

# STUDENTS' ANXIETY ABOUT THE CHANGING WORK ENVIRONMENT AND FUTURE TRENDS

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## Abstract

Based on the recent reaction during the introduction of biosensor research equipment to the HR business course at a business school in Germany, the lecturer noticed anxiety among students. The question arose if this anxiety was based on the students' general apprehension towards technology or the perceived lack of knowledge concerning technology. This study seeks to determine the causes for anxiety occurring upon the realization of required skills for future digitized work environments.

With the mixed-method design, quantitative data has been evaluated using questionnaires, which has been supplemented by additional qualitative data using a between-subject design of focus interviews. Respondents were comprised of bachelor and master students at a Bavarian business school, aged 18-40 years. The validity of the data was measured against standard quality criteria for quantitative and qualitative data. Depending on the scenario presented to the "confident" and the "anxious" group of students in both the questionnaire and the focus interviews, confident participants are not perceiving anxiety about a lack of skills in their business education and are confident about their work perspectives. Contrary to that, the anxious group participants are displaying a high level of anxiety and perceive to lack the required skills in future work trends.

Curriculum adjustment needs to take place to reflect the transition into the future of work trends. Similarly, communicating the necessity for change to both groups and the development of required skillsets are imperative to master the transition into a highly digitized work environment.

**Keywords:** *Digitalization, future of work, anxiety, business education, awareness.*

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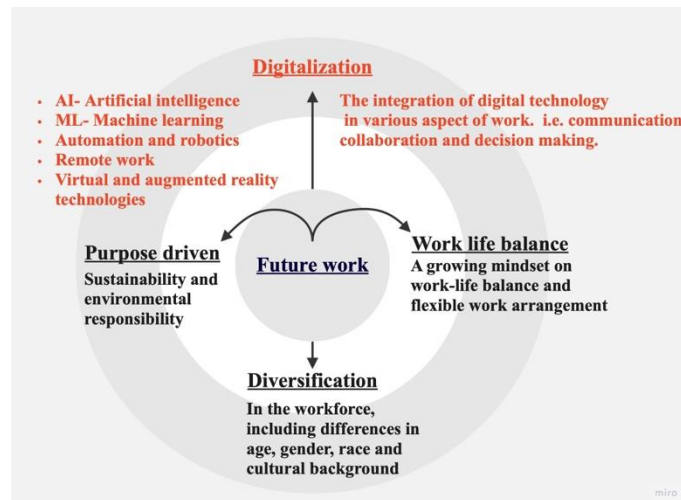
## 1. Introduction and objectives

The discovery of anxiety concerning how it is going to affect in the future of work happened during a lecture and that was the turning point where the authors got the idea to research the topic for deeper understanding. Anxiety is a common and regular emotion characterized by feelings of tension, worried thoughts, and sometimes physical changes such as increased blood pressure (American Psychological Association, 2023). Referring to that emotional behavior of anxiety, the authors got the same feeling from the students arguing that they have disadvantages when it comes to studying business contrary to the students who study IT programs, digital management, etc.

According to Buffer (2021), McKinsey & Company (2017), Deloitte (2022), Forbes (2021), Harvard Business Review (2018), and the World Economic Forum (2020), artificial intelligence and machine learning will be used more and more in the future to increase production and efficiency; the frequency of remote work and flexible working hours will change the way work is conducted and managed; many industries will continue to embrace virtual and augmented reality technologies, changing the way work is done and how training is conducted; workplace practices and decisions will place an increased emphasis on sustainability and environmental responsibility; collaborative technologies will dramatically shape the future of work, which will encourage cross-functional collaboration and teamwork.

The authors created a visual representation of future work environment (Figure 1: Visual representation of future work environment). Based on the model, this paper is focusing specifically on digitalization (as indicated in the red areas).

Figure 1. Visual representation of future work environment based on Buffer (2021); McKinsey & Company (2017); Deloitte (2022); Forbes, (2021); Harvard Business Review (2018); World Economic Forum (2020).



## 2. Theory

Anxiety could develop into a medical disorder if a person experiences more than temporary worry and tension on a regular basis (National Institute of Mental Health, 2023). Emotions of unease, worry, fear, or panic characterize a group of mental conditions such as feeling anxious when facing difficulties at work or before making important decisions are known as anxiety disorders (National Library of Medicine, 2023). According to cognitive behavioral therapy, anxiety disorders develop due to interactions between thoughts, emotions, and behaviors depending on the situation (Therapist Aid, 2023). As stated by Bauer, Riedel, Ganz, & Hamann (2019), who cited Bauer (2015) there are three drivers changing work.

