

**Czech University of Life Sciences Prague**

**Faculty of Economics and Management**

**Department of Languages**



**Bachelor Thesis**

**Impact of Corporate E-learning on Working Place  
Performance**

**Oguz Ata Akcay**

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# CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

## BACHELOR THESIS ASSIGNMENT

Oguz Ata Akcay

Business Administration

Thesis title

**Impact of corporate e-learning on working place performance**

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### Objectives of thesis

The objective of the thesis is to identify the effects of corporate e-learning on working place performance of a chosen company.

### Methodology

The work will consist of two parts – a theoretical part and a practical part.

The theoretical part will be based on the analysis of secondary sources.

The practical part will be processed on the basis of outputs from quantitative/qualitative research. The analysis of the relation between employees' wages, satisfaction, dedication, productivity, which affects performance, and e-learning, including e-learning as the support for language training, will be based on a questionnaire survey and interviews.

**The proposed extent of the thesis**

30-40 pages

**Keywords**

e-learning, employee satisfaction, productivity, performance, corporate e-learning and language

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**Recommended information sources**

- CARLINER, S. and SHANK, P. The E-Learning Handbook: A Comprehensive Guide to Online Learning. San Francisco: Pfeiffer, 2008. 543 p. ISBN 9780787978310.
- DEVARAKONDA, S. Calculating the Economic Viability of Corporate Trainings (Traditional & eLearning) using Benefit-Cost Ratio (BCR) and Return On Investment (ROI). International Journal of Advanced Corporate Learning (IJAC). 2019. Vol. 12, No. 1, pp. 41-57. ISSN 1867-5565. DOI 10.3991/ijac.v12i1.9735.
- ELKELES, T., PHILLIPS, P. P. and PHILLIPS, J. J. Measuring the Success of Learning Through Technology: A Guide for Measuring Impact and Calculating ROI on E-Learning, Blended Learning, and Mobile Learning. Alexandria: Association for Talent Development, 2014. 232 p. ISBN 9781562869502.
- ELLIS, P. Corporate eLearning: Impact on Employees. Parker: Outskirts Press, 2018. 190 p. ISBN 9781478730446.
- FORD, J. K. Learning in Organizations: An Evidence-Based Approach. New York: Routledge, 2020. 358 p. ISBN 9780367201876.
- MOHAMMADI, N., GHORBANI V. and HAMIDI, F. Effects of e-learning on language learning. Procedia Computer Science. 2011. Vol. 3, No. 3, pp. 464-468. ISSN 1877-0509. DOI 10.1016/j.procs.2010.12.078.
- TAI, L. Corporate E-Learning: An Inside View of IBM's Solutions. New York: Oxford University Press, 2007. 156 p. ISBN 9780195311310.
- WINGARD, J. Learning to Succeed: Rethinking Corporate Education in a World of Unrelenting Change. New York: AMACOM, 2015. 240 p. ISBN 9780814434130.
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**The Bachelor Thesis Supervisor**

PhDr. Mgr. Lenka Kučírková, Ph.D.

**Supervising department**

Department of Languages

Electronic approval: 6. 6. 2022

**PhDr. Mgr. Lenka Kučírková, Ph.D.**

Head of department

Electronic approval: 27. 10. 2022

**doc. Ing. Tomáš Šubrt, Ph.D.**

Dean

Prague on 12. 11. 2023

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### **Declaration**

I declare that I have worked on my bachelor thesis titled "Impact of Corporate E-learning on Working Place Performance" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break any copyrights.

In Prague on 12.11.2023

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# **Impact of Corporate E-learning on Working Performance in DHL**

## **Abstract**

The purpose of this thesis is to investigate the impact that corporate e-learning has on the overall performance of DHL's employees at the workplace. In addition to this, it is found out if the integration of the corporate e-learning system has somehow impacted the working performance of employees or not. The work is divided into two sections: one is theoretical, and the other is practical. The examination of secondary sources served as the foundation for the theoretical section.

The results of the quantitative and qualitative research served as the foundation for the processing of the practical component. The analysis of the relation between employees' satisfaction, dedication, productivity, which affects performance, and e-learning, including e-learning as the support for language training, is based on a questionnaire survey and interviews. The purpose of this analysis is to determine whether there is a connection between these factors and e-learning.

