

# Industrial relations and workplace adaptation

Supporting industrial relations in the field of workplace adaptation to enable the employment of older or disabled populations:

Literature review



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## **Abstract**

For persons with reduced work capacity, including disabled and elderly people, employment opportunities are influenced by access to work accommodation. This project aims to improve social partners' expertise through industrial relations in the field of workplace accommodation, and as a result promote the inclusion of disabled and older people in the workplace. The purpose of this retrospective desk study analysis will, therefore, be to lay the foundations for transnational action research with social partners in Estonia, Poland, and Hungary, with the aim of documenting what practices already exist and looking forward, how these might be improved, drawing on best practices from other EU countries.

In terms of methodology, this report reviews current scientific literature and administrative documents on work accommodation of relevance to industrial relations.

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## List of Abbreviations

WA	work accommodation
IR	Industrial relations
RTW	Return to work, stay at work
...	
EC	European Commission
ILO	International Labour Organization

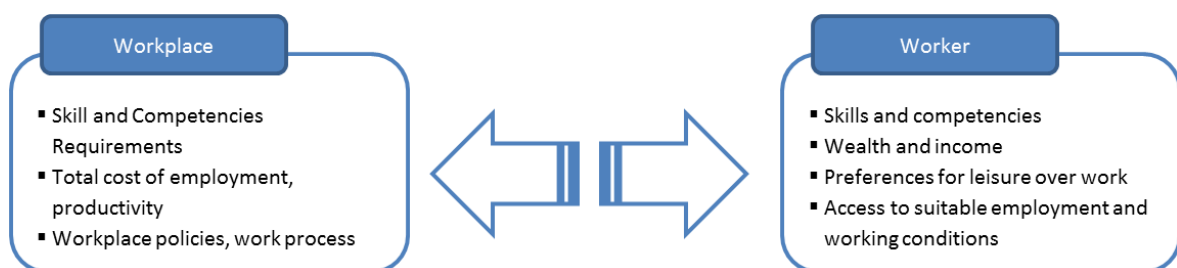
# 1. Accommodation of Work: Literature review

## 1.1. Introduction

The labour market inclusion of disabled or older people depends on number of factors. An analysis of the labour market in relation to disabled and older workers needs to consider both labour demand and labour supply factors specific to these groups, as well as contingencies and general evolutionary trends in the labour market (see also (Loisel and Anema 2013; Field, Burke, and Cooper 2013; Hedge and Borman 2012)).

Demand side factors would address the perceived and actual (i.e. stigma, employers' perceptions and miss conceptions that the job can't be done by an elder or disabled person) relative productivity of disabled or older workers, in short their skills and competencies, potential training needs and their associated wage, and potential absenteeism and presenteeism. Conversely, the labour supply of older or disabled workers will be influenced by factors such as personal and household wealth and income (and related financial incentives), people's motivation to work and preferences for leisure over work, access to suitable employment and working conditions (including access to potential workplace, accessible transport), willingness to apply for or enter work (e.g. likelihood to face discrimination, lack of understanding etc.). This study focuses on supporting employment at the workplace in general and on demand and supply factors that influence work accommodation of disabled and older workers<sup>1</sup> as well as the availability of suitable employment for these groups in particular.

FIGURE 1 LABOUR MARKET INCLUSION OF DISABLED OR OLDER WORKERS



Source: Author s' compilation/simplification based on literature reviews: Loisel and Anema 2013; Field, Burke, and Cooper 2013; Hedge and Borman 2012

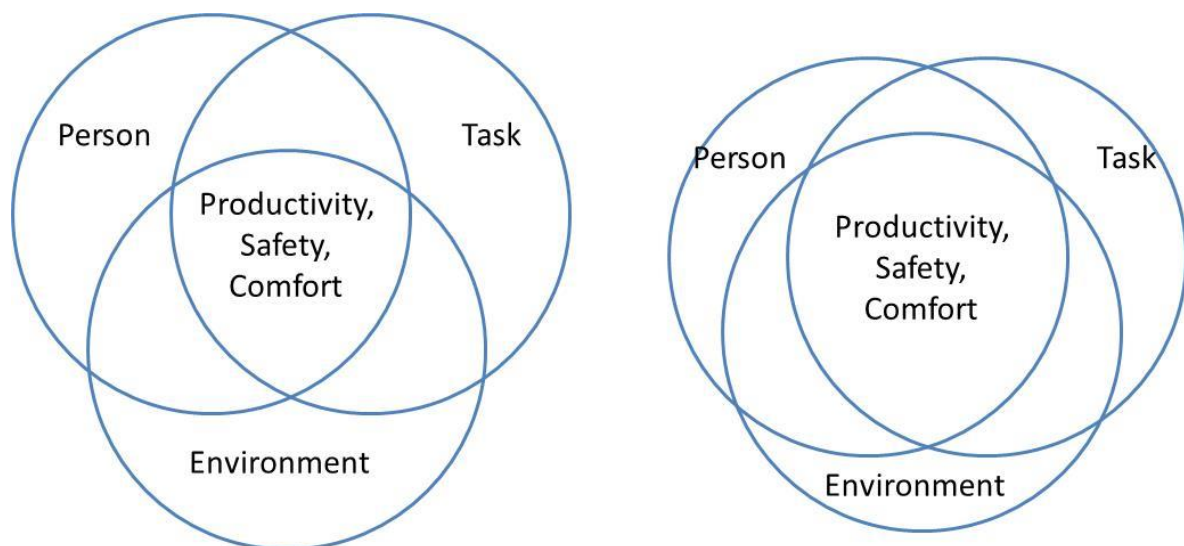
## Disability

Work accommodation (WA) and work ability are mutually defining concepts. However, it is important to recognise that in general the literature draws on two contrasting definitions of disability, one derived from a medical model and one from a social model of disability (see also in-depth review of different disability theories by Rijk (2013)). Medical or health related models of disability focus on concepts as the worker's medical status or condition, including their physical and mental 'capabilities'. This model and associated discourse has traditionally been used by the medical profession to plan

<sup>1</sup> Here, and in the literature in general, work 'adaptions' , 'accomodations' and 'adjustments' etc. are used interchangeably. However, as far as possible, the term 'work accomodation' is used in this report.

treatment and to describe and control physical or mental symptoms, but is not useful for understanding employment and the reality of the workplace environment (Schultz et al. 2007). Social models of disability, however, focus on the ways in which work is socially organised and meanings around it are socially constructed. As Gates and Akabas aptly emphasize, “Inclusion into the workplace is not just a function of reducing the extent to which individual characteristics and symptoms interfere with workplace policies and practices, but also a function of organizational responsiveness to these individuals as expressed through the attitudes and behaviours of management, supervisors and co-workers.” (Gates and Akabas 2011, 375). It has been argued (Paquette 2016: 307) that traditionally work (tools, environment, functions, tasks, social stigma, personal support) is designed to meet required outcomes, and only then is the worker added to the ‘system’ and expected to more or less adapt to the work. The social model, however, focuses on the individual and her/his relationships, where the goal is to fit the work to the worker. Thus, at the core of this model is the idea that the spatial, technical and social organisation of work should avoid favouring certain types of bodies and minds over others.

FIGURE 2 MATCH THE WORKER TO THE JOB OR FIT THE WORK TO THE WORKER



Source: Author's adaptation, based on (Paquette 2016, 308)

This approach, furthermore, highlights the issue of dichotomous labelling, as everyone has some degree of disability when compared to a more capable individual, or to someone who better fits an environment or tasks (Ibid: 307). In addition, it can be argued that disability is not experienced uniformly, as actual and perceived limitations are interpreted by the individual and others and is dependent on embeddedness to social circumstances (McMullin and Shuey 2006, 835). For example, even where impairments are apparent and not hidden, or where a person discloses a disability to take up policy measures (e.g. replacement income) or workplace accommodations, they do not always self-identify as disabled and, as such, do not share a collective identity (Foster and Fosh 2010, 565).

The social model also facilitates a better understanding of the similarity and interrelationship between disability and age. First of all, there is a strong correlation between disability and age – functioning and work ability issues tend to arise and accumulate over the life course and ageing itself might influence these. Workers should be judged on the basis of ability, not age, because chronological age can be a poor indicator of both ability and well-being (Sargeant 2008). Age can also



be socially shaped by material and occupational circumstances, with the effects of work on the body differing according to occupational context (Riach and Cutcher 2014). However, it has been argued that perceptions of age and disability are different, and that a person's age can also structure perceptions of disability (McMullin and Shuey 2006). For instance, when an older worker has a functional limitation (especially in the case of less visible disabilities associated with ageing), it may be the case that unconsciously or consciously (e.g. to avoid stigma) the person is conceptualised by the employer as having a disability, providing a justification for support and accommodations. Alternatively, an employer might conceptualise a functional limitation as simply the consequence of ageing, or when the limitation gradually develops and begins to affect a worker's ability, this can be conceptualised as 'normal' ageing. (ibid.). It follows therefore, that work ability issues related to ageing are different, as they are differently recognised and declared as occupational disabilities or work abilities. Thus, there is a need to be sensitive to the differences between the changing needs of younger workers with disabilities as they age, as well as those workers aging into disability and their need for accommodations (Baker and Moon 2008).

### Work accommodation

In general, work accommodation (WA) is an alteration to some element of the status quo, terms of employment or working conditions, to enable a person with a disability or with a different status/requirements due to ageing or a disability, to participate in work.



*Work accommodations are efforts to modify any aspect of a job or work environment so that the individual with a disability can accomplish the job tasks (Kwan and Schultz 2016, 272)*

This can include changes to physical environments, work organization, adjustment of policies, work requirements, provision of assistive devices or natural support<sup>2</sup>. It could be argued that making work accommodations with respect to the attributes of age or disability would shift the focus away from the exclusion of older or disabled workers based on perceived incapacity, to focus instead on facilitating an individual's actual capacity for undertaking the work in question and that that would enable them to secure and sustain workforce participation (MacDermott 2014).

In the literature on work accommodation, two somewhat different categories of WA emerge: the first focuses on the inclusion of workers with long-term or permanent disabilities (permanent modification, re-occurring accommodations). The second on workers temporal disability or recurring injuries or health problems (return to work, stay at work (RTW) accommodations process, provisional accommodation, temporary modifications, one-time requests) (Kwan and Schultz 2016: 273). However, authors also point that this distinction is oftentimes analytical or administrative and work participation could be seen a continuum from stay at work through return to work where work accommodations can be positioned at various points along this continuum (ibid).

Work accommodation is part of disability management or age management organisational practice and its aim is to facilitate employment in the workplace. In the scientific literature, which gathers and

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<sup>2</sup> A natural support approach refers to enhancing or linking individuals to existing social supports in the work environment that are available either informally (from co-workers and peers on the job) or formally (from supervisors and company sponsored employment programs) (Fabian, Edelman, and Leedy 1993)

synthesizes the cumulative (including empirical) knowledge of stay at work and return to work management, there tends to be a fairly clear consensus on disability management best practices (Costa-Black 2013; G. Pomaki et al. 2012; Georgia Pomaki 2010; Reavley et al. 2012; Gensby et al. 2014; Dewa et al. 2016). In the following two tables, evidence based key components are outlined based on the work by Costa-Black (2013) and Pomaki et al. (2012; 2010).

TABLE 1 DESCRIPTION OF CORE COMPONENTS OF EVIDENCE-BASED RETURN-TO-WORK AND STAY AT WORK INTERVENTIONS FOR MUSCULOSKELETAL DISORDERS

	Intervention component	Basic description
Interface with worker	Cognitive behavioural approach	Workplace-based or non-workplace-based cognitive behavioural treatment where attributions, expectations, beliefs, self-efficacy, personal control, attention to pain stimuli, problem solving, and coping self-statements are addressed either in one-to-one or group sessions
	Education to promote self-care and pain management	Basic advice to patient on pain management and self-care, such as instructions on taking pain medication on a fixed schedule and information about healthy lifestyle
	Education/advice about activity and work	Advice and recommendations to patient for appropriate levels of activity at home and at work and regarding RTW expectations
	Exercise program	An exercise program with job specificity or not including various types of physical activity, work hardening, conditioning program, or graded activity program
Interface with workplace	Protocol-based clinical management	The administration of a clinical protocol to assist patients to obtain appropriate medical care and early RTW
	Work disability (or ability) assessment	Evaluation of disability factors or RTW obstacles using different tools or techniques (e.g., questionnaire, interviews, etc.)
	Ergonomic or workplace assessment	A worksite visit or a full workplace assessment to identify work demands, work process, job characteristics, features of equipment and design of the workplace, loads handled, pace of the job, postural requirements, and environmental characteristics of the jobsite
	Participatory ergonomics	A collaborative ergonomic intervention process involving the ergonomist, the worker, and a selected workplace group, which includes a workplace assessment, problem inventory, work modification, and case management
Interface with stakeholders	Provisional work accommodations	Transitional or temporary modifications in the job or tasks regarding working hours, duties, pace of work, performance expectations, and/or modification of the workstation. Workers can be temporarily assigned to a different job function or light duty if available
	Workplace at the centre of the rehabilitation plan	The connection of clinical interventions to work participation goal with the rehabilitation activities progressively centralizing in the workplace, at the worker's regular job. It is also called therapeutic RTW
	Workplace modification (permanent)	A workplace modification is offered (negotiated) to accommodate the situation of an individual's health situation and functioning
	Administrative provisions	Any action to avoid delays on RTW/rehabilitation involving employers or other stakeholders
Interface with stakeholders	Communication between stakeholders	An interactive communication process between different players including healthcare providers, workplace actors, and workers, aiming to facilitate the RTW
	Team-based approach	Interdisciplinary, multidisciplinary, or an integrated teamwork is used to deliver and coordinate different types of treatments as part of a comprehensive rehabilitation approach
	RTW coordination or case management	A set of activities designed to manage and coordinate the RTW process more effectively, usually done by someone such as a job coach, a case manager, or a healthcare provider

Source: Costa-Black (2013, 432)

TABLE 2 PRINCIPLES OF BEST PRACTICE AND RELATED COMPONENTS OF RTW/SAW INTERVENTIONS FOR INDIVIDUALS

## WITH MENTAL HEALTH CONDITIONS

Organizational level	<p>Principle 1: Clear, detailed, and well-communicated organizational workplace mental health policy</p> <ul style="list-style-type: none"> <li>■ Promotion of a people-oriented organizational culture</li> <li>■ Recognition that workers have mental health needs and identification of the factors that impact worker mental health and well-being in the workplace</li> <li>■ Training supervisors on workplace mental health, which can improve awareness of the occupational implications of mental health conditions while presenting supervisors with opportunities for identifying and facilitating early intervention for mental health conditions</li> </ul>
Disability management practice level	<p>Principle 2: RTW coordination and structured, planned, close communication between workers, employers, unions, healthcare providers, and other disability management stakeholders</p> <ul style="list-style-type: none"> <li>■ RTW coordination and negotiation amongst stakeholders</li> <li>■ Structured and planned close communication between the worker, supervisor, healthcare provider(s), union representatives, and other disability management stakeholders. This includes in-person/telephone contacts and written information</li> </ul> <p>Principle 3: Application of systematic, structured and coordinated RTW practices</p> <ul style="list-style-type: none"> <li>■ Application of RTW practices that activate the worker and help keep the worker engaged in the RTW process</li> <li>■ The use of adapted implementation of established guidelines currently available for occupational physicians</li> <li>■ Check-ins at distinct times, to assess progress in the RTW process and the worker's needs</li> <li>■ RTW practices should be specific, goal-oriented, and most importantly maintain a focus on work function, workplace behaviour, and RTW outcomes</li> </ul> <p>Principle 4: Work accommodations are an integral part of the RTW process, and the context of their implementation determines their effectiveness</p> <ul style="list-style-type: none"> <li>■ Work accommodations as part of the RTW process are recommended, taking into account the circumstances of the worker and the workplace</li> <li>■ Work accommodations should include a sensible redistribution or reduction of work demands on the worker and his/her co-workers</li> <li>■ Making transitions to less stressful environments may be beneficial for workers who are unable to change or cope with the fast-paced, high-pressure nature of their working conditions</li> <li>■ Senior management support for work accommodation and co-workers support are essential</li> </ul>
Individual level	<p>Principle 5: Facilitation of access to evidence-based treatment reduces work absence</p> <ul style="list-style-type: none"> <li>■ The utilization of workplace-based and work-focused cognitive behavioural interventions</li> <li>■ The intervention needs to be symptom focused and delivered by mental health professionals</li> <li>■ For optimal results, cognitive behavioural therapy-based interventions should be combined with work accommodations and/or counselling about RTW</li> </ul>

Source: Costa-Black (2013, 436) based on Pomaki et al. (2012; 2010).

