, then you can actually see quite a big change. But throughout the day and throughout the week, she don't experience this big developments because it's it's not from one day to the other, changing its changing overtime. So you can still adapt to the new requirements for your, for your kind of job. The job that you have as an HR professional, for example. There is time to adapt and. I guess for the for the future it's important to be aware of what is asked, what is required in these new types of jobs. You can also be proactive in this. Like I see my job changing, I have to work on my skill set to to be able to provide to keep delivering value in the future. If you if you don't do that as an employee, then there is always the risk that at some point you don't. You lack the skills for your own job. Or somebody else takes over your job. And that's a big discussion in HR research as well many data and computer science. Scholars, researchers are also studying HR related topics, 'cause it's actually nice. The opportunity of data. Because, yeah, there's all kinds of data available about employees and their work and their performance. So these these scholars with their computer science and AI backgrounds can also do our jobs as HR scholars or HR professionals. So if you don't adapt to this new situation, then it might be in the future that that data scientist take. So take over the role of HR.*

Interviewer: *Yeah, and. Sure, so an do you believe there any aspects that contribute to the needs to prioritize soft skills, so having the automation process in mind, we already talked that from a lot of different information and different skills are*

provided or set to be to be important. So as we know that the inter person or transferable skills are not static but they evolve through time as a result of external. Environment and technology like like the automation and now due to the pandemic we could also see that yeah also our work work space was changed so it was more more online and we also need to be more adaptive to these kind of things and quicker change and be prepared and so can you think of factors that influence the requirement. And for for soft skill development, except from now the automation or like a pandemic.

Interviewee D: It's a difficult question. Then can you repeat this?

Interviewer: Yeah, and maybe a bit easier also praised, so now we can see that there is a shift in skills due to automation or like due to the pandemic for example. And can you think of other external factors that might change the skill development?

Interviewee D: Other factors that change the skill development. Well, yeah, economic situations but. Could change it because. If we have a very tight labor market. Or the other the opposite, if there is full supply of all kinds of people who have skills, then there is more competition. So then there. Then organizations can choose who has the best skills, whereas if they really elected people and there are not so many people available on the job market, then yeah, it probably already in more luxurious position as a job seeker. So that's one thing also rules and regulations, because now. And we see all these developments going on with AI, but at some point the government or the EU could say, well, this is not allowed anymore. He can't use AI for recruitment because it's all kinds of privacy and bias situations. So this also possibility that at some point. Uh, soft skills are even more important. Again because these technologies were nice, but there are all kinds of limitations.

Interviewer: And if you would so how can can I be be equipped in the future? Like can you think of a really short To Do List, let's say of what I have to keep in mind. If I want to be ahead of automation and like what do I need to do as an employee in HR?

Interviewee D: Yeah, and that's a very good one. I think what you definitely have to do is keep on developing yourself. So don't think it after your graduation in university or high school or whatever that's you. Don't have to learn new things anymore, so lifelong learning, or it's not. It's called differently now nowadays. But you said that the idea that you have to keep on training going to workshops going to conferences, it's very important. And also looking ahead, what will your future job look like and not only. How you think it will change? But also what do you want out of it? Because oftentimes you can also shape it. Like in my job I do all kinds of additional things because it's also what I like to do and if I get the space from my supervisor then I just take this and that's my job. It's also called like job crafting or ideal, so you you are responsible to some extent, at least for your own development so. I want you To Do List should be always looking for opportunities to follow courses to keep on developing yourself. And to be. To think ahead.

Interviewer: Yeah, and are you aware of Coursera? Yeah, and what do you think of Coursera, maybe easy accessible tool to improve your skills or work on your skills?

Interviewee D: I think Coursera is. Yeah, I mean, I don't, I'm not. Sponsor of Coursera. So there are edx and all kinds of other platforms. Actually during my time as students I also followed all kinds of Coursera courses. Also read the topics that are interesting to me but not necessarily usable. For example, I remember of course about banking and financial institutions because I was just interested in how this works, but also programming which nowadays is even more important. Back then, I didn't think that it was that important, but so yeah, these platforms can help. And actually, we also in our research group develop their own MOOC massive online open course about HR, because also what we see is that. Like I just explained, people want to continue developing themselves. So not only students in their 20s, but also professionals in their 30s and 40s want to keep on following courses. So these platforms can really help. But you will need to be of course, aware that the quality of these. The courses of these programs is sufficient.

Interviewer: And being aware of your transferable skills doesn't contribute to the company's competitive advantage. You can. Either or prefer to to what you think HR professional an if if he or she has a competitive advantage or. About you as other. The University of Trento as a competitive advantage by being aware and we are developing their transferable soft skills.

Interviewee D: Uhm? Well, as a university we don't compete that much the way a public organization. Of course we compete in terms of student numbers and funding, and in terms of funding, I think if you want to attract external funding from government or EU or whatever, then it's really necessary to develop your skills. Softskills I don't know if that's if that's most important, yeah?