Overall, it has been proved that the e-learning system for people working in the DHL office in Prague experiences an increase in working performance after using the e-learning platform offered to them. However, it is wise to say that this conclusion and statement are relevant for circumstances, and one of such circumstances is having the first working experience, and for those cases, the effect of e-learning can be the highest. As for age, it is not a significant factor that might influence the working performance of employees using DHL's e-learning system.

**Keywords:** e-learning, employee satisfaction, productivity, performance, corporate e-learning and language

# Dopad firemního E-learningu na pracovní výkon v DHL

## Abstrakt

Cílem této práce je prozkoumat dopad firemního e-learningu na celkovou výkonnost zaměstnanců DHL na pracovišti. Kromě toho je zjišťováno, zda integrace podnikového e-learningového systému nějak ovlivnila pracovní výkon zaměstnanců, nebo vůbec ne. Práce je rozdělena do dvou částí: jedna je teoretická a druhá praktická. Zkoumání sekundárních zdrojů sloužilo jako základ teoretické části.

Výsledky kvantitativního a kvalitativního výzkumu sloužily jako základ pro zpracování praktické části. Analýza vztahu mezi mzdami zaměstnanců, spokojeností, obětavostí, produktivitou, která ovlivňuje výkon, a e-learningem, včetně e-learningu jako podpory jazykového vzdělávání, je založena na základě dotazníkového šetření a rozhovorů. Účelem této analýzy je zjistit, zda existuje souvislost mezi těmito faktory a e-learningem.

Celkově lze říci, že bylo prokázáno, že e-learningový systém pro lidi pracující v kanceláři DHL v Praze po využití e-learningové platformy, která jim byla nabídnuta, zaznamenal nárůst pracovního výkonu. Je však moudré říci, že tento závěr a prohlášení jsou relevantní pro konkrétní okolnosti a jednou z takových okolností je její nebo jeho první pracovní zkušenost, a v těchto případech lze účinek e-learningu považovat za nejvyšší. Pokud jde o věk, věk není významným faktorem, který by mohl ovlivnit pracovní výkon zaměstnanců využívajících e-learningový systém DHL.

**Klíčová slova:** e-learning, spokojenost zaměstnanců, produktivita, výkon, firemní e-learning a jazyk

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# **1 Introduction**

The modern business environment has been quickly evolving over thirty years, and the advent of the Internet is a primary cause for this ensuing growth. Even though the most common uses of the Internet are for communication and the transfer of files, major corporations have already taken advantage of this newly developed tool by using it to train and educate their employees using electronic devices that are connected to the Internet. This same procedure is something that is referred to as corporate e-learning in today's day and age, and the very core of the process may seem unclear to certain individuals who are not acquainted with its use in large corporations. For this reason, an understanding of the way e-learning influences the working performance of employees who are employed by DHL from the perspective of an outside observer is achieved. The observation is based on the information gleaned from DHL workers who were willing to share their thoughts and experience with e-learning. It is debatable as to whether the implementation of corporate e-learning has had any effect on the individual levels of productivity at work, even though a significant shift in a person's normal routine undoubtedly has some bearing on the way an organization conducts its operations. To accomplish this goal, the general economic and financial performance of the specified organization over the course of ten years is monitored to arrive at a conclusion regarding whether the corporation can benefit from the implementation of the system of corporate e-learning.

However, it is essential to be aware that the influence of corporate e-learning may be different from one firm to another. Yet, despite this reality, it would be reasonable to compare the results acquired by the author with those connected to other businesses.

## **2 Objectives and Methodology**

### **2.1 Objectives**

The objective of this thesis is to identify the impact that corporate e-learning has on the overall performance of DHL's employees at the workplace. In addition to this, to identify whether the integration of the corporate e-learning system has somehow impacted the human resource situation in the company in a positive way or not.

### **2.2 Methodology**

The work is divided into two sections: one is theoretical, and the other is practical.

The examination of secondary sources served as the foundation for the theoretical section.