Arguably, these core components and evidence based best practices apply to workers with disabilities as they age, as well as workers ageing into disabilities. However, as briefly discussed above, the perception of what constitutes disability and the 'normal' experiences of ageing differ. Also, the relevant concept of age management is partly overlapping with but somewhat different from disability management. In a recent article, Van Dalen et. al. (2015) propose an empirically based taxonomy of the policies of European employers in relation to older workers:

- Accommodation practices comprise workplace measures that compensate for the possible fall in the physical and cognitive capacities that accompany the process of ageing. These can include reductions to working hours, decreases in workload, and preventing older workers from working overtime or irregular shifts.
- Development practices are those measures that aim to increase the productive capacity of older workers. These can include specific training measures and encouraging job mobility within the firm.
- Offering exit options for early retirement to enable older workers to retire from the labour force either fully or partially, by taking up some form of bridge employment.

Similarly, a study by Kooij et. al. (2014) that builds on literature about HR practices for ageing workers proposes the following taxonomy:

- Development HR practices: such as training and development on the job, which may help workers to reach higher levels of functioning (growth goal);
- Maintenance HR practices: such as job security and flexible work hours, which may help workers to maintain current levels of functioning in the face of new challenges (maintenance goal);
- Utilization HR practices: such as horizontal job movement, task enrichment, and participation in decision-making, which may help workers to recover to previous levels of functioning after a loss by removing job demands that have become unachievable for an employee from the job and by replacing them with other demands that utilize already existing, but not yet necessarily applied, individual resources (recovery goal)
- Accommodative HR practices: such as reduced workload and working part-time, which may help workers to function adequately at lower levels when maintenance and recovery are no longer possible by protecting or sparing them (regulation of loss goal).

In addition, Frerich et. al. (2012) in a review of organisational good practice examples, which promote recruitment and retention of older workers and/or the employability of workers as they age in eight European countries (Denmark, France, Germany, Italy, Netherlands, Poland, Sweden and the UK) propose 5 dimensions:

- training, lifelong learning and knowledge transfer – includes giving equal access to training, raising the learning motivation and abilities, and design of job to allow on the job training and knowledge transfer;
- career development and mobility management – includes prevention of long-lasting careers with heavy workloads and creating opportunities for job tasks that match the qualifications and experience of older workers;
- flexible working practices – includes working-time arrangements to bring about a better balance between caring for an older adult relative and working or arrangements catering for their greater fatigue;
- health protection and promotion and workplace design – includes behavioural and structural prevention measures aimed at preserving work ability, creating opportunities for the (re-)integration of health-incapacitated workers through less demanding jobs, systematic re-

integration management and/or qualifying workers in order to match their skills to the new workplace.

Furthermore, Boehm et. al.'s (2013) classification of fields of activities within age management consolidates the theoretical and empirical literature and includes dimensions of (1) recruiting, (2) training and lifelong learning; (3) career management and redeployment; (4) flexible working times and alternative work arrangements; (5) health management and workplace accommodations, (6) performance measurement and remuneration, transition to retirement; (and, finally, (7) integrated age management approaches.

While different classifications of age management practices have been proposed, based on the array of practices, the empirical evidence of its factual impact is more lacking. Cloostermans and her colleagues (Cloostermans et al. 2014) have to conclude in their systematic literature review (Randomised controlled trials (RCTs) and quasi-experimental intervention studies published between 1992 and 2014 were included; only four studies met the inclusion criteria) that there is insufficient evidence for workplace programmes<sup>3</sup> on work ability and productivity, due to a lack of high-quality studies and consistent findings.

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In sum, these evidence based conceptualisations of supporting employment and work ability at the workplace show that work accommodation (WA) has prominent role in inclusive labour market participation and stay at work and return to work practices, and workplace design, work equipment design, work organisation improve employment opportunities (see also (Oostrom, Boot 2013; Van Oostrom et al. 2009). Also, the key working mechanism of workplace interventions, including work accommodation is (1) the involvement of relevant stakeholders during the process and (2) the implementation of changes at the workplace and in the work organization (Oostrom and Boot 2013, 350).

## 1.2. Key accommodation practices

Occupational disability is diverse, therefore, enabling work accommodations vary considerably. The literature proposes different classifications of accommodations however, here our main considerations are those workplace accommodations for physical and mental impairments and old age.

### Work accommodations and disability

The typology proposed by Lysaght and Krupa (2014, 92), which is consistent with a social model of disability, focuses on terms of employment and working conditions rather than functional limitations. According to the authors, the following approaches to work accommodation could be differentiated:

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<sup>3</sup> That is physical and mental programme consisting of (un)supervised aerobic exercises, and counselling on life style behaviour; occupational health programme consisting of consultations and an assessment interview including an action plan as to adaptations, consultation with employee's supervisor and if needed referral to general practitioner or specialist; financial support, mainly paid for rehabilitation programmes and to a lesser extent for new technology and improvement of the physical environment; counselling and education programme aimed to enhance work ability and prevention of disability pension and comprised assessment interview, assessment of labour market capabilities, and could involve educational courses, counselling and coaching at the workplace.

- Physical changes to the workplace – e.g. modifications to entryways, stairways, handrails, elevator installation or modification; changes in lightning, temperature, noise etc.
- Job-specific modifications – e.g. workstation modification in height, configuration, flooring; ergonomic design of the equipment like chairs, computer access etc.; technical (lifting aids) or communications aids; provision of personal protective equipment (e.g. wrist supports, hearing protection); provision of cognitive or sensory supports (e.g. timers, personal organizers, text-to speech readers, hearing aids, visual aids)
- Changes to job requirements – e.g. changes to job descriptions, such as when and where the job duties are performed; changes in job responsibilities (including job rotation, task breaks, lifting restrictions); re-deployment to an alternative position; flexible work hours, break times; directed to improve task performance etc.
- Changes to policy – alterations to standard workplace rules e.g. being flexible in the interpretation of standard human resource policies around use of sickness absence, place of work, promotion etc.;
- Support outside the workplace – e.g. providing assistance with transportation to work; support for outside therapies; workplace rehabilitation.

Work accommodation practices for employees with mental impairments have also been developed and are also as diverse as the conditions and variations across employees. According to, arguably the most comprehensive review of the accommodation best practice by Schultz and her colleagues (2011), the following types of accommodation could be implemented:

- Modification of work duties and requirements – including modifications to a job description, changing the way that tasks are scheduled and exchanging tasks with others, eliminating or adding suitable tasks, gradual task introduction, minimizing changes to job descriptions over time;
- Job sharing to aid/ addresses limitations in cognition and stamina, while ensuring that job tasks are accomplished;
- Flexible scheduling – including modification of work time and working schedule, part time scheduling to accommodate work abilities, cognitive abilities;
- Modification of work environment, to reduce auditory and visual distractions and thus allow individuals with mental health disabilities to optimize concentration and work performance;
- Assistive technologies – i.e. any object or item that helps a person perform the job, e.g. computer software, organizers, recorders, and timers. Assistive devices can aid individuals with deficits in attention, memory, motor skills, and concentration.
- Natural supports/mentoring - the utilization of co-workers and supervisors as mentors/trainers may improve job retention and job satisfaction for employees with mental health disabilities.

- Behavioural feedback intervention – e.g. regular meetings to provide feedback and reinforcement of work performance as well as to problem-solve around work and performance issues.

### Ageing and work design

Work accommodation for older people is also discussed in the literature, albeit somewhat differently from work accommodations for disabled people. Instead of work accommodation, concepts like work design and job crafting are more often used. Sharit and Czaja (2012, 454) conceptualise work design for older people as matching the demands of the job with the cognitive, sensory and motor capabilities and health of older workers and preventing adverse health and performance outcomes. It is acknowledged in the literature that job characteristics are dynamic, and workers and employers engage in negotiation and interaction to fit requirements with abilities over life course and ageing (Kooij, Tims, and Kanfer 2015).

Different dimensions of work design or re-design include changes to accommodate work and work environment with abilities, limitations and the needs of older people. A recent literature review by Sharit and Czaja (2012) outlines the following key dimensions:

- Work design to commensurate motor capabilities, i.e. designing tools, environment to support motor issues. E.g. designing physical work task lighter or ergonomically suitable, avoiding fatigue causing postures, awkward or static postures, (e.g. avoiding risks in sedentary work), making available appropriate tools, avoiding physical stress during the lifting and carrying tasks, design job schedule and work time to work time to minimize time and pace pressures, monotonous repetitive components of work, accommodate work place, including telework, homework.
- Work design to support visual and auditory information processing. E.g. ensuring adequate contrast, lightning displaying information and displays, avoiding glare; improving auditory information processing through avoiding background noise of both speech and auditory signals (e.g. emergency alarms), supporting auditory signals with visual or vibrant cues; choosing less noisy/sound producing tools, equipment, sound shields/sound absorbing walls, hearing aids.
- Work design to commensurate cognitive capabilities, i.e. although the physical demands of work are declining due to automation etc., infusion of information processing technology and mental work places greater demand on cognitive abilities, i.e. speed of processing, working memory, perceptual abilities, which could decline while ageing. This demands designing suitable interfaces, providing decision aid in cognitively taxing tasks, e. g. training to focus on more appropriate cues, information where information is vast and changing, easily accessible decision tables that facilitates identification and selection of appropriate rules to reduce working memory load; supporting continuously learning new technologies.

In an earlier literature review, Hedge et al (2006, 134–35) proposed the following key categories of job design:

- Physical redesign - ergonomic workplace design to reduce the potential for strain and injury, e.g. custom workstation design to match older employees' body structures and motor and sensory capabilities;

- Sensory redesign to compensate for losses of sensory skills, e.g. sound amplification, better lighting, larger screens and print, discriminated colours;
- Information processing redesign to support internal representation of information, including providing decision-making aids such as flowcharts, written procedures, lists, menus for action; use of computers to handle routine information processing so that older employees' cognitive resources can be freed to bring more knowledge and experience to task (avoiding information overload)
- Workflow and pace redesign to avoid fatigue that could be caused by work pace or unable to control the pace, advocated rest periods between demanding tasks, etc.

As previously mentioned, the job crafting concept is also used to stress designing work in active participation with older people, to change the environment to achieve a better fit (Kooij, Tims, and Kanfer 2015, 147). Based on the literature review, authors suggest different forms of job crafting, including (Ibid 148):

- Task crafting - altering the type, number, content or scope of tasks, including expanding the job to include additional tasks, tailoring and customizing tasks, crafting reduced workload or challenging job demand, increasing challenging job demands or decreasing hindering job demands;
- Relational crafting - altering the range, number or nature of interactions with others, including Increasing social job resources, decreasing social job demands or increasing social job resources
- Cognitive crafting: altering the view of the job, changing the way employees perceive the tasks and relationships that make up their jobs.

In their classification, also, (1) accommodative job crafting (e.g. decreasing hindering and social job demands, crafting reduced workload, increasing social job resources, (2) developmental job crafting (expanding job to include additional tasks, increasing challenging and quantitative job demands, increasing structural and social job resources) could be distinguished (Kooij, Tims, and Kanfer 2015, 153).

In addition, another concept – bridge employment – is often used to describe the adjustment process as coping mechanism to adapt to ageing and transition to retirement (Zhan and Wang 2015). Based on the literature review, the authors (Ibid, 209-214) identify four key dimensions of bridge employment: (1) changing field of work, changing work tasks, work content; (2) decreasing the intensity at one's current employer or changing employers, including moving on to self-employment, to change the work environment; (3) decreasing work hours to gradually exit the labour force.

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In addition to typologies and descriptions in the literature, different guidelines and resource depositories have been compiled to share accommodation best practice. Arguably, the most comprehensive databases are the following:

- Job Accommodation Network (USA)
- ...



However, as will be discussed later in more detail, although in the literature and practical guides the large amount of accommodations are proposed, only a few accommodation practices are supported by research, that is modified work duties, flexible scheduling, modified work environment, assistive technologies (Kwan and Schultz 2016, 278).

### 1.3. Work Accommodation as employment relations process

Changing terms of employment and working conditions presumes social interaction at the workplace between employee and employer taking into account intra and extra organizational contingencies. It is worth acknowledging that this process could cover both possibility that (1) people self-select themselves into workplaces where they can self-accommodate their needs and (2) negotiate suitable conditions in their workplace (Hogan et al. 2012a). Also the process involves both (1) employee initiated accommodation and (2) organisation initiated accommodation (Cleveland, Barnes-Farrell, and Ratz 1997). It has been argued that the work accommodation process begins by recognizing that employees have needs, interests, values that must be met by their jobs in order for them to choose to remain employed and adapt to changes in the workplace, and a job has knowledge, skill, and ability requirements that must be met by the employee in order for an employer to choose to retain the employee (E. Yeatts, W. Edward Folts, James Knapp 1999). This point to potential differences in interest between employees that have suitable work and employers that design the work suitable.

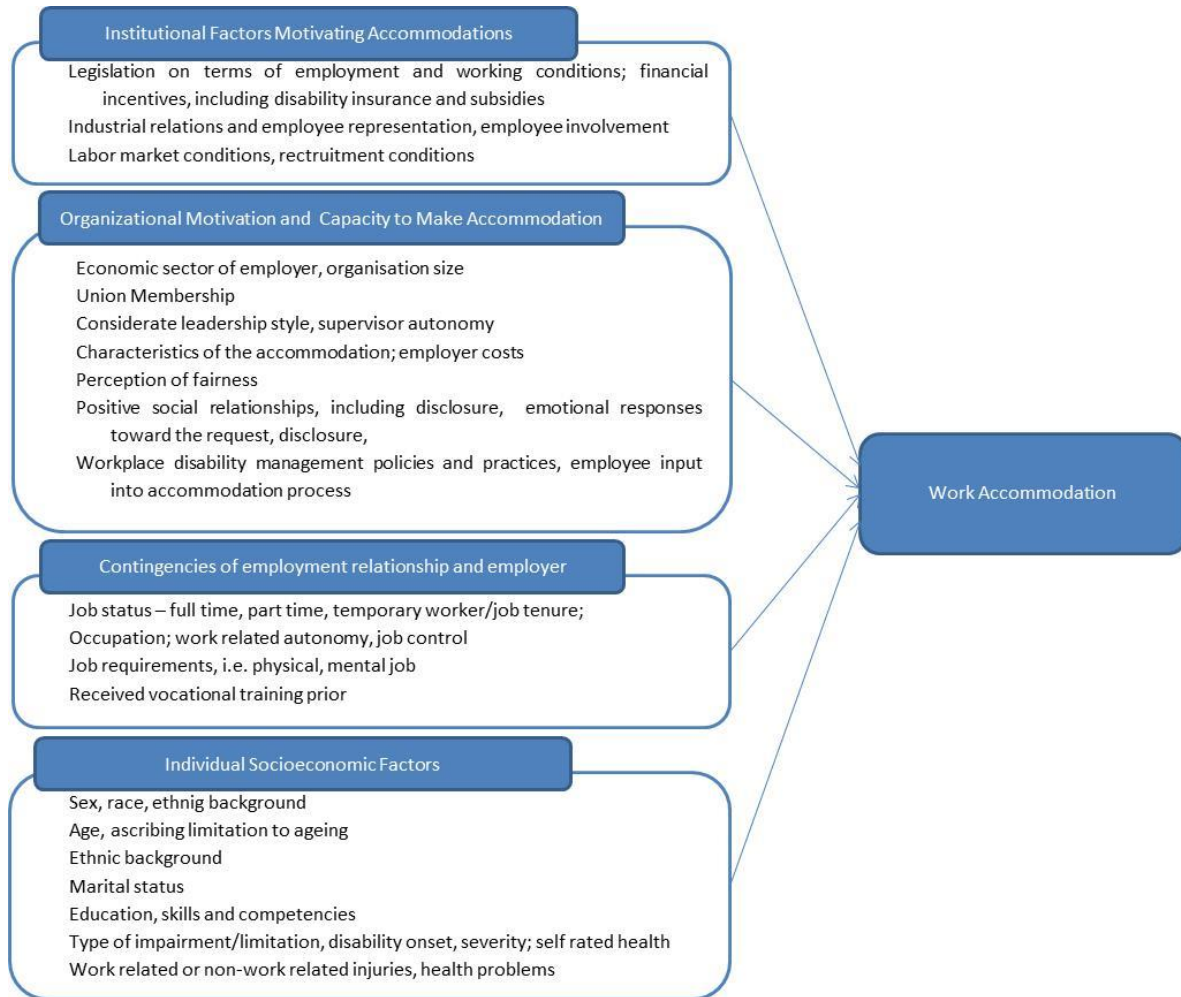
#### Factors

Rather little is factually known about the factors associated with the demand and supply for work accommodation in Europe. The available cumulative knowledge could not be used to quantitatively estimate demand and supply of work accommodation, but could be used to outline factors that could predict and explain access to work accommodation<sup>4</sup>. In the following figure (Figure 3), the conceptual model of predictors of receipt of accommodations at work is outlined based on the literature review (see also Table 3 Factors of work accommodation).

