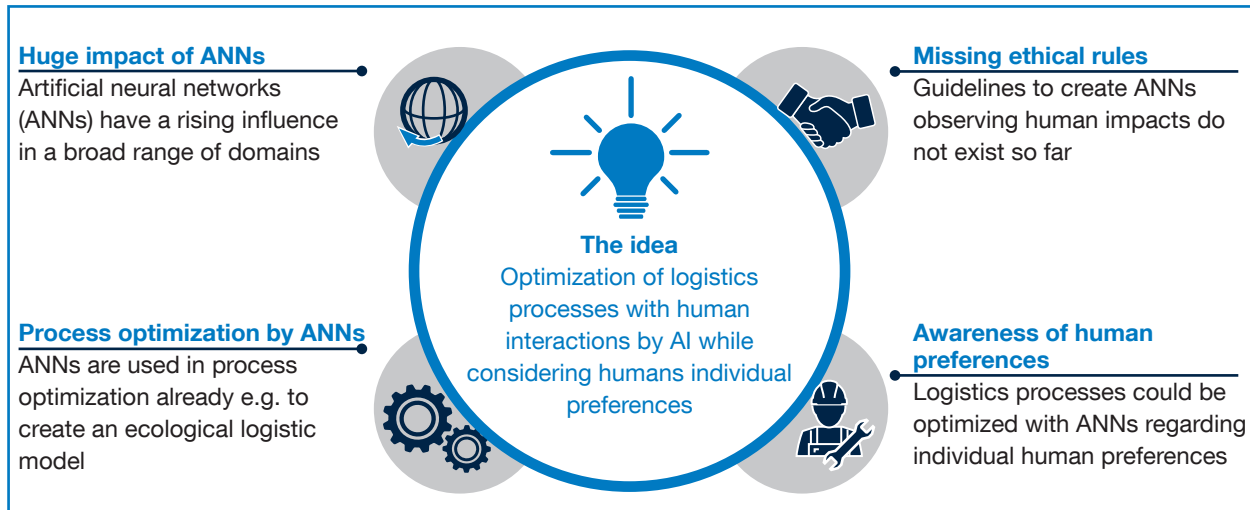


A Human Preference Aware Optimization System



The continuous digitization of processes creates a new way of data collection (Big Data) and supervision. Impressive developments in the AI sector accelerates data processing and evaluation, allow an unseen potential of process optimization. Although the potential of improving process performance is valuable, employees characteristics and values do not play an important role. Even worse, employee's personal traits are not considered and may expose them to performance monitoring and control leading to continuous pressure which is ethically questionable. Due to this challenge, we contribute a new way of thinking about AI and employees in a cooperative way, using AI to boost productivity by including traits as the most important factor in process optimization.

Initial situation

An increasing process digitization allows companies to gather vast amounts of data about processes, such as throughput time or mean time to failure. Modern machine learning techniques make it possible to analyze these data in more detail so as to optimize the underlying processes. AI-based analysis of processes, however, does not just hold the promise of efficiency gains but also will allow employers to assess in detail individual employees' behavior and productivity.

Problem description

AI in industrial processes (and in other work environments) thus raises the concern of massive increases in employer control, eroding the power of workers and employees within the enterprise and in society. Therefore ethical concerns regarding a loss of autonomy in the workplace has been promoted. Among the ethically problematic possible consequences are reductions in occupational health and safety, as constant monitoring increases stress levels, and the risk that excessive

transparency about work performance might expose an employee to direct or indirect pressure. Labor unions, scholars, and various other observers suggest that these ethical concerns can largely be traced back to a key element of (actual or anticipated) use of AI: It aims to determine how employees might adapt to better serve the process.

Goals and Approach

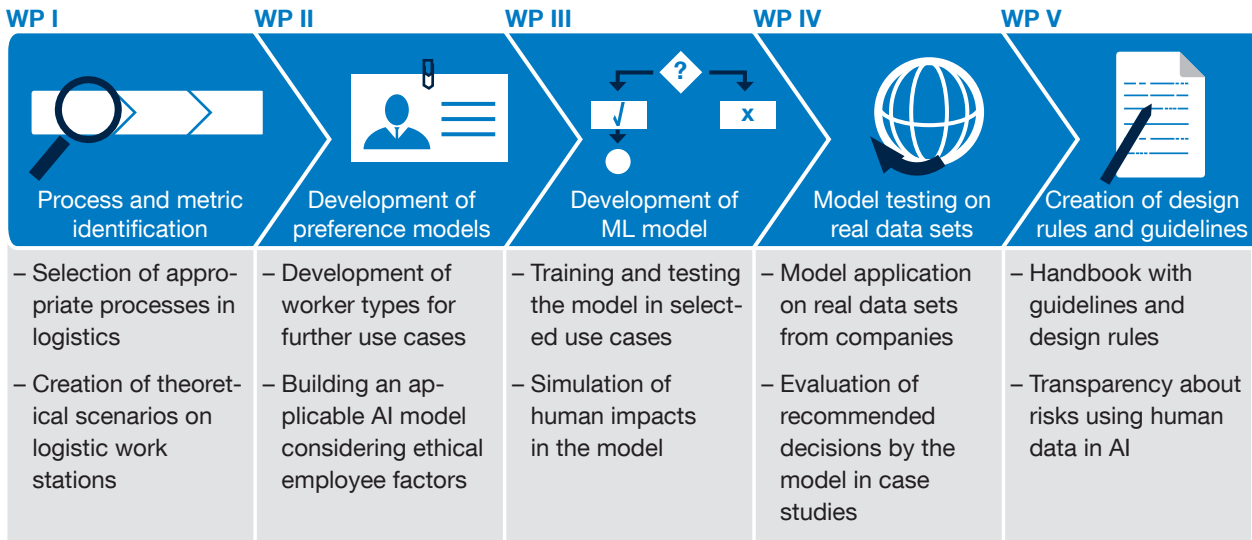
Our goal is to point out ways to utilize AI in an ethical manner and to move the employee back into the centre of process design. The human preference-aware optimization system supports employees by assigning tasks related to their past preferences and so promotes their strengths. More satisfied by appreciating individual strengths, employees motivation will rise as they work on tasks they prefer. In addition, AI based concerns can be reduced, since employees benefit from.

Such a system would use AI in data analysis with the objective of optimizing the processes via the assignment of tasks to suit the employees, rather than changing the employees workflow to suit the process. The envisaged

AI optimization system will be trained with process data and should only be capable to assign suitable tasks but Initial situation

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