The results of the quantitative and qualitative research served as the foundation for the processing of the practical component. The analysis of the relation between employees' satisfaction, dedication, productivity, which affects performance, and e-learning, including e-learning as the support for language training, is based on a questionnaire survey and interviews. The purpose of this analysis is to determine whether there is a connection between these factors and e-learning. In addition to this, the insight into the development of human resources and general employment in the company over ten years after the integration of the corporate e-learning system into the enterprise has been taken.

## **3 Literature Review**

### **3.1 Corporate E-Learning**

#### **3.1.1 History**

The training and education of both newly hired employees and those who have already been hired by the company is understood as the primary objective of corporate e-learning, which is understood to be an integration of a variety of strategies and methods. According to the findings of numerous experts, the first specialized training product known as PLATO (Programmed Logic for Automatic Teaching Operations) was developed in 1959, which is when e-roots learning's may be found (Troutner, 1991, p. 11). The main developer of the project, Donald Bitzer, started PLATO in 1960 at the age of just twenty-six. The initial goal of the project was to construct an instructional machine. The University of Illinois is where the PLATO system was developed, according to the findings of various scholars. It was among the first environments to permit computer-based education and to combine text and visuals. It took ten years for PLATO to reach its full potential. When creating a portion of the system's components, the team was simply working with a concept, enthusiasm, and the ILLIAC 1 computer, which processed, stored, and transferred data. The university employed ILLIAC 1 to simulate atomic explosions, calculate the load on materials required to construct bridges over roads, and even create music. Thanks to the development of PLATO II in 1961, two users could work simultaneously, but the system's designers soon realized that it required more power than ILLIAC 1 could offer. The university lab decided to get its own computer as a result. About purchasing the equipment, creators of PLATO were in discussions with IBM, NCR Corporation, and Control Data Corporation (CDC). Because of the efforts of a CDC sales representative, an updated version, PLATO III, was built on the Seymour Cray computer (Bailey, 2000, p. 11).

Because all the "programs" were developed in ILLIAC, the makers of PLATO had to create SIMILLIAC, which is an emulator software, to get them to work properly on 1604-C (Rogallo, 1977, p. 11). The system functioned by having all seventy-two terminals share twenty common ports amongst them. During that period, students who were enrolled in

PLATO III had access to thirty different courses that covered a wide range of topics, as well as 5,000 hours of learning resources. PLATO IV was produced even though PLATO III was still in use since PLATO III was so warmly received (Nicholson, 2007, p. 12).

In 1972, PLATO IV was made available to the public. The orange plasma display on Bitzer's console stood out as one of the enhancements. It was skilled in both raster and vector graphics and worked quickly with both. In addition, the introduction of supplementary devices and a touchscreen panel gave pupils the ability to reply to questions by tapping their fingers on the panel to indicate the appropriate response. Take, for example, the Gooch Synthetic Woodwind instrument; it has the capability of synthesizing four different sounds. She helped the students improve their hearing by having them follow musical dictations, which was also a way for her to gauge how much they had grown. The insufficient availability of computer resources slowed down the development of educational software such as PLATO.

Computer-based training, abbreviated as CBT, is a new subset of instructional software that came into existence in the late 1980s and early 1990s as a direct result of the widespread availability of low-cost personal computers that included advanced technical specifications. CBT came earlier e-learning and involved the presentation of textual and visual content, which was often kept on a CD-ROM. CBT was the predecessor to e-learning. The client and the material of the presentation had little contact with one another. Products developed using CBT have the potential to be distributed using local area networks (LANs), which would allow them to reach a larger audience (Veeraraghavan, Hanna & Pardede, 2019, p. 12).

The development of online learning tools has changed the educational landscape. The Internet revolution and the ensuing recession were two significant "breakthroughs" in the first two years of the 2000s (2000–2001). The shift of curriculum and materials from face-to-face interactions with instructors to online classrooms has been helped by these factors. Having to learn an instrument that utilizes data systems and is focused on achieving the following objectives is now known as an "e-learning tool". These goals include (Jochems, 2004):

- Delivering educational materials using multimedia technology.



- Applying responses with the user during interactive interaction.
- Regulating academic goals and progress in learning.
- Automating information processes and providing systematic support for it.

