Adapting Workforce Skills to the Future: Navigating the Shifts through Continuous Learning and Automation-Driven Market Changes

Capstone Project
University of St.Gallen

Objective

Implementing upskilling initiatives to effectively address the workforce transformation caused by automation

Implementation in Japan

- Estimated **56% displacement of work activities** in Japan, allowing cost reduction and increased productivity amid a shrinking workforce
- Japan 2019 AI strategy: Train for data science and AI; emphasize business translators **to align talent with business goals**
- Idea of an **upskilling chain**: continuous cycle of skill transfer and adaptation to changing job markets

Outcome of Japans measures

- Robot Revolution Initiative (RRI) to **advance automation**
- National imperative**: Reskill workforce** amid talent competition and innovation pressure
- Cultivating an innovative learning culture to address demographic challenges

Germany's status

- "**Weiterbildungsgesetz 2023"** targets employees in structural shifts, underutilized due to low awareness
- Workers in jobs susceptible to automation exhibit **below-average participation in continuing education**, especially those involving IT and soft skills

Policy recommendations for Germany

- **Increase awareness** about the possibility of continuing education with a communication campaign
- Encourage at-risk individuals to engage in further education.
- Provide **financial incentives for companies** to integrate business translators and promote skills training

Possible Scenario

- **Objective:** Equalize the participation rate of workers in jobs susceptible to automation with those not threatened by automation
- **Impact:** A 14% increase in training for the endangered
- **Costs:** Primarily for financial incentives, communication efforts, and expanding training. Estimated in the mid-eight-figure range

Sources: HSG-Analysis, Eurostat, IAB, Interview Zika, McKinsey, Oxford University, Wharton

Background information about: Implementing upskilling and ongoing education initiatives to effectively address the workforce transformation

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Object	Additional information
Implementation in Japan	• Low birth rates and extended life expectancy contribute to a diminished domestic workforce at 59.7% of the total population • Despite automation and increased workforce engagement, Japan anticipates a 1.5 million worker shortfall by 2030 • Over 50% of working hours in Japan are dedicated to repetitive tasks, two-thirds of which are susceptible to automation. Germany also faces a high percentage of jobs that can be automated in a global comparison • Japan's AI Strategy 2019 emphasizes training 250,000 individuals annually in areas like data science and AI. Highlights the importance of business translators who align talent and technology with business objectives • The strategy emphasizes upskilling existing employees to meet the demand for skills in emerging technologies • Dr. Gerd Zika and McKinsey stress the importance of an efficient and effective training chain for the transition from manual jobs to automated activities • Continuous training is crucial, allowing individuals initially displaced by automation to acquire skilled roles, creating a cycle of skill transfer and adaptation in response to evolving job markets
Outcome	• Implemented the "New Robot Strategy" and Robot Revolution Initiative (RRI) to advance automation in various sectors. Sectors include manufacturing, service, healthcare, and agriculture • Successful implementation of automation requires a culture of continuous learning. Skills of workers need to closely align with the dynamic needs of the job market • Fostering a culture of ongoing education infused with innovation is crucial for adapting to technological changes • Adapting the workforce to automation is considered a national task in Japan. The government's role, while not as prominent as in other countries like China, is crucial • A more active government role could stimulate greater incentives for continuous learning • Government involvement could bring about significant changes, including simplifying processes through national standardizations

Sources: HSG-Analysis, Eurostat, IAB, Interview Zika, McKinsey, Oxford University, Wharton

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Germany 's status	• Employees in jobs susceptible to automation participate less frequently in continuing education. Disparities are notable in training programs for IT skills and soft skills. The observed pattern is specific to employer-funded continuing education • The "Weiterbildungsgesetz 2023" serves as a tool for promoting continuing education, specifically targeting employees affected by structural changes • The "Weiterbildungsgesetz" is currently underutilized, partly due to limited awareness of available support opportunities • 48.92% of the German population has "basic or above basic overall digital skills." This figure is below the EU average of 53.92%
Policy recommendations for Germany	• Limited success in establishing effective training chains for workers to adapt their skills to the automated job market through the "Weiterbildungsgesetz. • A need to raise awareness of the "Weiterbildungsgesetz" offering, potentially through a comprehensive communication campaign • Incentivize individuals at greater risk of job loss due to automation with financial benefits for further education • Encourage the state not only to motivate individuals but also businesses to invest in training • Follow the Japanese example and incentivize companies, through financial incentives, to incorporate business translators into their operations • Create incentives for companies to introduce skills training at all levels. Foster a culture of continuous learning within businesses
Possible scenario	• Average participation in non-formal training for all employed individuals is relatively low • Training rate for those at risk of job displacement due to automation stands at 19% • Training rate for individuals not facing the threat of automation-related job loss averages at 33% • Aim to achieve the 33% training rate benchmark for all individuals, including those at risk of job displacement. Achieving the 33% benchmark would result in a 14% increase for individuals at risk • Anticipate a positive impact on workforce skills and better adaptation to the job market's demands • Estimated costs for financial incentives, communication efforts, and expanding training opportunities are projected to be in the mid-eight-figure range

Sources: HSG-Analysis, Eurostat, IAB, Interview Zika, McKinsey, Oxford University, Wharton