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<sup>4</sup> Arguably, this is due the fact that there has been lack of comparative dataset on work accommodation.

FIGURE 3 FACTORS OF WORK ACCOMMODATION



Source: Authors' compilation based on the literature review – see Table 3 Factors of work accommodation

TABLE 3 FACTORS OF WORK ACCOMMODATION

Reference	Method	Results
(Chow and Cichocki 2015)	Psychiatric disabilities; Longitudinal data, logistic regression analysis	It is found that individuals with psychiatric disabilities those who disclosed their disability to their employers, who were more severely disabled, and who had positive social relationships were more likely to request accommodations.
(Whitney et al. 2016)	Cancer survivors; Panel survey, logistic regression analysis	Predictors of long-term work modifications included self-rated health, being married, uninsured or publicly insured.
(Kristman et al. 2016)	Workplace supervisors of Low Back Injured Workers; cross sectional survey; Multivariable linear regression	Factors predicting supervisors' likelihood to accommodate low back injured workers include use of considerate leadership style, workplace disability management policies and practices, and supervisor autonomy.
(McGuire et al. 2016)	Workplace supervisors of Low Back Injured Workers cross-sectional study of supervisors. A multivariable generalized linear modelling	Disability management policies and practices were positively associated with supervisors' likeliness to accommodate while no significant association was found between corporate safety culture and supervisors' likeliness to accommodate.
(Bronchetti and McInerney 2015)	Work Injured workers; measures of state-level employer worker compensation costs merged	It is found that employer costs for workers compensation significantly affect accommodation, but the magnitude of this relationship is very small. It is find an injured worker is more likely to be accommodated if

	with state-level data on workplace injuries, and individual-level samples of injured workers; the regression models	he is employed by a larger firm or works in the manufacturing or retail industry. Workers with musculoskeletal injuries, fractures, dislocations, or sprains/strains are also more likely to be accommodated on the job. The only worker trait that seems to matter is age: the likelihood of accommodation is significantly lower for older workers.
(Corbière et al. 2014)	124 people with a severe mental disorder; follow-up answered the Work Accommodation and Natural Support Scale, correlation analysis	Correlation results showed that disclosure was significantly related to the number of work accommodations and natural supports available in the workplace.
(Boot et al. 2013)	The Netherlands; Dutch employees with a chronic disease; Netherlands Working Conditions Cohort Study; A repeated measures ANOVA	The need for work adjustments is higher than the implementation of work adjustments. The prevalence of implemented work adjustments differed between chronic disorders from 14 % (diabetes) to 30 % (musculoskeletal disorders). The type of work adjustments in the present study was in line with the characteristics of the diseases; employees with mental disorders more often reported adjustments in working times and those with musculoskeletal disorders reported adjustments in tools or furniture more often. In contrast with other studies, the group with mental disorders reported the highest prevalence of implemented work adjustments.
(Leijten et al. 2013)	Qualitative study; twenty-six semi-structured telephone interviews were conducted with older employees	Whether and which adjustments occurred was influenced by factors in various domains, such as: visibility of the problem (health), autonomy (work-related), support (relational), and the ability to ask for help (personal).
(Carpenter and Paetzold 2013)	Two-hundred-forty individuals participated in a vignette-based experiment (USA) in which aspects of the requestor's disability and the accommodation request were manipulated.	The results showed that intentions to grant an accommodation were predicted by a number of factors, including emotional responses toward the requestor, characteristics of the impairment causing the disability, characteristics of the accommodation, and perceptions of fairness.
(Hogan et al. 2012b)	Cross-sectional survey (Australia). Backward logistic regression was employed to identify which factors uniquely contribute to employment outcomes for people with disability	Overall, when people with disabilities both in and out of the labour force reporting employment restrictions are included, only 12% were provided workplace accommodations by their employer. If the analysis is restricted to people with disability with employment restrictions who are in the labour force, the proportion provided with workplace accommodations was 27%. Respondents who were male, from an English speaking country, with a higher level of education were also more likely to be in the labour force than respondents who were female, migrants from non-English speaking countries and respondents with a lower level of education. Those respondents needing employer-provided training had lower odds of being in the labour force. In contrast, those who were provided with a special support person at work were more likely to be in the labour force compared to those who did not receive or need such assistance.
(Solovieva, Dowler, and Walls 2011)	The study (USA) used responses to online survey from 194 employers to discuss disability-related accommodations for an employee or potential employee. The survey included 128 employers who reported having had a person with a disability who requested an accommodation.	As reported by the employers, the most frequently mentioned direct benefits from implementing workplace accommodations were (a) retained a qualified employee, (b) increased worker productivity, and (c) eliminated the cost of training a new employee. The most frequently mentioned indirect benefits from accommodations were (a) improved interactions with co-workers, (b) increased overall company morale, and (c) increased overall company productivity.
(De Rijk, Nijhuis, and	13 month prospective cohort	Work modifications occurred in 77.4% of the return-to-work

(Alexanderson 2009)	study (The Netherlands) was performed among 119 employees (54 women and 65 men) who had reported sick for more than 1 month due to mental or musculoskeletal disorders. Gender differences were computed with Chi2-tests.	attempts (no gender differences); Work modifications were widely applied during the return-to-work process and predominantly aimed at reduction of pressure at work. A significant gender difference in the application of these two work modifications was demonstrated for those who returned to work during the first 3 months after sickness absence. Contrary to our hypothesis, these modifications were used more often for women than for men. No other gender differences in work modifications were found.
(Deborah B. Balsler and Harris 2008)	The gorr-sectional sample consisted of 333 employees who had requested and received a disability accommodation. Hierarchical regression analysis was used to test the predictors of satisfaction with accommodations	As hypothesized, employees whose input was sought by the organization and employees who received the requested accommodation were significantly more satisfied with their disability accommodation; employee race/ethnicity was indirectly related to employee satisfaction with disability accommodation. Contrary to our model, employee gender was not related to employee satisfaction with disability accommodation.
(Paetzold et al. 2008)	Data from 134 undergraduate students (USA), the experiment	Data from 134 undergraduate students indicated that granting an accommodation was seen as less fair than not granting it, that having a person with a disability excel in performance was seen as less fair than when the person did not excel, and that fairness perceptions were lowest when the person with a disability received an accommodation and excelled in performance
(D. B. Balsler 2007)	Cross sectional survey (USA), regression analysis	Overall, the results show that different factors predicted receipt of different types of accommodations. Furthermore, factors that facilitate or constrain an employer's capacity to make particular accommodations were more powerful predictors than an individual's need for accommodation or socioeconomic status.  Full-time, permanent employees were significantly more likely to receive accommodations involving physical alterations of building and/or equipment; Union membership had no relationship to scheduling flexibility. However, employees who were union members were 95% less likely to receive accommodations involving work at home; Employees in the non-profit sector were 58% less likely to receive accommodations in the form of physical alterations; public sector employees were less likely to receive accommodations in the form of work at home because they were more likely to be union members. Employee input was hypothesized to predict receipt of those accommodations for which there is greater uncertainty and when they can be configured in varied ways; that was partially supported.  Although a few of the socioeconomic variables were significant in predicting various types of accommodations, no consistent pattern emerged that indicates a central role of individual status characteristics in receiving accommodations.
(Campolieti 2004)	Cross sectional survey (Canada), regression model.	The most important findings of this article suggest that workers who received vocational training prior to their accident and returned to work with the time-of-accident employer are more likely to receive an accommodation.
(Gignac, Cao, and McAlpine 2015)	Participants (n = 219) were employed, ages ≥25 years, and diagnosed with osteoarthritis (OA) and inflammatory arthritis (IA); Regression analyses	Greater job control and education were associated with greater perceived need and use of benefits/accommodations. Need was also associated with greater activity limitations, and disclosure of arthritis was related to use of benefits/accommodations.
(Shaw et al. 2014)	Supervisors (N = 804) were recruited from 19 employment settings in the USA and Canada; musculoskeletal conditions; structural equation	Job accommodations were less feasible for more physical jobs and for heavier industries.

	modelling	
(L. Schur et al. 2014)	More than 5,000 employee and manager surveys, and interviews and focus groups with 128 managers and employees with disabilities; USA	It is found find people with disabilities are more likely than those without disabilities to request accommodations, but the types of accommodations requested and the reported costs and benefits are similar for disability and non-disability accommodations.
(D.C. Baldrige and Swift 2013)	Survey data from 279 people with hearing impairments, USA,	Older employees withheld requests less frequently; however, there was no main effect of gender. Moreover, the strength of the relationship between age and request withholding frequency was significantly weaker when the disability was more severe and when the age of disability onset was earlier. Similarly, disability severity influenced the strength of the relationship between gender and request withholding frequency, though the age of disability onset did not.
(Franche et al. 2009)	In 401 claimants with musculoskeletal injuries, two logistic regressions identified individual and workplace factors associated with work accommodation offer and acceptance	Unionized status, strong disability management policies and practices, low supervisor support, and pink collar occupation were associated with work accommodation offer. Job tenure over 1 year and lighter physical work were associated with acceptance. Younger age and more repetitive physical work demands were positively associated with both outcomes. Pink-collar status was positively associated with offers, but negatively with acceptance. Gender, mental health, pain, job satisfaction, firm size, people-oriented culture, safety climate, and ergonomic practices were not significant predictors.
(McMullin and Shuey 2006)	Data from the Canadian 2001 Participation and Activity Limitation Survey, logistic regressions	The findings suggest that, even when other factors are controlled, e.g. the type and severity of disability, the number of limiting conditions, gender, age, education, income and occupation, those who made the ageing attribution were less likely to recognise the need for an accommodation; and among those who acknowledged a need, those who ascribed their disability to ageing were less likely to have their needs met.
(Van Dalen, Henkens, and Wang 2015)	European data (cross sectional sample of 3,638 organizations in 6 European countries (Denmark, Germany, Italy, The Netherlands, Poland, and Sweden); structural equation model	They may sort older workers either upwards (e.g., by encouraging career development and training) or outwards (by promoting early retirement). The same division can be detected when examining the effects of labor union involvement and seniority-based wages. When recruitment problems are encountered, more effort is directed toward accommodation and investment
(Burkhauser, Schmeiser, and Weathers II 2011)	USA, regression model; data come from three cohorts of men and women who participated in the HRS	the authors find that prior to the implementation of the ADA, employers were more likely to accommodate workers if their disability onset was work-related and hence likely to be covered by Workers' Compensation laws. State anti-discrimination laws significantly increased accommodations to workers whose disabilities were not work-related, effectively bringing their accommodation rates in line with workers whose disabilities were.

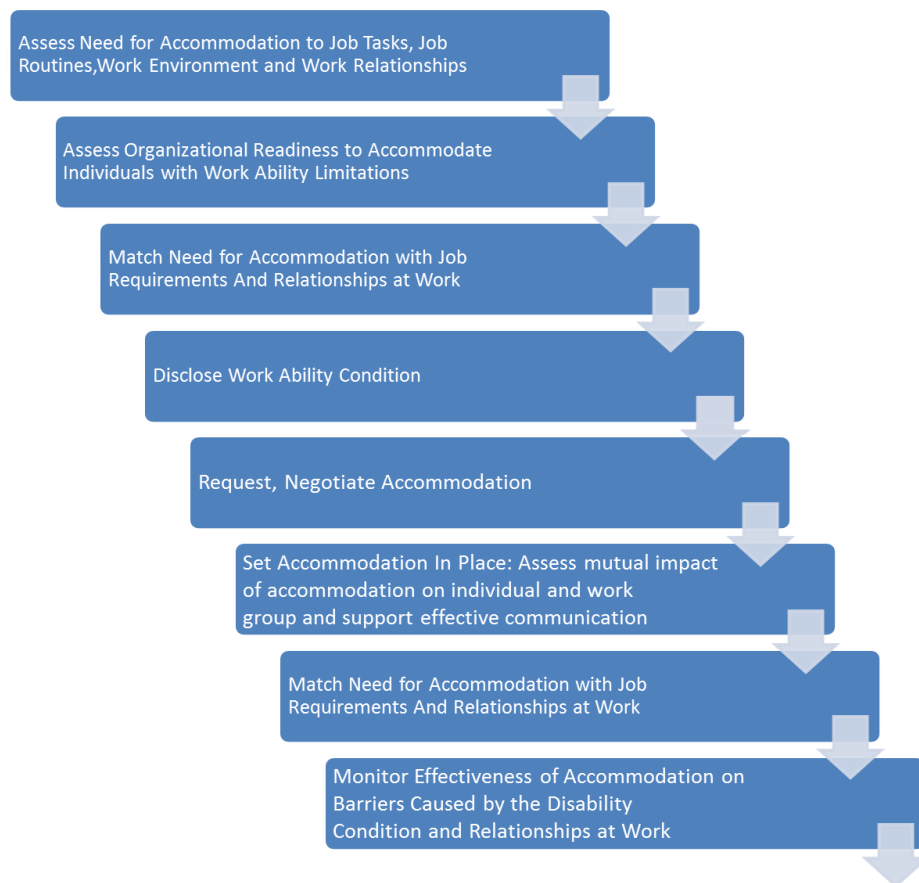
Source: Authors' compilation based on the references

## Models

In the literature, different process models of work accommodation have been proposed, however these models have yet to be empirically validated (Kwan and Schultz 2016, 274). Cleveland and her colleagues (1997) outline four factors of the framework: (1) rationale for the accommodation – legal mandate, social or moral obligation, business consideration, (2) the nature of the accommodation, (3) whether the accommodation is organizational, employee or jointly initiated, and (4) the characteristics (or impairment) of the person being accommodated.

Gates and Akabas (2011, 379) outline different steps of work accommodation for employees with mental disabilities as a social process. They suggest that accommodation requests and implementation are a negotiated process requiring a balance of worker, employer, and workplace needs. In the figure below, their model is generalised to all employees with need for work accommodation.