As soon as the World Wide Web became widely available, educators started using contemporary technology more often in their lessons. There was a rise in the number of websites that focused on several objectives and presented themselves as a digital platform for the development of educational programs. The University of Phoenix (Alexander, 2001), which was a pioneer in the field of distance education, began to exhibit a significant interest in Internet-based education. In 1993, a summary of the initial online lecture, textbook, and project evaluation through e-mail was published. At the same time, the CMS (Course Management Systems) that were being developed at the time also made their debut. As time went on, more people began using the Internet, and in 1994, CALCampus launched the very first online academic course. In the same year, 1994, the initial online high school was founded (Woolley, 1994, p. 14). Because of advances in Internet technology and the proliferation of webcams, educators are now able to record their own courses on their own time and easily share them with students through the network by posting them on their websites. Therefore, the advancement of e-learning was becoming one of the most key moments and among the most powerful instruments that are accessible to meet the rising need for education. Students who would like to be informed at a particular university but who are unable to do so face-to-face because of greater distances from their own place of residence are now able to do it online and begin one 's schooling through with a virtual connection and because there is a need to enhance access to educational opportunities. There have been several iterations of e-learning platforms that have come into existence whilst their slow evolution and growth. There is the potential for the use of as such Rapid E-learning tools (for instance, switching from PowerPoint to Flash), economic excitability, modeling, simulation, audio, and video, in addition to a broad variety of interactive aspects of the learning process.

There is a new trend emerging in education that is being referred to variously as "social learning," "informal learning," and "collaborative learning," and it is being referred to in

some international sources as "WE-learning" (Zakharova, 2013, p. 14). Briefly, the following is a rundown of the primary concepts that underpin WE-learning (Zakharova, 2013, p. 15):

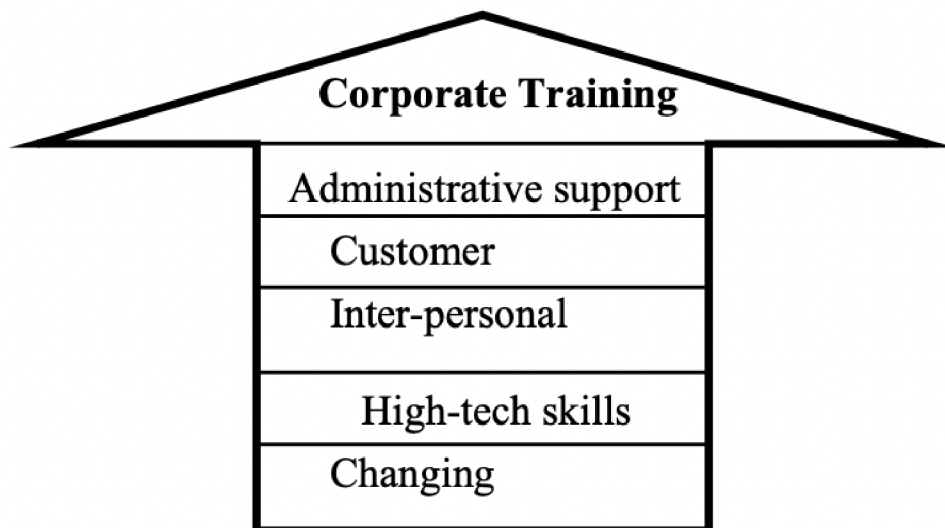
- Moving away from the emphasis placed on conventional education and generating the necessity to study new subject areas to enhance one's abilities. Real-time and ongoing adaptation characterize the organizational learning that takes place. WE-learning may be thought of as a form of disarming for software engineers and designers. The role of the instructor in collaborative learning should not always be that of the author or creator but of the organizer or leader.
- A lack of motivation to completely submerge WE-learning in place of the traditionally conceived and implemented educational programs. WE-learning is not meant to replace the necessity for formal instructional design and learning that is directed by a teacher. The quality of conventional education can benefit significantly from the implementation of these systems, which serve as a substantial supplement to it. In many circumstances, learning through formal channels will become more efficient.
- Making a market for a wide variety of newly developed tools and platforms
- Altering the manner of conduct taught in business schools and seminars The student will no longer be dependent on the computer as their primary learning helper thanks to WE-learning. The actual process of joint schooling ought to be conducted employing mobile phones and other mobile portable equipment (tablets and other gadgets).
- Insisting for shifts in both the culture and the leadership.