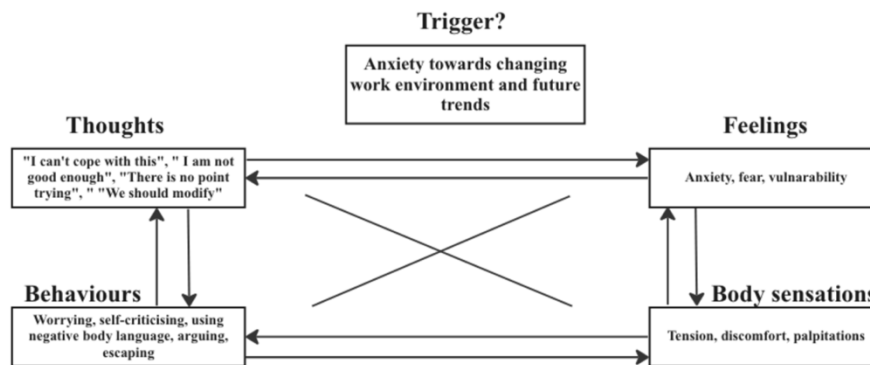
The first is the adoption of people and the environment in which work is done: demographic change, the development of a new awareness of physical and psychological health, as well as the growing social and cultural diversity among employees. The second force for change is made up of changing business models that create new networks for value generation using digital infrastructures. New technologies are the third driver, and they cause significant disruptions in a society that is becoming more digital and networked.

Ideas about what the workplace of the future might look like are already starting to take shape (Bauer, Riedel, Ganz, & Hamann, 2019). In the context of the workplace, technology, climate change, globalization, and demography are identified as important megatrends that will have a significant impact in the coming years, and understanding how these megatrends affect the workforce and society is critical to prepare for the changes to come (Balliester & Elsheikhi, 2018). The cross-sectional formulation is a shared method of exploring problem interactions between a situation, thoughts, emotions, body sensations, and behaviors (PSYCHOLOGYTOOLS, 2023), based on the cross-sectional formulation analysis (see figure 2: cross-sectional formulation during a lecture) the paper discussed how new technology and shifting cultural expectations are causing a change in the kinds of professions and skills that will be in demand, and how this is accelerating the future of work. Transferring this change of accelerated future work demands on the student population, students can become anxious as a result, as they may feel uncertain about their employment prospects and the qualifications they need to succeed in the workplace. Psychological disorientation that might arise from rapid societal and technical change can make students anxious as they are unsure of their place in the workforce of the future and may feel overwhelmed by the pace of change (Toffler, 1970).

Based on the above discussion, following hypotheses can be derived:

- H<sub>1</sub> Fear of digitization is prevalent in the student population*
- H<sub>2</sub> Human obsolescence by Artificial Intelligence (AI) is perceived as a threat*
- H<sub>3</sub> Students feel the need for a more digitized / technological curriculum*

Figure 2. Cross-sectional formulation based on (PSYCHOLOGYTOOLS, 2023).



### 3. Methodology

This study seeks to determine the causes for anxiety occurring upon the realization of required skills for future digitized work environments. This report also articulates the in-depth relationship between the current course curriculum in the degree program and the future job requirements. In addition to that, the authors also examined the existing curriculum (Ostbayerische Technische Hochschule Amberg-Weiden, 2023) and whether changing or modifying course curricula would prepare properly for future job trends or not. With the mixed-method design, quantitative primary data have been evaluated, which were supplemented by additional primary qualitative data using a between-subject design of focus interviews. The validity of the data has been measured against standard quality criteria for quantitative and qualitative data.

#### 3.1. Data collection

The survey for primary data collection consisted of a questionnaire with 19 items of multiple-choice questions using a paper-pencil survey, which was distributed through various OTH Amberg-Weiden educational groups after conducting the pilot study and adjusting accordingly. Participation in the survey was anonymous. Respondents were comprised of bachelor's and master's students of the OTH, aged 18-40 years. In addition to that, there was a field for the respondents to leave their personal information if they wanted to volunteer in an interview session for a deeper understanding of the topic.

#### 3.2. Quantitative analysis

Due to its explorative nature, descriptive quantitative analysis (McCombes, 2019) was conducted by using SPSS after cleaning the data set and checking for completeness. Here, the authors focused on the distribution of answers on the rating scales leading to a group of respondents into the categories of "confident" and "anxious" students. Here, the participants classified as "confident" did not perceive any anxiety about a lack of skills in their business education and appeared confident concerning their work perspectives. Contrary to the "confident" participants, the "anxious" group participants are displaying a high level of anxiety and seemed to be aware to lack require skills in future work trends leading to anxiety.