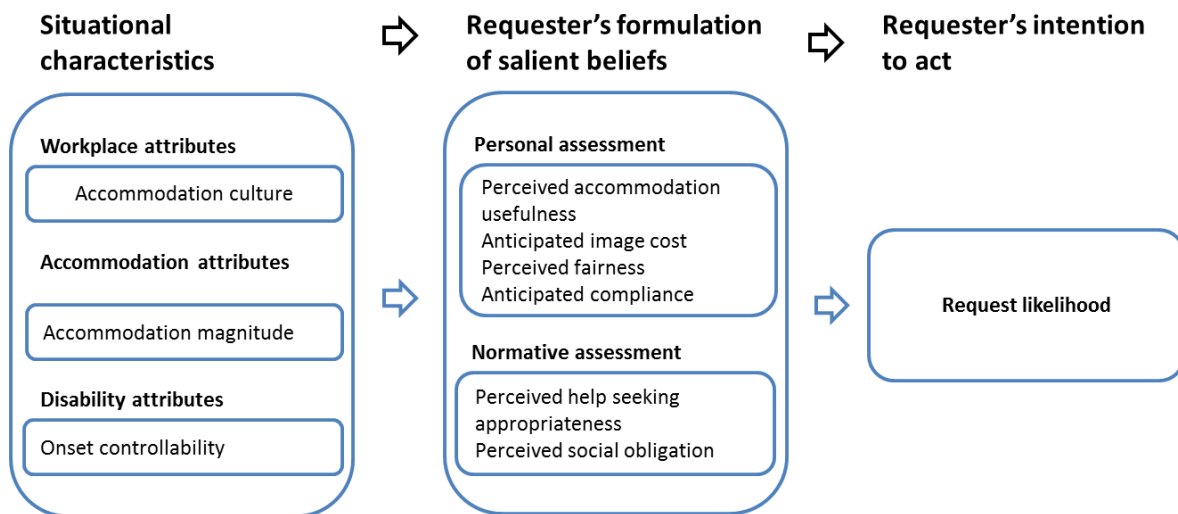
FIGURE 4 ACCOMMODATION AS SOCIAL PROCESS



Source: (Gates and Akabas 2011, 379), authors' adaptation

As already indicated, workers decision making process of whether request WA depends of factors beyond the perception of how useful the accommodation might be (David C. Baldrige and Veiga 2001). Authors outline that this process begins with situational characteristics, which influence the requester's formulation of salient beliefs about the behaviour or action being contemplated, that in consequently determine the strength of an intention to act.

FIGURE 5 AN ACCOMMODATION REQUEST LIKELIHOOD FRAMEWORK



Source: (David C. Baldrige and Veiga 2001, 87).

The requesting and negotiating accommodations might presume disability disclosure. That is disability self-identification for employer as sometimes the disability (especially in case of mental disability) is latent or the actual ability need informed discussion that parties understand alike. The disclosure, on the one hand, can assure that employees receive appropriate support, including workplace accommodations and thus increase the employment opportunities of individuals with disabilities; on the other hand, disclosure may also result in negative consequences, including termination of the contract, lower supervisor expectations, isolation from co-workers etc. (see for instance von Schrader, Malzer, and Bruyère 2014; Elaine Brohan et al. 2012; Jones 2011; Toth and Dewa 2014)). According to the model proposed by MacDonald-Wilson et al (2011), the decision making process of disclosure includes deliberating (1) why an individual may disclose, (2) who discloses and (3) to whom, (4) what to say, and (5) when to say it, as well as the results of disclosing. Based on cognitive and social decision making process, also different decision aids to assist decisions on disclosure of disability to an employer have been proposed<sup>5</sup> (see for instance (E. Brohan et al. 2014; Henderson et al. 2012; MacDonald-Wilson et al. 2011)).

Similarly, how employers conceptualize work accommodation, including the process of identification, provision and implementation of accommodations is crucial. Stergiou-Kita et al's (2015) thematic analysis point to five themes: i) employers' beliefs related to returning injured workers to work; ii) employers' conceptualizations of accommodations and the types of accommodations provided; iii) knowledge and process elements relevant to the provision and implementation of workplace accommodations; iv) challenges to the accommodation process; and v) supports that employers draw upon to facilitate the identification and provision of accommodations. Decision-making whether to accommodate work, involves also taking into account a variety of factors. Based on a review of literature on workplace accommodation, Lysaght and Krupa argue (2014, 94) that a range of individual organisational, social and policy factors come together and influence an employer's attitudinal and intentional disposition to accommodate. In the following figure, these factors are outlined.

<sup>5</sup> I.e. Disclosure planning that helps individuals think through when to disclose, how to disclose, to whom to disclose, and what information to share

FIGURE 6. FACTORS THAT CONTRIBUTE TO ACCOMMODATION IN THE WORKPLACE

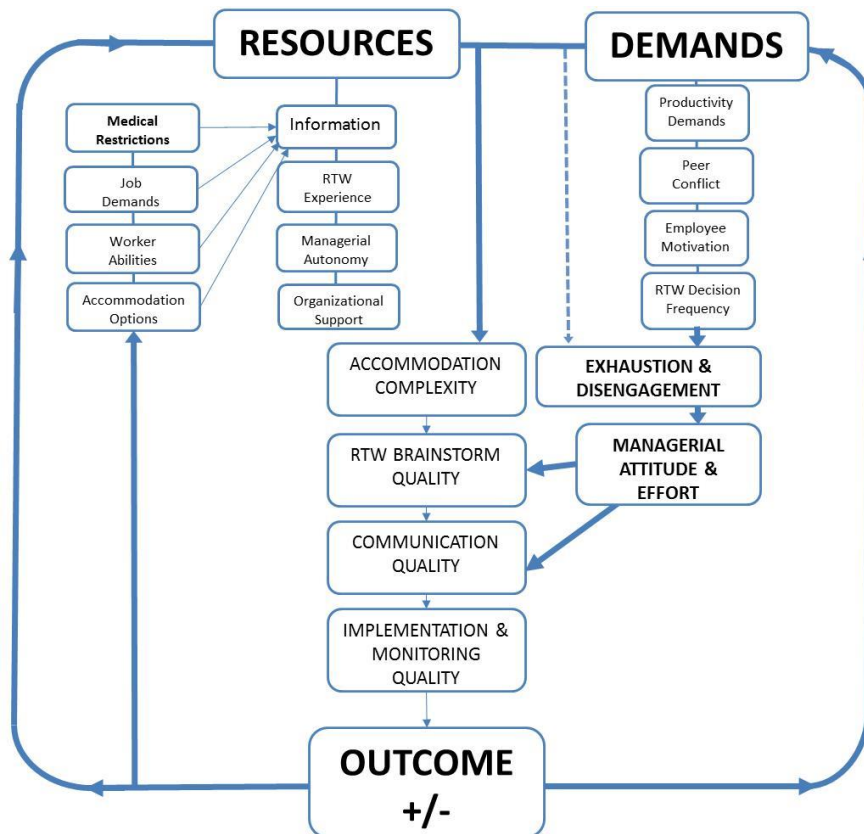


Source: (Lysaght and Krupa 2014, 95)

Another model is proposed by Williams-Whitt et al. (2016) based on qualitative interviews with supervisors focusing on decisions about resources necessary for accommodation planning and the impact accommodation demands may have on organisations and return to work practices.



FIGURE 7 MODEL OF SUPERVISOR ACCOMMODATION DECISIONMAKING



Source: (Kelly Williams-Whitt et al. 2016)

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Studies have also indicated that employers and employees might have different preferences regarding work accommodation. In an analysis of a comparison of employer and employee perspectives of work accommodation in the USA, Gold et al. (2012) found that, on the one hand, parties perceptions about negotiating reasonable workplace accommodations converged in several ways (e.g. presenting credible requests to improve employee job performance), on the other hand, they also differed sharply on their expectations of each other (e.g. costs versus moral obligations to provide accommodations). Significantly, employers emphasized the expectation that employees shall be clear how their disability would impair their work performance and demonstrate how accommodation would serve both parties interests. Employers and employees both agree that mutual trust and negotiation are required for building the confidence that parties fulfil their “ends of the bargain”. Finally, however, while employers elevate profit over the inevitable fiscal and opportunity costs necessary for implementing accommodations, employees elevate the moral obligation employers have to provide accommodations their jobs. In addition, an analysis of the perspectives of different actors in the accommodation process by Dong et al (2013) found that, overall, the results reveal that different stakeholder groups share common perspectives on the majority of items surveyed, however, employees placed more emphasis than employers on organizational and employer characteristics, types of accommodations, and their skill in requesting them. Also, employers who were less likely to provide accommodations thought that the extent to which accommodations are matched to job requirements and the role of the individual handling the request as more important than those of employers more likely to provide them, although both groups rated these items as highly important.

Similarly, employees who were less likely to request accommodations rated the extent to which accommodations match job requirements and ease of use of accommodations as very important.

In sum, the discussion on work accommodation as an employment relations process has indicated that making decisions about requesting and providing work accommodations is a social process that depends on multiple factors. In the section after the next section, we will look at possible interventions to change the workplace practices in the decision-making process, but in the next section we look into possible outcomes

## 1.4. Evidence on outcomes

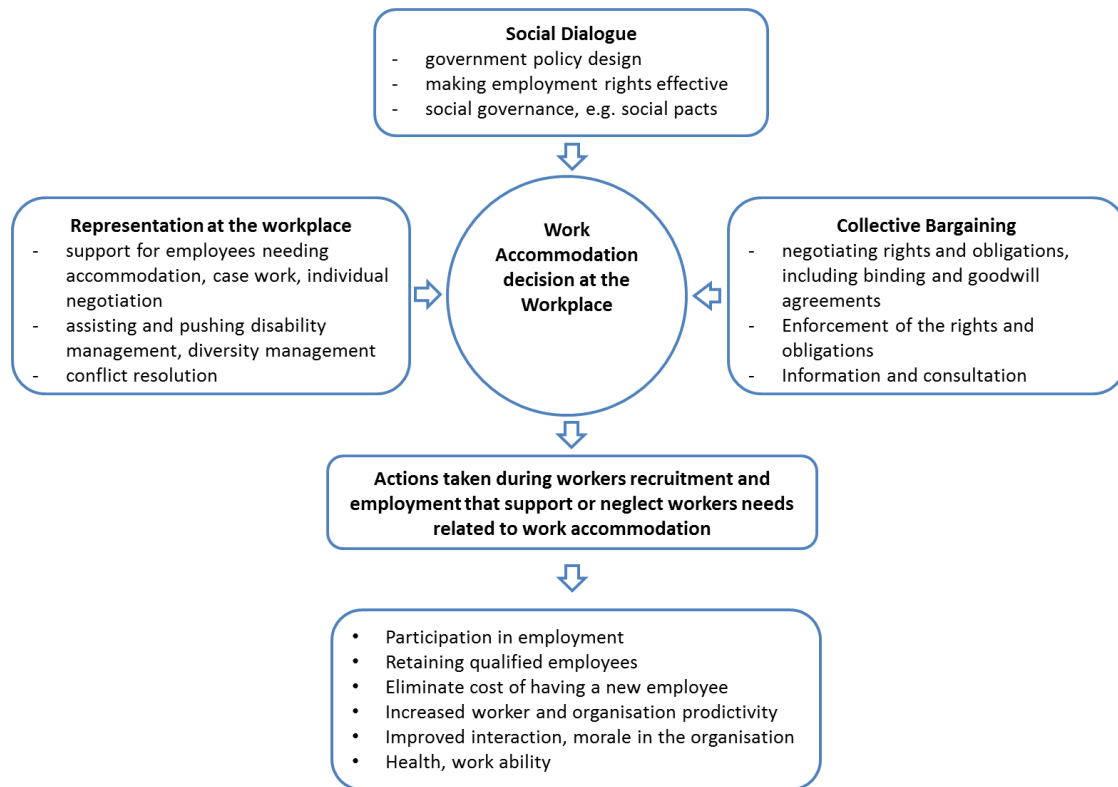
In theory, the WA could have many positive implications for both employees and employers, including improving work ability and health conditions, increasing employment and labour market participation, and improved organisational performance. Based on the self-evaluation and correlational research number of feasible outcomes could be outlined. Schur et al. (2014) find (USA, cross-sectional case studies of eight companies, based on more than 5,000 employee and manager surveys) that employees in units where a higher proportion of accommodation requests are granted have higher perceptions of organizational support, satisfaction, commitment, and lower turnover intentions.

Furthermore, according to the survey (USA, cross-sectional survey of 128 employers who reported having had a person with a disability who requested an accommodation) by Solovieva, Dowler and Walls (2011), the most frequently mentioned direct benefits from implementing workplace accommodations as: were (a) retained a qualified employee, (b) increased worker productivity, and (c) eliminated the cost of training a new employee. The most frequently mentioned indirect benefits of from accommodations were: (a) improved interactions with co-workers, (b) increased overall company morale, and (c) increased overall company productivity.

In another survey, Solovieva and Walls (2013) found that employers identified the following possible implications: (a) retained a qualified employee, (b) increased the overall company's productivity as well as employee's productivity, (c) eliminated cost of having a new employee, (d) increased overall company morale, and (e) increased the accommodated employee's attendance (USA, cross sectional study, data from these 1,293 interviews). In an earlier study, Hartnett et al. (2011) find (USA, cross sectional survey of employers taking up support by the Job Accommodation Network (JAN)) report that benefits derived by employer could include (1) the ability to retain quality employees, (2) increased company profitability, (3) an avoidance of costs associated with hiring and training a new employee; (4) improve organizational culture and climate, (5) fostering a sense among all employees that employers recognize both the value of the individual worker as a human being, and (6) the inherent social benefits of creating and sustaining an inclusive workplace.

In sum, such evidence provides clear business reasons for providing appropriate workplace accommodations.

FIGURE 8 POSSIBLE OUTCOMES OF WORK ACCOMMODATION



Source: Authors' compilation based on the literature review in this section; Lysaght and Krupa 2014, 95

As we have shown, a number of theoretically plausible positive outcomes of work accommodation are possible, which have been partly validated by stakeholder’s self-evaluations. However, quantitative impact analyses of the effectiveness of work accommodation (WA) interventions are at an early stage. There are, for example, few experimental studies that comparatively analyse different WA practices and effectiveness across different types of disabilities and different WA practices, despite much being published in the field (see for instance (Van Oostrom et al. 2009). Existing studies do, however, indicate that there is some consensus and the evidence does support the utility of work accommodations. The consensus suggests that WA promotes employment and reduces costs (Nevala et al. 2015; McDowell and Fossey 2014; Schultz, Winter, and Wald 2011) (see also the following table where the results from the very recent systematic reviews<sup>6</sup> are presented).

TABLE 4 THE RECENT SYSTEMATIC LITERATURE REVIEWS OF WORK ACCOMMODATION EFFECTIVENESS, EFFICIENCY AND BARRIERS

Reference	Methodology	Results
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<sup>6</sup> Systematic literature review – is ...