### **3.2 Essence of E-learning**

E-learning software tool (e-learning that is based on Web 2.0 technology, in which content is produced by customers themselves using blog posts, forums, webcasts, and social media) and m-learning technologies (learning using mobile devices) have also seen an increase in usage in recent years (Zakharova, 2013, p. 15). When developing any sub-system inside an

organization (the system of corporate e-learning is not an exception in this regard), it is unquestionably necessary to have an understanding that there are a variety of different variables that keep such systems powered. There are now five criteria that, according to the system developed by Robert Gagne, have the most significant impact on the process of effective corporate learning in the company. The graphical depiction of these components may be seen in the following figure, which is referred to as Figure 1.

**Figure 1: Factors influencing the corporate learning process**



Source: (Brown & Seidner, 2012)

At this point, it ought to be obvious that one of the most significant components impacting the entire process of corporate learning are the workers themselves. Employees or other members of the internal staff are responsible for keeping the system operational by providing active assistance to the corporate learning mechanism in the form of maintenance and consistent updates. Because most companies in the modern day are communities of practice, it is impossible to rely solely on the same kind of information for years to come. This is because the amounts of new knowledge generated by the members of these communities of

practice are constantly increasing as employees and supervisors go about their daily activities and learn about new aspects of their jobs (Seok, 2008, p. 16).

The concept of continuing professional development includes a crucial organizational-institutional, organizational-technological, and content-technological component known as corporate training. Students can achieve a greater degree of career competence through the process of participating in corporate training, which in turn enables them to realize not only the organizational goals of the organization but also their own individual personal goals relating to career and professional growth within the optimized timespan and with the ideal level of quality. The corporate goal of training is to guarantee the competence of employees, which is regarded as an essential reliability of the topic of labor. The primary characteristics of professionalism include expert direction, professionalism, and professional manner essential traits of the employee's individuality.

It appears reasonable to highlight the following as required requirements for corporate training, which are as follows (Brown & Seidner, 2012, p. 34):

- The participation of high-ranking management in the of staff development at enterprises, which is their personal responsibility.
- The alignment of training programs with the corporate objectives, production strategy, and marketing plan of the enterprise.
- The correlation of the individual training schedule of every worker with the set outline and company training programs for personnel.

Corporate training involves the process of enhancing employees' professional knowledge, skills, and abilities as well as integrating each employee's specialized knowledge into collective knowledge. This undoubtedly aids in enhancing the organization's strategic potential, which can only be realized if the business has a rigid organizational structure that provides structural coherence to all its departments (rf Grant M). The specific tasks of corporate training can be (Brown & Seidner, 2012, p. 41):

- Mastering new areas of activity in the event of a change and complication of the nature of work.
- Updating and maintaining the existing level of professional competence with a stable development of production.
- Preparation for a new position or development of a new workplace.
- Acceleration of the process of professional and socio-psychological adaptation.
- Improvement of social relations and moral and psychological climate in the team.
- Saving money lost due to low professional skills of employees.
- Pre-retirement training to facilitate adaptation to new living conditions.

Since "learning" is a shift in an individual's or a company's overall knowledge, the term "knowledge" has a direct relationship to the idea of "training," which is another word for "learning." In the broadest terms, the word "knowledge" is directly tied to the notion of "learning." A study of the research that has been done on the topic of corporate learning reveals that most authors concentrate their attention more on how firms should "teach" instead of how they should "learn" (Jones & Hendry, 1994, p. 18). Additionally, there is a focus put on the procedures of absorption, analysis, and the transmission of information that was previously obtained by other individuals. As a result, C. Wake describes learning as a shift in reaction to a similar stimulus, while referring to individual "sense making" as the primary process that is utilized by workers to assess and understand new information about the external world (Wake, 2018, p. 18).

### **3.3 Cases of Corporate E-learning**

To this day, the United States of America and Canada, together with other nations in Europe like the United Kingdom, Germany, Italy, Spain, among France, are home to the greatest number of people who use e-learning solutions (Janelli, 2014, p. 22).