Interviewer: Probably not, yeah, probably not for foreign institution, but let's say or let's take maybe it's easier to the to the HR professional and so. For company what does it mean or like? Does it need to be aware and actively developed the transferable skills? And does it mean there are more competitive advantage? Maybe on a company level and also for the HR professional itself? And when you think of that? Having a competitive advantage for that specific job role.

Interviewee D: So there's always this tradeoff, I guess. Also, theoretically, between skills that are needed to do your job. For your company, for your employer, and general skills. So transferable skills. I mean, I would say in general and employers so the organization wants their employees to develop skills that are specific for their job. Because if they're are trained in transferable skills, yeah, they can also go away to other companies and maybe that's what you want to prevent. But this may be shortsighted. But I guess that's also what you would. Quite often, see especially in like normal regular jobs. On the other hand. If you as a company wants to be adaptive to outside changes to external*

developments, then these transferable skills can help to be adaptive. So there's this tradeoff between maybe success on the long term and success on the short term.

Interviewer: *So would you say that that are if you have like models? 22 exact companies who are doing the same business for operating at the same same market? The only thing that one company is doing to have, like maybe a trainee in in their company to help employees develop. Do you think it's just nice to have? Or do you think the company will in improve performance in the future compared to the other exact company? Don't have the training or.*

Interviewee D: *Yeah, uh, I definitely think that development of employees, whether that's in training or whatever, that's very important. So I would say I would expect and predict that the company who. Who's Alexa recruit such a person? Put in a long term, outperform the other company? Of course. It's also rated based on or related to the strategy that the company follows. OK, if you want to be enough to have as a company in terms of product developments or services, then you probably need more training and skill development. And if you are tailored towards cost leadership, so if you want to be the cheapest or then you probably don't need. Too many training programs and development programs in terms of creativity or transferable skills because those won't help you too. To reach your goal, but in general, I think every company needs to be innovative in the long term to survive.*

Interviewer: *Yeah, just check if a main questions are done so far and can you think of anything else that would that we would like to add or that you can think of might be might be important to tell in terms of skills?*

Interviewee D: *Well. I think for companies is important to realize that technology. Is just a tool. So think about how it should be used, how it is used as experienced by employees. So don't let the technology determine everything like we have a new tool and now everybody needs to work with the tool because. Oftentimes it's not that simple. People have to work with the tool. Unless it's really fully automated, but that's hardly ever the case. So make sure that that you're that HR is involved in this in the. Also the choices for technology so that the company can. Be proactive in terms of what kind of skills do we need in next years? What kind of training programs do we have to offer? One example I'm now currently involved in trying to do a study at one company who is also automating processes. So I was asking their HR manager. Are you involved in thinking about well what kind of task these people will have when there is a new machine and what kind of skills well? That was. Just in general they weren't prepared for that for answering this question. So my advice would be my suggestion would be HR needs to take a role in this. Think about OK if we automate the whole production process, what will our current employees do? Do we need to upskill them so send them to training? Do we need to change their job titles or do we need to hire new people to to do those jobs because the jobs can also be boring or tiring after automation if you have to do repetitive activities then if you have an and higher education then you don't want to do repetitive work all day. So that's also an important thing for HR people to think about, I would say.*

Interviewer: *OK, and one more thing because I'm curious and it's good. Good outlook and. You ever heard of the O*NET database? Though US database yeah, are you also working with them or you?*

Interviewee D: *No, I'm not working with him.*

Interviewer: *OK, you heard of it at least, and you know what they're doing?*

Interviewee D: *Yeah, well, one of the most important or yeah most cited studies of the last years was based on their O*NET database. Like the two people fraying Osborne. Maybe you've read about them? Yeah, just study on which which starts will be automated and then in the media there was like a big fuss about it that almost 50% of jobs will be automated. But that was actually not what found out.*

Interviewer: *Yeah, OK, yeah, because this is also my I have two two step approach. Let's say the first is. To compromise the ownered database when it comes to the two occupations I research and then to back this up with these kind of expert interviews to also make it valid for the Netherlands. Because of course they only couldn't collect data from the US, but also to see if this can be still applied to the Netherlands or Europe for example. I'm what are the two jobs that you are in? Love? The occupations and I did some research on what. So first of all in. Regards to automation and the Netherlands will be more. There will be bigger need in high skilled professionals and the two professions are business and administration professionals and the other occupation is business and administration associate professionals. So these are the tools skills from the IT was from the OECD Skills Panorama and they predict that this will be the. Hiest increasing jobs or occupations in the Netherlands till 2030.*

Interviewee D: *So a rather general description right business?*

Interviewer: *Yeah, so that's why I need to and the owner database is working with a different classification standards for occupations. The SoC and the two occupations just mentioned. Defined by the ISCO. So it's an international standard for occupations, but not the one that the owner is assuming. So that made it a bit different or a bit difficult to track these, but it's based on these standards. So there a bit more like described in detail in my analysis. Thank you very much. So first of all, I would stop there quoting quickly.*