(Nevala et al. 2015)	<p>Authors reviewed systematically current scientific evidence about effectiveness of WA among disabled persons. The outcomes were employment, work ability, and cost-benefit. Qualitative studies of employment facilitators and barriers were also included. <b><u>The population comprised people with physical disability, visual impairment, hearing impairment, cognitive disability, or mental disability, aged 18–68 years.</u></b> CINAHL, the Cochrane Library, Embase, Medic, OTseeker, PEDro, PsycInfo, PubMed, Scopus, and Web of Science were searched for peer-reviewed articles published in English from January 1990 to November 2012.</p> <p>Three quantitative (one randomized controlled, one concurrently controlled, and one cohort) and eight qualitative studies met the inclusion criteria.</p>	<p>There was moderate evidence that specific types of WA (vocational counselling and guidance, education and self-advocacy, help of others, changes in work schedules, work organization, and special transportation) promote employment among physically disabled persons and reduce costs. There was low evidence that WA (liaison, education, work aids, and work techniques) coordinated by case managers, increases return to work and is cost-effective when compared with the usual care of persons with physical and cognitive disabilities.</p>
(McDowell and Fossey 2014)	<p>This scoping review aims to investigate the types of workplace accommodations provided for people <b><u>with mental impairments:</u></b> their costs and benefits.</p> <p>A literature search was conducted using five electronic databases - CINAHL, PsycINFO, MEDLINE, EMBASE and Cochrane Library. Peer reviewed research articles published between 1993 and June 2013 were included in this scoping review and their quality was assessed. Opinion papers, reports, and case descriptions were excluded. The methodological quality of eligible articles was assessed using McMaster Critical Review forms. Nine studies explored workplace accommodations for people with mental illness.</p>	<p>The most commonly reported work-related accommodations were flexible scheduling/reduced hours, modified training and supervision, and modified job duties/descriptions. The least common type of accommodation was physical modification to the workplace. For employees with persistent mental illness who were accessing a supported employment agency, the majority of accommodations related to support from the job coach or employment specialist, such as facilitating communication with the employer during hiring or on the job. The quality of the studies varied considerably and the benefits of the accommodations are not yet well documented. There is limited evidence that a larger number of workplace accommodations are associated with longer job tenure.</p>

(Schultz, Winter, and Wald 2011)	<p>The authors focus on the evidentiary support for best practices in job accommodation <b>in mental health</b>. The criteria for the literature review focuses on identification of functional limitations and required work accommodations, and job accommodations and other strategies to enhance employment and maintenance of employment. The authors review, searching for articles published within the last 10 years/ The following databases were searched: PsycINFO, MEDLINE, PAL-MED, REHABDATA/NARIC, Academic Search Premier, EBSCO, and EMBASE. In addition, seminal journals and reference lists of relevant studies were hand-searched. A final list of 58 articles met the criteria for inclusion in the systematic review.</p>	<p>The authors conclude that quantitative research on the efficacy and effectiveness of job accommodation interventions is in its early stages. Still, the existing studies do support the utility of job accommodations to enhance employment and maintenance of employment involving the following categories: (1) flexibility in job design and execution: job description modification, flexibility in scheduling, part-time work, and job sharing; (2) changes to work environment; (3) utilization of compensatory technical aids; and (4) interpersonal supports, including utilization of natural peer supports and feedback-giving by the supervisor.</p>
(K. Williams-Whitt et al. 2015)	<p>Databases and grey literature were searched for systematic reviews between 2000 and 2012: Medline, EMBASE, the Cochrane Database of Systematic Reviews, DARE, CINAHL, PsycINFO, TRIP, health-evidence.ca, Rehab+, National Rehabilitation Information Center (NARIC), and Institute for Work and Health. 11 articles finally met the inclusion criteria and are summarized in this synthesis.</p>	<p>The best level of evidence they found indicates that multimodal job demand reductions for either at-work or off-work workers will reduce disability-related absenteeism. In general, the impacts of interventions that aim to reduce job demands or increase job control can be positive for the organization in terms of reducing absenteeism, increasing productivity and cost-effectiveness.</p>

(Dowler, Solovieva, and Walls 2011)	The studies in this review were obtained by searching electronic bibliographic services (e.g., EbscoHost, Academic Search Complete, Google Scholar) for peer-reviewed articles in English. There were 9 studies with quantitative or qualitative results and that focused on the use of PAS in the workplace; each of these 9 articles is included here.	Use of workplace personal assistants can lead to successful employment of people with disabilities. This literature review revealed the value of effective workplace PAS despite problems such as (1) locating, hiring, and maintaining a personal assistant, (2) employer concerns including personal care-related as opposed to work-related PAS and liability issues, and (3) paying for PAS.
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*Source: Authors' compilation based on the literature referenced in the table*

Without saying, the effect varies across evaluations due to both substantive and methodological reasons. Nevertheless, in one recent US longitudinal generalized linear modelling study, Chow et al. (2014) found that individuals with psychiatric disabilities who reported job accommodations on average worked 7.68 more hours per month and those who reported receiving accommodations worked 31% longer, with each job accommodation reported to decrease the risk of job termination by nearly 13%.

In terms of the business case for making reasonable accommodations, some further discussion of their cost will be of interest to employers. The evidence presented here suggests that there are cost benefits associated with work accommodations. For example, in their scoping review, McDowell and Fossey (2014, 200) examine four cases of work accommodations for people with mental impairments and found that the majority of accommodations have no direct costs. However indirect costs were not measured in any of these studies. Furthermore, Carroll et al (2009) found in their systematic review of controlled intervention studies and economic evaluations of interventions helping employees on sick leave return to work, that interventions involving employees, health practitioners and employers working together, to implement work modifications for the absentee, were more consistently effective than other interventions and interventions with a workplace component are likely to be more cost effective than those without. Similarly, a systematic review by Tompa et al. (2008) of workplace disability management interventions with economic benefits found moderate evidence that interventions including work accommodations had economic merits.

There has, nonetheless, been discussion of whether the costs of accommodations have been underestimated. For instance, a cross sectional survey of 157 individuals with disabilities who had contacted JAN in the US (Hendricks et al. 2005), showed that the majority of accommodations implemented were made at little or no cost, and certainly at less cost than employee turnover.

However, as Chirikos noted (Chirikos 1999) employers may underestimate the costs of accommodations as too low, because currently employed individuals with disabilities are not necessarily representative of the costs of accommodating those not yet employed. The author finds in the empirical analysis (USA, cross sectional survey and modelling) that observed costs of accommodation must be considered lower bound estimates of the true mean and variance of such costs reckoned across the entire population of persons with disabilities, and that observed costs of accommodation must be considered lower bound estimates of the true mean and variance of such costs reckoned across the entire population of persons with disabilities. Also, it has been pointed out that the structure of the costs (direct and indirect) and differentiating disability or WA related costs

from general employee costs, has not been given the necessary attention in current research (McDowell and Fossey 2014).

## 1.5. Initiatives Focused on Changing the Workplace practices, Behaviour of Employers and Employees: Literature Review

As has been proposed in the previous sections, negotiating individual WA is conditioned by both collective employment relations and employment policy. Work accommodations, similarly to other terms of employment and working conditions are co-determine in the workplace level, however other levels of co-determination, that is collective employment relations and government policy could provide incentives through which the behaviour of employers and employees is influenced and practices are mediated. In general terms, both macro level interventions, i.e. large scale interventions that aim to change the practice, thinking and behaviour of employers and employees and meso level interventions in the workplace, which focus on the extent to which the workplace itself can be constructed to accommodate work, are important. In the following sections, we will first discuss industrial relations practices related to work accommodation and then government level interventions.

### 1.5.1. Industrial relations

Industrial relations (IR) are primarily concerned with the collective, rather than individual aspects of the employment relationship; it focuses on relationship between representatives of workers and employers, that could take at many levels, including establishment, company, sectoral, regional, national, international level (Eurofound, European Industrial Relations Dictionary). Industrial relations systems vary according to the historical systems of labour, welfare and state relations that have evolved within different nation states (Hyman 2001; Esping-Andersen 2013). Liberal or Anglo-Saxon industrial relations systems have historically been associated with the US and UK: here the state plays a limited role in dispute resolution and overall trade union membership is low, except for in the public sector, where density is higher and collective bargaining is more institutionalised. The state, however, plays a more immediate role in industrial relations in EU countries with corporatist traditions, such as Germany, Belgium and France (though in the latter, union density is low) and in Scandinavian countries, where traditionally the state and labour have tried to achieve a consensus around policy. State disability employment policies in these countries, in many respects reflect industrial relations traditions. Thus, in the UK, a liberal approach to increasing the employment of disabled people has been to try to level the playing field by placing a legal obligation on employers to provide reasonable workplace adjustments, so that disabled employees are not put at a 'substantial disadvantage' (Foster 2007). The problem with such an approach, however, is that while adjustments might be secured for disabled employees' already in employment, discrimination in the wider labour market is not addressed and for those looking to secure employment, accommodations can be viewed by employers as a potential additional cost. By contrast, in Belgium and France, a system of wage subsidies are provided to employers by the state to both encourage and compensate employers who recruit and retain disabled employees. This interventionist approach, consistent with welfare and industrial relations traditions in these countries, has advantages, though potential disadvantages are that disabled people are assumed to be 'inevitably' less productive and given the social stigma that attaches to disability, defined in relation to their inability to meet an 'ideal' employee (Foster and Wass 2012).

Although there has been little research on the relationship between disabled workers and the industrial relations and the labour movement, it has been considered there are similarities between representatives' efforts to exercise a degree of control over employment and working conditions in



general and disabled people's demands for workplace accommodations (Wilton 2004). Arguably, the same applies to the realm of work design for ageing workers.

#### AGENDAS AND REPRESENTATION

The discussion on the contact points of industrial relations and work accommodations needs to take account of bargaining agendas and representation. Studies suggest that employee representatives are tempted to opt for exit rather than voice routes (Kalwij, Kapteyn, and Vos 2010). For instance, Flynn et al. (2013) in a comparative study of the UK and Germany, argue that ageing of the workforce is placing conflicting pressures on labour unions to either protect the social security system that enables early retirement routes, or promotes workplace practices geared toward extending working life. The particular balance point between the choices is path-dependent to specific countries. Evidence from a study of IR in Israel by Lurie (2013) furthermore, found that the focus of collective bargaining and social dialogue is more likely to concentrate on the job and income security of senior personnel, rather than employability security. In addition, a study by Hall and Wilton (2011) in Canada, reported that the focus of union collective representation is on existing union members injured at work, rather than those out of employment. Work accommodation is just one of the many themes in representing the interests of competing groups in bargaining agendas, with very different approaches to labour market participation being taken: focusing either on replacement income in welfare and social security systems, or actual employment opportunities. An inclusive IR bargaining agenda would involve both representing those in the workforce - helping them in job retention via work accommodation - but also helping to find suitable, accommodated employment for those who are not employed and thus likely not yet represented by employees organisations (Foster and Fosh 2010).

Representation, in itself, is an under-researched and under-developed concept in the context of work accommodations and the employment of disabled and older workers. The literature provides limited debate on the role of employers' representative organisations in disability management and ageing management in general, or work accommodation in particular. In relation to trade union representation, as discussed above, literature is also limited, with most studies focusing on the industrial relations practices of existing union members or disabled workers, rather than those out of employment, who may be over-represented in the general working age population (Hall and Wilton 2011).

As workplace actors, the advantages of trade unions is that they have workplace specific skills and knowledge and their broader links and understanding of economic contexts, means they are well placed to integrate issues into organisational and political agendas (Foster and Fosh 2010). The role of other interest groups, however, should not be overlooked. For instance, Foster and Fosh (2010) and Schianchi (2014) argue that in addition to labour unions, the participation of voluntary associations of disabled people are important in bringing issues related to work disability onto national agendas, especially where other institutions or bodies, including trade unions, have discarded the issue, or been ineffective. In sum, attention should be given, whether the representation covers members of the organisations or disabled workers in general, members injured at work or disabled in general, whether it aims to increase the representation of disabled people (Hall and Wilton 2011).

#### MECHANISM AND EFFECT

The mechanisms of industrial relations to influence work accommodation presume that there could be an unequal distribution of power where employers have comparative edge as they could actually

offer workplace adjustments (Seing et al. 2012). The representatives could have advanced knowledge regarding effective disability or ageing management, including reasonable accommodation, thus may tip the balance of bargaining power. A further problem with negotiations surrounding workplace accommodations, is that they can become over-individualised and over-personalised in character. Adjustments to existing work are usually based on a needs based medical model, which will differ from one individual to another. This means that each case will be specific to both the job being performed and the individuals circumstances, meaning that it is very difficult to set precedents, or draw collective knowledge from the IR process (Foster and Fosh, 2010; Foster, 2015). The whole process of representing employees at workplace level who require adjustments or accommodations, can be time-consuming. This can place further demands on both trade unions and employers.

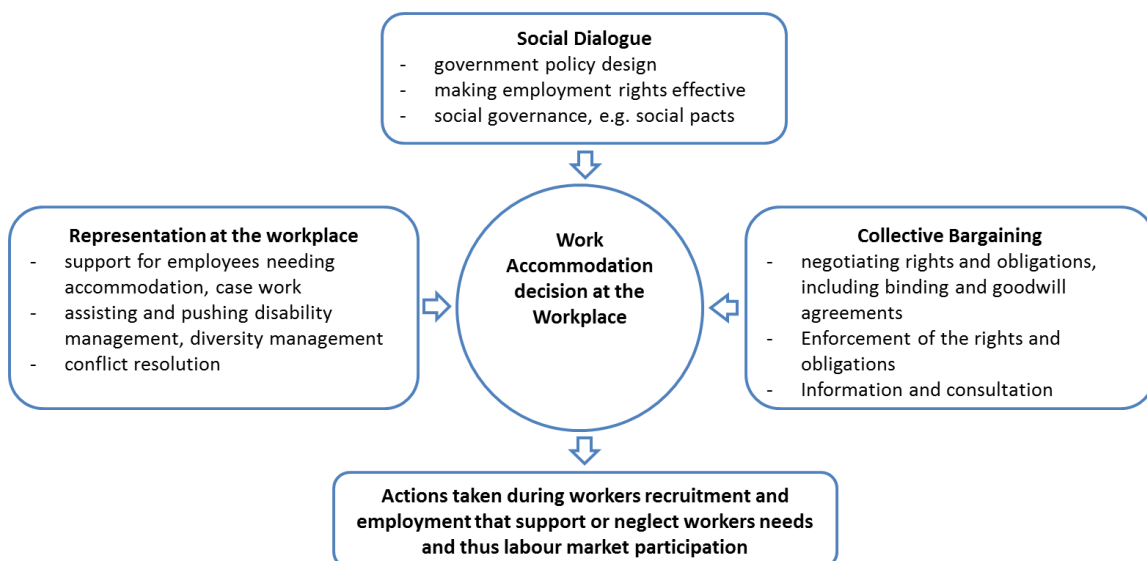
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However, although the reasoning sounds plausible, the impact of industrial relations on work accommodation has yet to be empirically scrutinised as the impact of industrial relations on work accommodation continues to remain an under-researched area. There are no counterfactual studies about the impact of industrial relations on work accommodation. However, correlational study (A sample of 3,638 organizations in 6 European countries (Denmark, Germany, Italy, The Netherlands, Poland, and Sweden) by Van Dalen et al. (2015) suggests that human resource policies of European employers in relation to older workers, including work accommodation are more likely if labour unions are involved. Also research (in-depth interviews with supervisors in Canada) by Williams-Whitt (2007) indicates that accommodation outcomes for disabled employees may be substantially affected by the quality and degree of union involvement.

#### PRACTICES

The literature suggests number of different approaches the industrial relations could influence age or disability management if not work accommodation in particular (see also Figure 9 that summarises the following review).

FIGURE 9 INDUSTRIAL RELATIONS AND WORK ACCOMMODATION



Source: Authors compilation based on the literature review

According to Lysaght and Krupa (2014, 100) employee representatives could (1) negotiate certain rights and procedures related to WA into collective agreements; (2) they can also monitor whether members receive the accommodations they require; and (3) they could influence the organisations policy regarding how positions are posted and filled and this way indirectly influence job classifications and descriptions and work ability of employees needing WA (Lysaght and Krupa 2014, 100). Williams-Whitt (2007, 419) acknowledge that by “nudging collective beliefs and norms about accommodation“, employee representatives could have considerable influence on WA practices. The nudging could involve (1) establishing support for the employee that need accommodation, (2) informing them about their rights and obligations, and this way play an important enforcement role in the field of labour and employment rights (3) diffuse animosity that results from disruption to the status quo, (4) pushing to look harder when an appropriate solution is not readily apparent; (5) help to avoid escalating conflicts and conflict resolution, (5) assisting in absence management, including with workers compensation claims, guidance through administrative process and maintaining contact during leave. These practices point to an increase in individual case work to negotiate suitable working conditions for particular employees (Foster and Fosh 2010).

In more general terms, unions could advocate *diversity management* (Greene, Kirton, and Wrench 2005) (UK, Denmark), and could have programmes or policies in place to address human rights and equality issues, including addressing specifically disability issues (Hall and Wilton 2011) (Canada). In this regard, in some countries specific forms of representation have emerged. For instance, in the UK Disability Champions is a new type of lay workplace trade union activist, whose role is to encourage employers to audit and improve disability policies and offer independent advice and guidance on disability issues to employees. According to the study (cross sectional survey, correlational study) by Bacon and Hoque (2015) the majority of Disability Champions report having had a positive impact, however they report greater influence on employer willingness to conduct disability audits and to amend and improve employer equal opportunities practices with regard to disability than employer willingness to make reasonable adjustments.