More than two hundred universities and one thousand schools in the United States offer some form of remote learning, and the availability of online classes is growing at a rate of forty percent each year. Some American authorities predict that by the year 2025, "half of the present institutions will dissolve, merge with their competitors, or dramatically modify their

mission." In addition, "half of all universities will soon be offered online," which is another prediction made by these authorities (Moubayed, 2018, p. 22). It is no longer sufficient for Americans to have a certificate that was given between 10 and 15 years ago, and as a result, many students in higher education institutions, both public and private, are above the age of twenty-five. They are being pressured to constantly educate themselves due to the rising level of competition for well-paying employment, as well as the trend toward telecommuting and the quick development of recent technologies. On the other hand, the United States Department of Labor reports that around forty percent of working Americans switch occupations each year (Church, 2011, p. 22). As a direct result of this, there is a dramatic rise in the demand for education, recertification, and sophisticated employee training. Hence, 85 percent of the most successful firms in the United States set aside cash for the re - training of their staff.

It is becoming more inappropriate for many people in the United States to receive knowledge in the form of lectures, which is the conventional presentation method. They are increasingly accountable for their own independent work and prefer more involved kinds of education. Their objective is to learn information that will be useful for them in their career path and to gain and grow that expertise. Many of them would rather earn a certificate attesting to their proficiency in fields of study and approaches as opposed to a traditional diploma. In this context, significant attention is being paid all over the world right now to the dependability and quality of the information made available by certain e-learning systems.

In contrast to the United States, several nations in Europe are encouraging the growth of e-learning in the educational sector primarily via the provision of financial support from their respective governments. One of the initiatives that are offered in France, for instance, is that "Every student will receive a notebook for such cost of a single cup of espresso" (Gelb, 2009, p. 23). Due in large part to its emphasis on education and research related to the information society, Finland, a nation that possesses no natural resources whatsoever, has risen to the position of leader within the European Union in recent years. Over the course of the last few decades, Ireland has developed into a significant producer of high software and technology primarily because of the widespread use of e-learning in further and intermediate technical courses.

The fact that the economy of the globe is now going through tough times today is another factor that has contributed to the growth of e-learning in the sphere of education. Because academic institutions do not have the funding to enhance their material wealth and grow the number of students, they are increasingly considering moving some of their programs onto the Internet. This is because the Internet allows them to reach a much wider audience.

Today, users can differentiate the following worldwide trends in contemporary e-learning technologies based on research that was carried out by the global analytical business IDC and the consultancy company Gartner (Sun, Strang & Li, 2018, p. 23):

- The desire for integrated solutions.
- The establishment of universal requirements and standards, particularly in the sphere of digital quality content.
- The development of tools for the quick production of e-learning solutions.
- The reduction in cost associated with e-learning solutions.

### **3.4 Pros and Cons of E-learning**

E-learning offers several benefits, which is one reason this method of education is getting progressively more popular each year. The following are some of the most important characteristics and advantages (Hošková-Mayerová & Rozická, 2015, p. 24):

- Learning at any time and in any location, without being constrained by a timetable or the amount of allotted study hours, including while at work or at one's own residence.
- If individuals choose a distant learning approach for their education, then can save time and money on transportation.
- self-assessment of their success and regulation of their behavior accordingly
- the acquisition of practical abilities notwithstanding a lack of physical presence at the adequate infrastructure (production sites, factories, etc.).

- Changing the way people learn so that it fits skills and requirements, so establishing the groundwork for realizing their full potential.