#### 3.3. Qualitative analysis

Following the survey, the participants who had voluntarily indicated they would be interested to join in the focus interviews were invited – all according to the classification of belonging to either the "confident" or "anxious" group. The in-depth discussions were summarized and evaluated.

### 4. Analysis and discussion

The authors distributed the survey questions using the convenience sampling method among their network, specifically in the Technical University Amberg-Weiden. There was a total of 19 questions prepared for the survey where authors typically categorized questions into four parts; 1. Demographic, 2. Anxiety-related, 3. Future skills-based and 4. Perceived appropriateness of the curriculum for future work demands. The answering options for participants were on a four-point Likert scale.

#### 4.1. Data analysis

Among 106 respondents, 64 subjects answered to be male, 39 females, with none of the independent sample t-test being significant between those two groups. Out of the surveyed subjects, the mean age is 23.75 years, with the semester group on average being 4.75 semesters. Considering anxiety and fear all participants were concerned but not highly worried about the technology and digitization being a reality of future workplace which was expressed in a mean of 2.2 out of 4 with 1 being the lowest and 4 being the highest. When comparing the degree program groups of International Business (IB) and Applied Business Psychology (AWP), the means differ significantly ( $\mu_{IB}= 2.26$  vs  $\mu_{AWP}=2.73$ ) using a two-sided independent sample t-test ( $p=0.018$ ). Based on the findings,  $H_1$  *Fear of digitization is prevalent in the student population* can be accepted.

All participants are more concerned with human obsolescence and jobs being replaced through digitization, which all have an effect on students' mental health, caused by the mental pressure to adapt to constant technological changes. Also, a significant difference can be seen between IB and AWP students ( $p=.041$ ), with means between 2.56 and 2.96; therefore,  $H_2$  *Human obsolescence by AI is perceived as a threat* can also be accepted.

With an overall mean of 2.8 as far as the students' feeling towards current and future curricula, they are highly aware of how necessary future skills and a curriculum entailing digitized work are. Again, a significant difference between IB and AWP can be seen when it comes to the awareness of needs for future skills ( $p=.008$ ) and the necessity of a curriculum enriched with digitized content ( $p=.035$ ). Students feel it is imperative to supplement current curricula with digital skills in all degree programs with means of 3.0.-3.2, leading to the acceptance of  $H_3$  *Students feel the need for more digitized/ technological curriculum*.

In all instances of significances described, international students (IB) are more aware of the need for a change towards digitized curricula while at the same time being less afraid of what the future might bring.

#### 4.2. Interview analysis

Thirty-six participants shared their information and were willing to be interviewed; however, due to examination periods, time constraints, and short deadlines, only 4 students were part of the focus interviews. The authors prepared a focus interview (Fowler, Jr. & Mangione, 1990) according to classic guidelines and intended to deepen their understanding of the topic. The interviews took place in two different groups. The "anxious" group showed anxiety towards the digitized work culture and the "confident" group showed no fear and more awareness and confidence concerning future work trends. Among those four participants, three were male and one female. The group "anxious" reflected anxiousness in their discussion by specifically mentioning ChatGPT and it being used to replace human workers in particular in fields like HR and Marketing. Additionally, students indicated they do not have very basic troubleshooting or basic software application computer skills, when it comes to the field of Logistics and future demands; therefore, one individual even took a course outside of the university to be up to part with the requirements of the job market. On the other hand, the "future" group is more aware of the future need and fascinated by technological advancement, but both groups felt additional requirements of combining AI, digitized or technological education in the ongoing curricula are needed.

### 5. Conclusion

The research aimed to identify the anxiety of the students concerning changing future work environments and how changes in the curricula may help to prepare them for the future digitized work environment. Despite the limitations of little participation from students in the interviews, the implications are clear. Students need to have the curriculum adjusted to address the gaps in current education and future requirements. The result clearly suggests that it is not anxiety they are having concerning dealing with technology but not being prepared for the future digitized work environment. If students can have a curriculum with mandatory elements including technological future skills required in business, then they might not need to take extracurricular technical courses such as learning SAP, basic troubleshooting, data analysis, etc. from external institutes. University authorities may think about introducing integrated curricula in business and management education. Furthermore, detailed research is needed also including requirements from the industry and labor market.

Both the quantitative and qualitative analysis indicated that students are anxious and the majority of participants feel of having a mixed curriculum of digitized-based education along with their business education curricula, which will help them prepare better for the future job market. Future research can be conducted in the area of interrelatedness between cultural dimensions and needed change towards digitization. Similarly, even though it can be assumed that the German students' higher fear towards new

technology is based on the cultural dimension of risk aversion, this also would require further analysis and research setup.

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