In addition to practices that directly influence the workplace, social partners' (and other associations of disabled people) role in social dialogue is important. Involvement of employers' associations and employees' unions are believed to lead to the best government policy design as they bring the in-depth and current understanding of the issues to the policy making process (Hirschman 1970). Also involvement of social partners in the policy making process could also win their commitment to an enforcement role: thus making employment rights effective (Freeman and Medoff 1984). Additionally, the literature points to various modes of social governance, including institutionalized forms of self-administration of pension insurance, self-regulation via negotiated occupational pensions, institutional consultation of interest groups and tripartite concertation (or social pacts) between government and the social partners have been marked to describe social partners role in pension, including disability pension system (Ebbinghaus 2011). As we will see later, conditions of compensation could indirectly influence employment and stay-at-work practices at the workplace.

There is little known how prevalent these different practices are. However, in a rather old article Gunderson (1992, 307) reports that 30% of collective agreements in Canada have provisions on transferring or training disabled workers for a more suitable job.

## 1.5.2. Policy Review

### TYPOLOGY OF POLICY INTERVENTIONS

Government interventions can be targeted at changing the behaviour of employers towards employing people with long-term illnesses or disabilities or can be focused on disabled people themselves, aiming to change their behaviour and/or attempting to make them more employable (Clayton et al. 2012a). However, the fundamental policy challenge is to implement measures that promote employment, but not to the extent that they simultaneously discourages the hiring of workers with reduced work capacity or a disability (OECD 2010, 126).

Literature suggests a basic taxonomy of three government policy instruments to facilitate work accommodation for people with disabilities: (1) regulation and enforcement (i.e. rules, inspections and prosecution) (2) economic incentives, i.e. wage subsidies, taxes and benefits and (3) information, i.e. normative knowledge (Hasle, Limborg, and Nielsen 2014, 75; Vedung 1998). Heckl and Pecher (2009) add non-financial support as a response to the tendency towards support provision in kind or in form of services. The providers of these services may be national employment service providers (PES) or NGOs who receive public funding for service provision (Heckl and Pecher 2009). This can include schemes to offer information and advice, personal assistance, lending technical equipment etc. (for a detailed overview, see Heckl and Pecher 2009). It follows that these services combine economic incentives and information/knowledge sharing.

Hasle et al (2014) suggest that different types of workplace interventions do not operate in isolation and often become a 'programme' of action. Several authors suggest policies should be applied in combination, be flexible and adaptable, closely aligned to the context of the target group, i.e. tailored (Hasle, Limborg, and Nielsen 2014; Mallender et al. 2015; Heckl and Pecher 2009). Various interventions can complement each other, e.g. economic incentives can enforce regulations (Muda 2013). Based on an analysis of European countries (Heckl and Pecher 2009), it could be seen that countries usually offer a combination of funding schemes and non-financial support and – the same type of WA may be supported financially in one country and be provided as service or in kind (free of charge) in another country. The logic is that state and civil society actors develop a programme which combines the policy instruments into a specific blend, which the actors believe will achieve the political goals (Hasle, Limborg, and Nielsen 2014). According to Hasle et al (2014), an intervention programme is iterative - the actors rarely have a fully-fledged plan with a developed programme theory (Hasle, Limborg, and Nielsen 2014)..

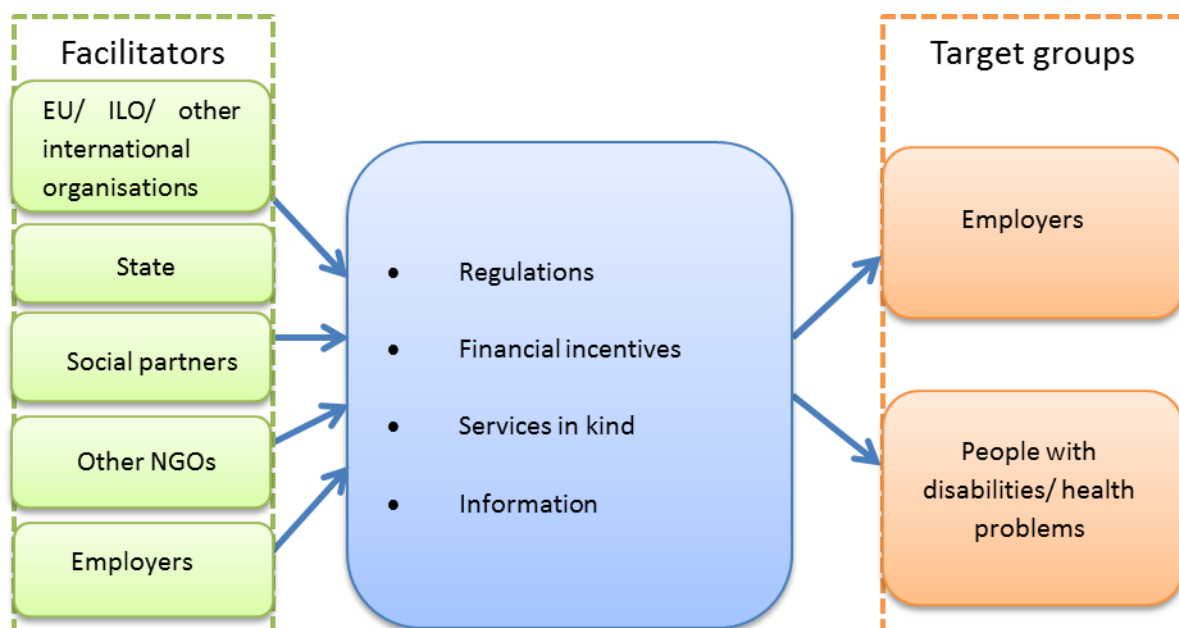
As discussed above, age and disability are different but overlapping concepts, and also the perception of disability and age related disability. The challenging demarcation of disability and ageing has also left a mark on work accommodation policy interventions. As discussed by McDermott (2014, 93) there is discussion of whether the obligation to make reasonable adjustments to accommodate the capacity and circumstances of an individual that applies in the disability discrimination context, should be extended to other protected attributes such as age. He notes that Canada is among the few countries where the reasonable accommodation obligation applies to older workers. In addition, the research findings found that workers who interpreted their functional limitations as part of the normal ageing process were less likely to recognise the need for an accommodation and those who ascribed their disability to ageing were less likely to have their needs met (McMullin and Shuey 2006). This empirical finding adds weight to the argument that work accommodation legislation specifically targeted to older employees is required to support take up and provision of suitable work and working conditions (in the literature, the same conclusion have been reached, see for instance (Sargeant 2008).

Several authors stress the important role that can be played by various actors in designing and implementing WA policies : 'The state is no longer (if it ever was) the sole actor in enforcement of

societal policies.’ (Hasle, Limborg, and Nielsen 2014, 75). Hasle et al (2014) discuss how a large number of other actors, from semi-governmental to independent civil society organisations, play an increasingly important role in implementing WA policies. For the working environment, the social partners (employers and unions) are key figures, but bi- and tripartite bodies, professional organisations, certification agencies, educational institutions, researchers, local community groups, and the media, can also be important. Nevala et al (2015) further stress the role of colleagues, family and occupational health and safety professionals in the process of WA. They all influence state policy and practice, they all have their own policies, and state regulations are formed in interaction with these actors (Hasle, Limborg, and Nielsen 2014). Willingness of employees, the employer, and other professionals to build mutual trust and understand their responsibilities in the provision process, as well as mutual understanding of the motivations for WA, is found to considerably enhance the WA process (Nevala et al. 2015). It is difficult to underestimate the role of **international organisations**, involved in setting benchmarks or minimum requirements in legislation, as well as financing interventions. For instance, approximately one third of the 82 schemes providing financial support for the reasonable accommodation of workplaces analysed by Heckl and Pecher (2009), are co-financed by the European Social Fund (ESF).

The above framework is summarised in the figure below. Below, we will further discuss policy measures by international organisations and member states to exemplify the policy programs.

FIGURE 10. INTERVENTION MECHANISMS TO SUPPORT WORK ACCOMMODATION (WA) FOR PEOPLE WITH DISABILITIES



Source: Authors' compilation

#### UNITED NATIONS AND EUROPEAN UNION POLICY

Different international institutions and governance systems have taken actions to support the work and employment of older or disabled populations. Here, we focus narrowly on policy instruments of UN and EU employment policy that could influence demand and supply of work accommodation.

These instruments are first of all based on legal rights and obligations, and the work accommodation is defined with the respect to the equal right to work and employment.

Arguably, the most crucial UN ILO instrument is the UN Convention on the Rights of Persons with Disabilities (CRPD)<sup>7</sup>. The concept of reasonable accommodation is defined in this as: “necessary and appropriate modification and adjustments not imposing a disproportionate or undue burden, where needed in a particular case, to ensure to persons with disabilities the enjoyment or exercise on an equal basis with others of all human rights and fundamental freedoms” (Art. 2 Sub-Para. 4). The Convention stipulates that states shall safeguard and promote the realization of the right to work by ensuring “that reasonable accommodation is provided to persons with disabilities in the workplace” (Art. 27). Indirectly, the convention refers to the importance of collective representation in enforcing this right by stating that “persons with disabilities are able to exercise their labour and trade union rights on an equal basis with others” (Art. 27 Para. 1c). The similar convention or other legally binding instrument does not exist yet for strengthening older people’s equal opportunities and rights. Although, for instance, there are conventions that oblige states where a convention is in force pursue policy to promote equality of opportunity and treatment in respect of employment and occupation (e.g. Convention concerning Discrimination in Respect of Employment and Occupation<sup>8</sup>), however these do not directly point to work accommodation as rights or obligations.

Regarding sharing information and knowledge about reasonable accommodation, the ILO has also issued guidelines, which outline conditions to consider while making decisions about whether required accommodations are reasonable.<sup>9</sup> According to this, an employer can be exempt from providing a reasonable accommodation in cases (1) where the employer was not aware of the need for an individual accommodation; (2) an effective accommodation, enabling the applicant or worker with a disability to perform the essential functions of a job that is not available; (3) the requested accommodation imposes a ‘disproportionate burden’ on the employer.

In UN policy mix there are no policy measures addition to the CRPD and the guidelines and that includes economic incentives. Although, UN/ILO has established social security standards, the first and foremost the Convention concerning Minimum Standards of Social Security<sup>10</sup>, the convention does not point out parameters of compensation that in theory could directly influence work accommodation practices.

As the European Union ratified the UN Convention on the Rights of Persons with Disabilities in 2016, the convention in itself is part of EU law. The European Union acting on behalf of its member states has also made steps to reassure enforcement of the right. Employment opportunities of disabled or older populations are part of the EC Council Employment Equality Directive (Directive 2000/78/EC). The Directive, amongst other things, prohibits age and disability discrimination, and specifies that reasonable accommodations for disabled persons are crucial for guaranteeing compliance with the

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<sup>7</sup> [UN Convention on the Rights of Persons with Disabilities](#). Accessed: 08.08.2016

<sup>8</sup> [Convention concerning Discrimination in Respect of Employment and Occupation](#) (Entry into force: 15 Jun 1960) Adoption: Geneva, 42nd ILC session (25 Jun 1958) - Status: Up-to-date instrument (Fundamental Convention).

<sup>9</sup> [Achieving Equal Employment Opportunities for People with Disabilities through Legislation: An Education and Training Guide](#). International Labour Organization. 2001.

<sup>10</sup> [C102 - Social Security \(Minimum Standards\) Convention](#), 1952 (No. 102). Convention concerning Minimum Standards of Social Security (Entry into force: 27 Apr 1955)

principle of equal treatment in relation to persons with disabilities (Article 5). Article 5 stipulates that “employers shall take appropriate measures, where needed in a particular case, to enable a person with a disability to have access to, participate in, or advance in employment, or to undergo training, unless such measures would impose a disproportionate burden on the employer” and “this burden shall not be disproportionate when it is sufficiently remedied by measures existing within the framework of the disability policy of the Member State concerned.” It follows that The EU reservation on Article 27 CRPD follows the logic of Article 3(4) of the Directive, and also that EU jurisprudence directly does not address the right of older people for work accommodation.

The question of what should be considered ‘reasonable’ has also been a matter for discussion within the EU. BusinessEurope has proposed that the Member States need to define what is a ‘disproportionate burden’ by considering the diversity of national contexts in this regard<sup>11</sup>. The ETUC have also emphasized the importance that employee representatives are consulted at the workplace when considering what a ‘disproportionate burden’ is.

According to the European Agency for Safety and Health at Work website, the EU has not developed and implemented any particular knowledge sharing interventions, to discuss the main concepts about accommodations for workers with disabilities<sup>12</sup>. Similarly, there are no EU level financial incentives that specifically target work accommodations. The EU rules on social security coordination do not regulate social security per se but individuals’ social security rights in case moving within Europe<sup>13</sup>. More directly the EU State aid rules has exempts from aid for the recruitment of disadvantaged workers and aid for the employment of disabled workers, including aid in the form of wage subsidies. This covers aid for additional costs of employing disabled workers, such as the costs of adapting premises and equipment to disabled workers’ needs and the costs of employing staff to assist disabled workers<sup>14</sup>.

Lastly, although the EU policy on work accommodation does not specifically point to the importance of industrial relations or social dialogue, the Charter of Fundamental Rights of the EU, stipulates the right of workers and employers, or their respective organisations to negotiate and conclude collective agreements at the appropriate levels that includes agreements regarding work accommodation (Article 28). Also in the Treaty on the Functioning of the European Union, the Commission is obliged to consult with social partners in the field of social and employment policy (Article 154) and stipulates the social partners’ right to enter into binding agreements with the European Union, thus ascribing them the role of legislator (Article 155)<sup>15</sup>: opening up possibilities to further develop the jurisprudence regarding work accommodation.

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<sup>11</sup> Business Europe: Position Paper. Commission Proposal For A Directive On “[Implementing The Principle Of Equal Treatment Between Persons Irrespective Of Religion Or Belief, Disability, Age, Or Sexual Orientation](#)”. 2008.

19LTE4Q/UNICE/docs/DLS/2008-02385-E.pdf.

<sup>12</sup> EU-OSHA. OSH WIKI. [Workers with disabilities](#). Accessed: 08.08.2016

<sup>13</sup> European Commission Employment, Social Affairs & Inclusion. [EU Social Security Coordination](#). Accessed: 08.08.2016

<sup>14</sup> Commission Regulation (EC) No 800/2008 of 6 August 2008 declaring certain categories of aid compatible with the common market in application of Articles 87 and 88 of the Treaty (General block exemption Regulation), Articles 40 and 41.

<sup>15</sup> Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union - Consolidated version of the Treaty on the Functioning of the European Union - Protocols - Annexes - Declarations

## NATIONAL LEVEL POLICIES IN EU

In the following section interventions to facilitate WA in European Union countries are discussed, focusing on Estonia, the United Kingdom, Germany, the Netherlands and three Nordic countries - Finland, Denmark, and Sweden. The description follows the main elements identified above - regulations, financial incentives, and information.