This educational method offers flexibility in terms of study location and hours. Additionally, it offers the chance to collaborate with students from all around the world while learning from the top lecturers. The second benefit of using electronic resources over conventional ones is their larger pedagogic capacity, which is essential for successful, high-quality self-study. Individuals do use the Internet and other digital media in their job. Students who learn with innovative technology typically have declarative knowledge that is more organized. Such mobile technological advancements as tablets and smartphones that recently entered the market, are of great assistance in online learning. If one owns them, then may exercise even in a forest. Although all these positive aspects, online education is not without its downsides. All of these have a direct bearing on the educational approach known as distant learning, namely (Igel, Ullrich & Kravcik, 2018, p. 25):

- E-learning is not for everyone since it needs a level of self-discipline and drive that is quite high, as well as the capacity to work without direct supervision.
- A computer is not a suitable substitute for live conversation. Effective communication, personality, and the ability to collaborate effectively with others are all significantly impacted when there is little opportunity for social contact during training.
- It is tough to determine who a user is and confirm that it was in fact that person who studied or took the tests (now, video surveillance is the most effective method of identification, but it is not always possible).
- There is, as Christoph Igel puts it, "the risk of being lost in the vastness of the Internet." A person with little education, poor familiarity with the Global Web, and an inability to pick high-quality material may just find that the information flow is too much for them to manage.



### 3.5 Trends in E-Learning

The following are some trends in e-learning that have gained popularity over the past few years and are getting more ubiquitous every year:

- Learning that is adaptive, also known as *customized learning*, is a paradigm in which the primary goal is to adapt to the individual capabilities, knowledge, and skills of each student, as well as their mood (Acampora, Gaeta & Loia, 2011, p. 10).
- The length of every item of information in *microlearning* ranges from one to fifteen minutes, the emphasis is placed on the lesson plan, and content may be disseminated on any platform or device. Microlearning is built on these concepts. Because of this education, the person's brain does not get overwhelmed, and they are better able to grasp the information that they are learning (Buchem & Hamelmann, 2010, p. 4).
- The cultivation of "*soft skills*," includes the development of competencies including such leading, innovation, accountability, critical reasoning, consistency, teamwork, and other related competencies (De Villiers, 2010, p. 4). As more jobs are mechanized each year, the World Economic Forum predicts that by the year 2022, 54% of all workers would need to undergo retraining to remain employable (Buckley & Strange, 2015, p. 25). The importance of professional skills, also known as hard skills or English hard skills, will continue to decrease in the next years, while the importance of soft skills, also known as people skills, will continue to increase.
- The incorporation of game elements and strategies that are often seen in computer games into education setting is referred to as "*gamification*." The accumulation of points and "achievements" (the word "achieve" comes from the English verb "to achieve," which means "to do something") inspires personal accomplishments. The findings of a survey conducted in 2019 among nine hundred workers in Prague revealed how 89% of workers feel beneficial following training that includes aspects of gamification, 61% of employees usually learn in just this format, and 33% desire more possibilities to play games. In the same vein, 61 percent of the workforce that was polled believes that traditional learning methods are tedious and should be abandoned (Baz, 2018, p. 11).

- A world constructed using technological methods which communicates with such a person through several experiences like sight, hearing, touch, and others. The term "*virtual reality*" (VR, which means "artificial reality." The primary advantage of VR is the impact of immersion, which can be defined as when a student stop feeling like an outside observer and starts seeing the virtual environment as if it were real (Monahan, McArdle & Bertolotto, 2008, p. 2).

This may be achieved when a student is integrated with the following tools:

- Augmented Reality (AR) is a technique that adds fictitious elements to the sensations that are derived from the actual world. The goal of this technology is to augment the information that is obtained and to improve the way that information is perceived. To put it more simply, new information is layered on top of photos depicting the real world. In the context of educational endeavors, the utilization of augmented reality technology enables one to replicate astonishing procedures and phenomena that cannot be conducted in real life due to the constraints of physical reality.
- The ability of computer systems and computer programs that have been generated through artificial means to execute creative tasks that have historically been regarded as exclusively the purview of humans is what is referred to as artificial intelligence (AI). The most prevalent use of artificial intelligence is seen in chatbots, which derive their name from the English word "chatbot" and are computer programs that discover the requirements of users and then work to fulfill those requirements.
- Siri, the intelligent companion for Apple device users, is a great illustration of a chatbot in action. According to Joe Ganci, owner of the consultancy and e-learning business eLearningJoe, which is in the United States, "Ai systems may bring great benefits to learning. For instance, one might add artificial intelligence to the dialogue simulator to make it more realistic. Just attempt to fathom how much more challenging and time-consuming it will be to address the concerns of virtual clients.