### REGULATION

In general, **regulation** - as in setting up of rules for WA, defining rights and obligations for both employers and employees, monitoring their implementation (inspection) and enforcement of these rules - is still the dominant approach, despite increasing attention on measures to ensure compliance through less coercive means (May and Winter 2011). As previously discussed, the EU Directive 2007/78/EC, obliges all employers to provide 'reasonable accommodations' for persons with disabilities and this section will discuss how this is conceptualised and transposed into national legislation and practices (see below). The most recent in-depth legal analysis by Ferri et al (2016) on reasonable accommodations for disabled people, reports that all EU countries have incorporated the reasonable accommodation duty in their legislation (other than in Liechtenstein and in Iceland). However, as well as the employment of different terminology in different nation states, the meaning of the term 'reasonable' has been interpreted by Member States in two different ways (Fasciglione 2015). The author discusses that "while some Member States have interpreted the term 'reasonable' to refer to an accommodation which does not result in excessive costs, difficulties or problems for the employer, others have associated the term 'reasonable' to the quality of the accommodation, meaning that the accommodation must be effective in terms of allowing an individual with a disability to carry out a particular set of employment-related tasks" (Ibid, 160). Ferri et al (2016) also point out that UK is the only country where the legislation explicitly stipulates the circumstances in which employers will actually be placed under a duty to make (or consider making) reasonable accommodations. According to the authors, the duty will be triggered (1) only where an employer knows or ought to know that the person in question is disabled; (2) only where a specific request has been made to the employer by the disabled person – and will not arise simply because the employer is aware that an employee or applicant is disabled; (3) only when the employer has been informed of the need to make an accommodation by a competent public authority. In most of the countries, the failure to provide reasonable accommodation does amount to discrimination, however not in Estonia and Latvia (Ferri et al. 2016). In most of the countries, there are no explicit requirements on duty-bearers to consult the disabled person about reasonable accommodations, nevertheless this appears to be expected (Ferri et al. 2016). Similarly, there are no explicit requirements to consult third parties (e.g. specialist organisations with expertise in adaptive technology, trade unions, disabled peoples organisations or even medical or occupational health experts), but in practice reference is frequently made to them (ibid).

Based on this review of EU member state policies, as well as the inclusion of reasonable accommodations in national legislation, member states have implemented a myriad of policies and

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annexed to the Final Act of the Intergovernmental Conference which adopted the Treaty of Lisbon, signed on 13 December 2007 - Tables of equivalences . Official Journal C 326 , 26/10/2012 P. 0001 - 0390



strategies to ensure the law is carried out, including financial damages, recourse to court etc. (Mallender et al. 2015; Ferri et al. 2016).

In addition to the direct regulation of work accommodation obligations, countries differ most considerably in regards to indirect rights and obligations that impact on demand and supply of suitable employment and working conditions. In some countries, e.g. in **Germany and Denmark**, preferential employment practices (e.g. employment quotas) are used. In Germany, all employers with at least 20 employees are required to employ 5% of employees with a disability, or alternatively have to pay bigger social security contribution (Masso et al. 2015). Also, in many EU countries, the general work accommodation obligation is extended to employer's responsibilities in the Return to Work process and is therefore, part of sickness absence procedures. This means that employers and employees are required to keep contact while an employee is not able to work due to health problems or a disability, monitor their health situation, assess the need for WA and implement measures to support their return to work. The step by step return to work process is prescribed in the legislation in **the Netherland, Germany, Denmark, Sweden, Finland** (Masso et al. 2015). Also, not being able to follow these obligations are related to financial sanctions for employers in **Sweden and the Netherlands** (Masso et al. 2015). In all these countries employers shall consider not ending the employment relationship due to decrease in capacity for work and are allowed to cancel of employment contract only after specific period of time. This could be specified by adverb of time, like 4 months in **Estonia** or 2 years in the **Netherlands**, or also grounded to the return to work or disability management process, as is the case in **Germany**. These obligations are designed to directly motivate employers to employ or continue the employment of people with disabilities and indirectly motivates the supply suitable employment. In a number of countries, enforcement of these rights and obligations is also delegated to employee representatives by labour standards. For instance, in **Sweden**, employers who terminate an employment contract without fulfilling the obligation to reintegrate a disabled employee can be sued by the employee or their trade union for unfair dismissal, which may lead to a penalty equivalent to as much as 32 months' salary (OECD 2009). Furthermore, in **Germany**, the work councils participate in designing and executing the reintegration plan and process.

#### INCENTIVES

All EU Member States offer some **grants or subsidies to employers** to provide reasonable accommodations (Mallender et al. 2015). It has been argued that these incentives protect the demand for labour and serve as a cost-effective incentive for employers to follow the law compared to other types of enforcement (Mallender et al. 2015). In Europe, this comes mostly in the form of a grant/subsidy, while other forms, like (value added) tax refunds for investments in reasonable accommodations, seem to be rather rare (Heckl and Pecher 2009; Elsler et al. 2010). Funding schemes across the EU countries can be focused on a specific type of accommodation, or these can be more integrated schemes that may be applied to (partially) fund different types of accommodation measures (Heckl and Pecher 2009). A third type of funding scheme can be described as 'overall schemes' which can be called on to support various types of accommodation measures while not clearly emphasising a specific one (implementation of more complex OHS management systems) (Heckl and Pecher 2009; Elsler et al. 2010). In some cases, support for WA are offered as services, rather than financial benefits. This includes, for instance, the option to lend (technical) equipment to persons with disabilities, such as those offered by Unemployment Insurance Fund or those managed by local counties in **Estonia** (Masso et al. 2015). For enterprises which follow the principle of profit maximisation, it is crucial that both funding for reasonable accommodations, as well as general

funding (e.g. wage subsidies), which compensate for possible productivity shortfalls, are available (Heckl and Pecher 2009). Respective regulations are particularly thorough in **Finland**, where specific circumstances are foreseen when employers have the right to receive respective support for WA (Muda 2013). If the employment opportunities of a person with any type of disability are dependent on alterations of machines, equipment, working practices or physical environment in the workplace in order to eliminate or reduce the disadvantage caused by the disability, these changes are subsidised by the Finnish employment authorities through a scheme called 'Support for Arrangement of Working Conditions' (Heckl and Pecher 2009).

In **Denmark**, wage subsidies are combined with compensation for WA. For instance, the national programme – Flexjobs – enables employers of people with disabilities to claim up to two-thirds of the disabled employee's wages as a subsidy and also allows reductions in working hours and demands and workplace adjustments (Clayton et al. 2012a). In the public employment services, the Special Function Job and Disability (SJH) implement and regulate the provision of any accommodations required by a disabled person (Mallender et al. 2015). In addition, municipal funding is available for employers in Denmark for special equipment, aids or adjustments to the workplace (Clayton et al. 2012a).

In the **Netherlands**, an entity distinct from the PES - Employee Insurance Agency (Uitvoeringsorgaan Werknemers Verzekeringen-UWV) – is responsible for the provision of reasonable accommodations, including offering financial support for WA (Mallender et al. 2015). Further, in the Dutch regulatory system, employers are obliged to pay at least 70% of their salary for employees with reduced work capacity over a two-year period (Masso et al. 2015). This motivates their active involvement in supporting a quick return to work and implementing the necessary WA (Masso et al. 2015). Expenses associated with rehabilitation are borne by the employer, while in certain cases (e.g. when large adaptations are necessary) state covers part of the expenses (Masso et al. 2015).

In **Sweden**, for example, the PES coordinates reasonable accommodations for unemployed people using labour market programmes such as 'Special Introduction and Follow-up Support' (SIUS), which specifically supports the provision of reasonable accommodation for disabled people in a number of ways: they use supported employment methods, offer work aids, including assistive technologies or adjustments to the physical environment, and provide support for a personal assistant (Mallender et al. 2015). The costs of soft adaptation (e.g. reduced work load, slower pace) are covered by wage subsidies (Mallender et al. 2015). In the case of those already in employment, employers bear the costs for necessary WA themselves, though in certain cases part of the costs can be reimbursed by the state (Veldre et al. 2012).

In **Germany**, financing schemes provide support for WA in a form of subsidy - assistive technologies (and training in their utilisation) that are directly related to pursuit of work may be completely financed (Heckl and Pecher 2009). The scheme is open to any type of disability and both employer and employees can apply for funding (Heckl and Pecher 2009). For persons with severe disabilities, wages of an assistant, who helps with small, though essential tasks on a permanent basis, are subsidised (Heckl and Pecher 2009).

In **Estonia**, employers' expenses on WA or necessary equipment for supporting employment are subject to tax exemptions (the latter in case loss of work ability is more than 40% or they have been appointed disability) (Masso et al. 2015). Also, employers can apply for financial support for WA - the Estonian Unemployment Insurance Fund (Eesti Töötukassa) may compensate a company for 75-100% of the cost of the adaptation of work premises and equipment required when employing a person

with a disability. However, the take-up of this benefit has been very low – only about 1-4 cases per year since 2006 (statistics of Unemployment Insurance Fund).

In the **UK**, support for reasonable accommodation/adjustments is delivered through the ‘Access to Work’ programme. The programme provides funding towards the additional disability-related costs of special equipment, adaptations to the workplace, personal assistance, travel to work, etc. (Mallender et al. 2015). The employer normally pays for the additional support required and receives a grant towards these costs (up to 100% of the costs for those entering a new job or self-employment) (Mallender et al. 2015). Adaptation measures for incumbent staff are given a lower percentage of funding (Heckl and Pecher 2009).

#### INFORMATION AND KNOWLEDGE SHARING

In most EU countries, there are schemes that offer comprehensive **information and advice** and that either address employers or employees; however binding guidelines are uncommon (Heckl and Pecher 2009; Ferri et al. 2016). Some literature treats this as a voluntary approach based on principles of enlightened self-interest, involving education of employers about the financial and moral benefits of good health and safety practice and exertion of influence through key industry stakeholders and supply chain activity (Cox et al. 2008). Several authors suggest lack of knowledge and information on WA and respective technologies are among the typical barriers to implementation of WA at the workplace (Heckl and Pecher 2009; Nevala et al. 2015; Gold et al. 2012). Disabled people may need assistance in job searches, assess their skills, checking their employment options and obtaining information on training possibilities and reasonable accommodations (Heckl and Pecher 2009). Also, co-workers’ attitudes, understanding and knowledge about the disability or disease and WA can be an important facilitators or barriers to employment (Nevala et al. 2015). Thus, dissemination of this information and education of employers and employees is important for ensuring adaptation of workplaces (Gold et al. 2012). Related to the latter point, Heckl and Pecher (2009) stress the importance of a single information point (one-stop-shop), which bundles the know-how concerning all issues with regard to the integration of persons with disabilities and the provision of reasonable accommodation for both employers and the people concerned.

Information and consultation measures seem to receive less attention in various reviews on WA practices and intervention mechanisms to support WA. For instance, Masso et al (2015) suggest, based on the example of Estonia, that information and consultation interventions are not clearly formalised and thus not described in administrative documents. Similarly, the OECD finds that projects and initiatives of disability management often involve soft measures, including attempts to change the attitudes of employers and workers alike, the causal impact of which is difficult to establish (OECD 2008). This can be one of the reasons that information and consultation interventions are not elaborated in detail and thus descriptions remain at a relatively generalised level. Still, there are many examples that provide information and advice for either employers or employees. Some examples within the countries analysed are described below.

In the **United Kingdom**, the low awareness among employers of legislation covering disability discrimination and the requirement to make reasonable adjustments for disabled employees, has been outlined (Foster, 2007; Clayton et al. 2012a). Consequently, a lot of effort has been targeted towards raising awareness among employers with regards to reasonable accommodations for people with disabilities (Mallender et al. 2015). Among these, the ‘Access to Work’ programme incorporates advice and support to people with disabilities and their employers, to help them to overcome work-related obstacles resulting from disability (Mallender et al. 2015). For employees, Jobcentre Plus serves as the contact point for people with disabilities for providing advice and counselling on

employment related issues, including availability of support and benefits related to their health condition (Veldre et al. 2012). The 'Disability Confident' awareness campaign in the UK (implemented in 2013 and 2014) includes recruitment and training guidance on employing disabled people and people with health conditions (Priestly, Lawson, and Woodin 2015). The Minister for Disabled People has also encouraged local actors to host Disability Confident 'jobs fairs' for employers in their area and to share experiences (Priestly, Lawson, and Woodin 2015).

The general principle in **Denmark** is to raise employers' involvement in integration of those difficult to place, not by imposing obligations, but by promoting the concept of corporate social responsibility (OECD 2008). The CSR campaign has relied mainly on voluntary participation of companies but contains a certain number of economic incentives for companies as well as in-built social dialogue and monitoring devices (OECD 2008). With strong orientation towards employment in the open labour market, an initiative to provide work certificates for people with disability (as an example of signalling, sharing information) has been set up in order to describe what the applicants can do in a job context and what compensation measures are available (OECD 2008).

Employers in the **Netherlands** have organised themselves in networks to increase the chances of workers reintegration, share information and the Ministry of Social Affairs and Social Insurance Institution are sponsoring their development (OECD 2008).

In **Germany**, Integration Offices (Integrationsämter) and Integration Services (Integrationsfachdienste) work together to integrate people with disabilities in the open labour market (Mallender et al. 2015). One of the four key responsibilities of the Integration Offices is to provide seminars and carry out awareness-raising campaigns (Mallender et al. 2015). They also collaborate with rehabilitation agencies, employers' organisations and trade unions to exchange information and ensure people with disabilities get employment opportunities in the open labour market (Mallender et al. 2015).

In the case of **Estonia**, it has been outlined that various support measures are implemented as a combined set of interventions, which include next to financial benefits, guidance, information and consultation (Masso et al. 2015). For instance, Unemployment Insurance Fund, Labour Inspectorate and rehabilitation centres can all provide information and counselling on general disability management mechanisms (Masso et al. 2015). As a result, a rehabilitation plan is put together, including intervention mechanisms to support return to employment and finding suitable work (Masso et al. 2015).

#### EVIDENCE ON EFFECTIVENESS OF EXTERNAL INTERVENTIONS

In the section above (see 1.4) we concluded that (counterfactual) impact assessments on the efficacy and effectiveness of work accommodation (WA) workplace interventions is in its early stages, however the existing studies support the utility of work accommodations. The impact assessments of interventions that aim to motivate employment of disabled and older populations in general, or workplace accommodation in particular, is rather lacking. However, very recently, Bronchetti and McInerney (2015) estimate the determinants of workplace accommodation, including the influence of employer workers' compensation (WC) costs; WC market features and state WC laws. Using the USA state level data (panel data, regression model), authors analyse employers WC costs, WC market features, and state return-to-work (RTW) policies (i.e. subsidizing or reimbursing employers for the costs of providing accommodations; policies mandate that employers provide reasonable accommodations to injured workers or impose financial penalties for failure to do so), and it is concluded that all have an impact on accommodation, but the effects are small and explain only one-

fifth of the increase in restricted work. In an earlier study, Burkhauser et al. (2011) found (cohort study, multivariate logit regression model) that prior to the implementation of the Americans with Disabilities Act of 1990 (ADA), employers were more likely to accommodate workers if their disability onset was work-related and hence likely to be covered by Workers' Compensation laws. The law significantly increased accommodations to workers whose disabilities were not work-related, effectively bringing their accommodation rates in line with workers whose disabilities were.

In the most recent systematic literature review, Clayton et al. (2012b) synthesized evidence on the effectiveness of government interventions to influence employers' employment practices concerning disabled and chronically ill individuals in five OECD countries Canada, Denmark, Norway, Sweden and the UK. The searches aimed to identify all empirical studies reporting employment effects and/or process evaluations of government policies aimed at changing the behaviour of employers conducted between 1990 and 2008. Only a few studies, however, provided robust evaluation. They concluded that (1) a population-level effect of legislation to combat discrimination by employers could not be detected; (2) workplace adjustments (i.e. legal or financial measures to remove or reduce barriers to accessibility of work and employment for disabled/chronically ill people) had positive impacts on employment, but low uptake; (3) financial incentives such as wage subsidies can work if they are sufficiently generous; (4) involving employers in return-to-work planning can reduce subsequent sick leave and be appreciated by employees, but this policy has not been taken up with the level of intensity that is likely to make a difference; (5) some interventions favour the more advantaged disabled people and those closer to the labour market.

In an earlier study, Charles (2004) found (USA, longitude data, regression model) that workers were accommodated slightly more after the passage of the Americans with Disabilities Act (ADA) than before, however, workers appear to have paid for their accommodations in the form of lower wages.

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## 2. Appendix 1 Methodology

### 2.1. Literature review methodology

#### OBJECTIVE

The first part of the desk study is the review of scientific literature and relevant administrative documents. The review will provide an overview of what is known about work accommodation and the role of collective aspects of employment relations in work adaptation. The review will be used to (1) develop a conceptual framework and a topical guide for the following industrial relations relevant action research; (2) and specify research questions for statistical analysis that is relevant for this research, but underexplored in the literature.

The literature review focuses on three topics:

1. The introductory section focuses on general overview of labour market participation (of disabled people and older people). Very briefly the section discusses differences in employment, factors that influence stay at work and return to work behaviour and introduces the focus of the study – work accommodation.
2. The second topic focuses in detail on work accommodation. The section frames the concept, describes possible adaptations, and discusses work accommodation as social process at the workplace and industrial relations system.
3. Thirdly, the review focuses on making the differences in employers and employees practices. The section focuses on what is known about industrial relations and government policy practices to change the workplace practices regarding work accommodation.

The review includes (1) (systematic) review of scientific literature and (2) relevant administrative documents.

#### 1 SCIENTIFIC LITERATURE

We expect that the cumulative knowledge from the review of scientific literature will help to specify the theoretical model and analytical questions about work adaptation. The aim of the literature review is to transparently and reliably gather the cumulative knowledge on work adaptation, practices and interventions of work adaptation, the role of industrial relations in work adaptation, and identify research gaps.

The review is limited to peer-reviewed scientific articles and book sections/chapters. This restriction ensures that only high quality research that reliably and validly studies the topics are used.

The peer review articles are searched in Scopus. Scopus is a bibliographic database for academic journals that covers more than 20,000 peer reviewed titles from over 5,000 publishers. Scopus is preferred rather than other databases as it offers, for instance, 20% more coverage than Web of Science, whereas Google Scholar offers results of inconsistent accuracy. However, to fine-tune the search phrase and making sure that relevant texts are found other search engines are used to double check. The Boolean operators AND, OR, NOT and syntax would be used to define the transparent and replicable search phrase.

The search phrase is designed and tested on pilot search and expert choice of relevant literature. This step will verify that all relevant synonyms are included and the the search phrase does not exclude relevant texts.

The crude search results are reviewed by applying the inclusion-exclusion criteria. The articles should meet the following criteria:

1. content related criteria, i.e. focus on work adaptation for disabled and older people are included, job redesign for work richness in general are excluded;
2. methodology related criteria, e.g. previous systematic literature reviews are preferred, or empirical or rigorous theoretical conceptual frameworks are preferred to low quality descriptive qualitative studies or normative evaluations;

The inclusion and exclusion criteria is finalised during the familiarising with the existing literature and fine-tuning the phrase

The search search is lot out to the following sub-phrases

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### 1. WORK ACCOMODATION AND SYSTEMATIC LITERATURE REVIEWS

The first step of the literature review is to find sources that systematically review literature of work adaptaion. That includes both systematic literature reviews and articles and book sections that review the world of work accommodation.

The following SCOPUS's search phrase was compiled:

#### SEARCH PHRASE 1 LITERATURE REVIEWS OF WORK ADAPTATION

TITLE-ABS ( "systematic review" OR "systematic literature review" OR "literature review" OR "meta analysis" OR "scoping review" OR "scoping stud\*" OR "scoping review" OR "evidence based review" OR "evidence-based review" ) AND TITLE-ABS ( "work accommodation\*" OR "workplace accommodation\*" OR "job accommodation\*" OR "work adaptation\*" OR "job adaptation\*" OR "workplace adaptation\*" OR "work adjustment\*" OR "workplace adjustment\*" OR "job adjustment\*" OR "work modification\*" OR "workplace modification\*" OR "job modification\*" OR "reasonable accommodation\*" OR "reasonable adaptation" OR "natural support" OR "job design" OR "work design" OR "workplace design" OR "work re-design" OR "work redesign" OR "task modification" OR "natural support" OR "modified duties" OR " Adjustment latitude") AND PUBYEAR > 2005

TABLE 5 RESULTS: LITERATURE REVIEWS OF WORK ADAPTATION

Title	Number of documents
<b>Number of documents found</b>	94
<b>False positives - not matching topic</b>	78
<b>Added manually</b>	1
<b>Total</b>	16+1

### 2. WORK ACCOMODATION FOR OLDER POPULATION

The literature reviews focus more on disabled population and less on ageing. Thus the next step of the literature search focuses on older population, and include age specific synonyms, i.e. job design  
The following SCOPUS's search phrase was compiled:

#### SEARCH PHRASE 2 WORK ACCOMODATION FOR OLDER POPULATION

TITLE-ABS ( "work accommodation\*" OR "workplace accommodation\*" OR "job accommodation\*" OR "work adaptation\*" OR "job adaptation\*" OR "workplace adaptation\*" OR "work adjustment\*" OR "workplace adjustment\*" OR "job adjustment\*" OR "work modification\*" OR "workplace modification\*" OR "job modification\*" OR "reasonable accommodation\*" OR "reasonable adjustment" OR "reasonable adaptation" OR "natural support" OR "job design" OR "work design" OR "workplace design" OR "work re-design" OR "work redesign" ) AND TITLE-ABS ( old\* OR elder\* OR senior OR ageing ) AND PUBYEAR > 2005

TABLE 6 RESULTS: WORK ACCOMODATION FOR OLDER POPULATION

Title	Number of documents
<b>Number of documents found</b>	184
<b>False positives - not matching topic</b>	161
<b>Added manually</b>	1
<b>Total</b>	24

### 3. WORK ACCOMODATION FOR DISABLED POPULATION

The idea of the research is to find articles on work accommodation for disabled population that are excluded from the systematic literature review or are published more recently than covered by the systematic reviews.

The following SCOPUS's search phrase was compiled:

#### SEARCH PHRASE 3 WORK ACCOMODATION FOR OLDER POPULATION

TITLE-ABS ( "work accommodation\*" OR "workplace accommodation\*" OR "job accommodation\*" OR "work adaptation\*" OR "job adaptation\*" OR "workplace adaptation\*" OR "work adjustment\*" OR "workplace adjustment\*" OR "job adjustment\*" OR "work modification\*" OR "workplace modification\*" OR "job modification\*" OR "reasonable accommodation\*" OR "reasonable adjustment" OR "reasonable adaptation" OR "natural support")) AND PUBYEAR > 2010

TITLE-ABS ("job design" OR "work design" OR "workplace design" OR "work re-design" OR "work redesign" OR "task modification" OR "natural adjustment") AND TITLE-ABS ( old OR elder\* OR senior OR ageing OR disabil\* OR incapa\* OR workabil\* OR handicap\* OR invalidity OR disabled) AND PUBYEAR > 2010

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TABLE 7 RESULTS: WORK ACCOMODATION FOR OLDER POPULATION

Title	Number of documents
<b>Number of documents found</b>	655
<b>False positives - not matching topic</b>	Duublis praegu
<b>Added manually</b>	
<b>Total</b>	

#### 4. PREDICTORS OF WORK ACCOMMODATIONS

The idea is to find articles that discuss who get work accommodation. The following SCOPUS's search phrase was compiled:

##### SEARCH PHRASE 4 WORK ACCOMMODATION PREDICTORS

TITLE-ABS ("work accommodation\*" OR "workplace accommodation\*" OR "job accommodation\*" OR "work adaptation\*" OR "job adaptation\*" OR "workplace adaptation\*" OR "work adjustment\*" OR "workplace adjustment\*" OR "job adjustment\*" OR "work modification\*" OR "workplace modification\*" OR "job modification\*" OR "reasonable accommodation\*" OR "reasonable adjustment" OR "reasonable adaptation" OR "natural support") AND TITLE-ABS(predict\* OR determ\* OR anteced\* OR prognos\* OR forecast\* OR impediment OR barrier OR correlate\* OR factor) AND PUBYEAR > 2010

TABLE 8 RESULTS: WORK ACCOMMODATION PREDICTORS

Title	Number of documents
<b>Number of documents found</b>	293
<b>False positives - not matching topic</b>	255
<b>Added manually</b>	0
<b>Total Postive Results</b>	38

#### 5. OUTCOMES OF WORK ACCOMMODATION

The idea is to find the articles that discuss outcomes of work accommodation. The following SCOPUS's search phrase was compiled:

##### SEARCH PHRASE 5 WORK ACCOMMODATION OUTCOMES

TITLE-ABS ("work accommodation\*" OR "workplace accommodation\*" OR "job accommodation\*" OR "work adaptation\*" OR "job adaptation\*" OR "workplace adaptation\*" OR "work adjustment\*" OR "workplace adjustment\*" OR "job adjustment\*" OR "work modification\*" OR "workplace modification\*" OR "job modification\*" OR "reasonable accommodation\*" OR "reasonable adjustment" OR "natural support") AND TITLE-ABS(impact OR \*effect\* OR effic\* OR cost\* OR outcome OR burden OR causatum OR benefit OR beneficial) AND PUBYEAR > 2010



TABLE 9 RESULTS WORK ACCOMMODATION OUTCOMES

Title	Number of documents
<b>Number of documents found</b>	446
<b>False positives - not matching topic</b>	434
<b>Added manually</b>	0
<b>Total Postive Results</b>	12

#### 6. INTERVENTIONS FOCUSED ON CHANGING THE WORKPLACE PRACTICES, BEHAVIOUR OF EMPLOYERS AND EMPLOYEES: OUTCOME OF THE INTERVENTIONS

The idea is to find articles that discuss interventions that aim to motivate employment of disabled and older population in general or workplace accommodation in particular. The following SCOPUS's search phrase was compiled:

#### SEARCH PHRASE 6 WORK ACCOMMODATION POLICY

TITLE-ABS ( "work accommodation\*" OR "workplace accommodation\*" OR "job accommodation\*" OR "work adaptation\*" OR "job adaptation\*" OR "workplace adaptation\*" OR "work adjustment\*" OR "workplace adjustment\*" OR "job adjustment\*" OR "work modification\*" OR "workplace modification\*" OR "job modification\*" OR "reasonable accommodation\*" OR "reasonable adjustment" OR "natural support" OR "modified duties" OR " adjustment latitude") AND TITLE-ABS (policy OR policies OR program\* OR intervention OR measure OR service OR incentive OR intervention OR law OR regulation OR standard OR right OR entitlement) AND TITLE-ABS(impact OR \*effect\* OR effic\* OR outcome OR benefit) AND PUBYEAR > 2010

TABLE 10 RESULTS WORK ACCOMMODATION POLICY

Title	Number of documents
<b>Number of documents found</b>	266
<b>False positives - not matching topic</b>	244
<b>Added manually</b>	0
<b>Total Postive Results</b>	3

#### 7. INDUSTRIAL RELATIONS AND WORK ACCOMMODATION

The search aims to find sources that discuss or analyse the relationship between collective aspects of labor relations and labor market participation of older population and disabled people in general or that specifically focus on the industrial relations and work accommodation. The following SCOPUS's search phrases were compiled:

#### SEARCH PHRASE 7 INDUSTRIAL RELATIONS AND WORK ACCOMMODATION

TITLE-ABS ( "social dialogue" OR "industrial relation\*" OR "collective employment relation\*" OR "employee involvement" OR "employee participation" OR "employee voice" OR "employee represent\*" OR "worker represent\*" OR "union represent\*" OR "trade union" OR "labor union" OR "organised labor" OR "stakeholder collaboration" OR "labour

movement" ) AND TITLE-ABS ( "work accommodation\*" OR "workplace accommodation\*" OR "job accommodation\*" OR "work adaptation\*" OR "job adaptation\*" OR "workplace adaptation\*" OR "work adjustment\*" OR "workplace adjustment\*" OR "job adjustment\*" OR "work modification\*" OR "workplace modification\*" OR "job modification\*" OR "reasonable accommodation\*" OR "reasonable adjustment" OR "job design" OR "work design" OR "workplace design" OR "work re-design" OR "work redesign" OR "task modification" OR "natural support" OR "modified duties" OR "adjustment latitude" )

#### SEARCH PHRASE 8 INDUSTRIAL RELATIONS AND DISABILITY OR AGE MANAGEMENT

TITLE-ABS ( "social dialogue" OR "industrial relation\*" OR "collective employment relation\*" OR "employee involvement" OR "employee participation" OR "employee voice" OR "employee represent\*" OR "worker represent\*" OR "union represent\*" OR "trade union" OR "labor union" OR "organised labor" OR "stakeholder collaboration" OR "labour movement" ) AND TITLE-ABS ( "disability management" OR "age management" OR "ageing management" OR "return to work" OR "stay at work" )

#### SEARCH PHRASE 9 INDUSTRIAL RELATIONS AND OLD OR DISABLED EMPLOYEES

TITLE-ABS ( "social dialogue" OR "industrial relation\*" OR "collective employment relation\*" OR "employee involvement" OR "employee participation" OR "employee voice" OR "employee represent\*" OR "worker represent\*" OR "union represent\*" OR "trade union" OR "labor union" OR "organised labor" OR "stakeholder collaboration" OR "labour movement" OR "labour movement" ) AND TITLE-ABS ( old OR elder\* OR senior OR ageing OR disabil\* OR incapa\* OR workabil\* OR handicap\* OR invalidity OR disabled OR chronic ) AND PUBYEAR > 2005

#### SEARCH PHRASE 10 BARGAINING AND OLD OR DISABLED EMPLOYEES

TITLE(bargain\* OR negotiat\* OR co-determ) AND TITLE( old OR elder\* OR senior OR ageing OR disabil\* OR incapa\* OR workabil\* OR handicap\* OR invalidity OR disabled OR chronic ) AND PUBYEAR > 2005

#### TABLE 11 RESULTS BARGAINING AND OLD OR DISABLED EMPLOYEES

Title	Number of documents
Number of documents found	415
False positives - not matching topic	399
Added manually	3
<b>Total</b>	<b>17</b>

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#### 2 ADMINISTRATIVE DOCUMENTS, REPORTS

Secondly, not only peer-reviewed scientific articles/book chapters are analysed, but also relevant administrative documents and reports.

Supranational and state level policies and interventions shape the institutional framework that influences employer and employee practices regarding work adaptation. The comparative policy analysis, firstly, reviews international and European Union policy that directly and indirectly influences work adaptation. Secondly, it comparatively describes and explains selected EU member states' (i.e. the case studies in this proposal; but also some other EU member states based on Praxis previous research projects) employment policy on work adaptation taking into account their different industrial relations systems.

The review will focus on:

1. EU level policy documents, e.g. directives, strategies, green papers.
2. EU level administrative documents, policy analysis, policy discussion papers, most importantly by EU-OSHA, Eurofound and European Commission DG Employment.
3. Selected EU member states' administrative documents.

The documents are selected mainly by browsing, however also searching Google database using Boolean operators/logic might be used. While browsing, the inclusion and exclusion criteria are applied. Additional to the criteria defined above, further criteria are based on the required information:

1. does it identify policy/intervention design and implementation gaps?;
2. does the study identify workplace accommodation interventions and contingency gaps?;
3. does it outline crucial concepts related to work adaptation in establishments?

An exemplary list of studies that will be selected via this procedure and thoroughly investigated is the following:

- Reasonable Accommodation and Sheltered Workshops for People with Disabilities: Costs and Returns of Investments [LINK](#)
- Providing reasonable accommodation for persons with disabilities in the workplace in the EU – good practices and financing schemes – Contract VC/2007/0315 [LINK](#)
- EU-OSHA. 2014. "Work Limitations and Employer Adjustments for Employees With... : International Journal of Rehabilitation Research." Accessed May 12. [http://journals.lww.com/intjrehabilres/Fulltext/2005/06000/Work\\_limitations\\_and\\_employe\\_r\\_adjustments\\_for.3.aspx](http://journals.lww.com/intjrehabilres/Fulltext/2005/06000/Work_limitations_and_employe_r_adjustments_for.3.aspx).
- ...

This part of the review will be carried out in two steps:

1. Praxis reviews EU level documents, and selected EU member states' documents. The selection of countries is the following: Estonia, Latvia, Finland, Sweden, Denmark, Germany, United Kingdom, the Netherlands.

This selection is not methodological, but practical. Last year we had a study that we hope to use for this review.

2. Case study in Estonia, Hungary, Poland. I.e. the action case study research after the desk study.

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For reference management and online citing, the bibliography management software Zotero will be used. This ensures proper referencing and acknowledgement of the sources. In sum, the search strategy guarantees a more transparent and impartial use of sources and the citation approach ensures correct formatting.