## 4 Practical part

### 4.1 DHL

#### 4.1.1 Major Events

One of the top players in the worldwide logistics industry is the German multinational DHL and The Deutsche Post DHL Holding company currently comprises it (Von Ammon, 2008, p. 18).

Figure 2: DHL logo



Source: Markus, 2005

A quick overview of the company's history before discussing its primary operations should be given. On September 20, 1969, DHL was established as a postal courier service connecting San Francisco and Honolulu. The initials of the founders' names—Adrian Dalsey, Larry Hillblom, and Robert Lynn—form the name of the business (Rahman, 2018, p. 19). Three partners established door-to-door express delivery in 1969, creating a brand-new sector and changing how companies operate all over the world. Documents were

initially delivered by air via the San Francisco-Honolulu route. The selected strategy allowed for the delivery of the paperwork needed for cargo customs clearance even before the ship arrived at the port of destination, thus reducing the time necessary for freight clearing and the transportation costs for the company's clients. The worldwide air cargo and documents express shipping industries were founded thanks to DHL's creative shipping strategy.

The DHL network grew quickly over time, and the business eventually entered additional nations (Altman, 2019, p. 19). Starting with the 1970s, when the firm's service accessible zone notably expanded to cover Japan, Singapore, Hong Kong, plus Australia, it is worthwhile to go on to the chronology. In London, DHL establishes its first office in the UK. There were 3104 enterprises in the DHL clientele at the time, and there were 345 employees overall (Altman, 2019, p. 24). After some time, the business also keeps growing, and its service area has expanded to encompass the Middle East, Latin America, and Africa. The decade's conclusion may be regarded as one of the most important moments for the firm's development since it was then that DHL started shipping packages; up until that point, the company had only been involved in the transportation of paper.

By the 1990s, DHL had agreements for strategic partnerships with Nissho Iwai, Japan Airlines, and Lufthansa (Dhir & Sushil, 2019, p. 19). It is also crucial to remember that DHL was the first courier service to start operating again in Kuwait just after Gulf War ended in 1991 (Rafiq, 2004). DHL Express committed more than one billion euros during the start of the 2000s, specifically in 2000, to update the business's aircraft fleet throughout Europe and Africa. As a result, the company has acquired thirty-four new Boeing 757SF cargo planes at a quick speed. The modern planes were 77% extremely quiet and cleaner than previously owned Boeing 737Fs (Harris & Li, 2011, p. 20).

Beginning in the 2000s and on a new course for the business, Deutsche Post gains control of DHL, absorbing it into its descriptor (DHL Express), and dividing the resources among its other companies and departments in 2002. DHL signs an arrangement with Kasei Pacific firm for the carriage of express goods in 2002, continuing the growth of its transport network throughout Asia (Dhir & Sushil, 2019, p. 20). The corporation switches their official symbols from white and red to yellow and red (Fig. 3), and the DHL name has become a brand for

express shipping and logistical services. Beginning in April 2003, work is being done to update the company's emblems on its packaging, equipment, and facilities. Following the purchase of Airbon Express, DHL rises to become the third-largest courier service in the USA (Singh, 2009, p. 20). Infrastructure A five-year investment program to build up the company's network in China gets underway in October of the same year as Airbon Express completes building out the whole transport network for the business on the American continent. Under the DHL name, Deutsche Post Corporation introduces worldwide mail delivery services, and DHL today employs over 400,000 people (Vignesh & Naveenkumar, 2019, p. 20).

#### **4.1.2 Employees**

The present organizational structure of DHL is typical, with a national director serving as the board's primary executive and managing both the functional and commercial operations of the main lines. Financial, marketing, advertising, human resource management, information systems, and operational management make up DHL. The company's whole operations are coordinated by the operations department, including all freight movements throughout America. Other firm sites throughout the world have a similar organizational structure. It is important to keep in mind that DHL's corporate culture and working environment in major cities may be different from those in other, less advanced parts of the world. As a result, the managers who are employed there frequently oversee management and staff management techniques. If the highest-ranking personnel in the biggest departments are the ones people are referring to, then departments like the financial or commercial unit, the service department, and the customer care department come to mind. Managers at this level are given special consideration, and suitable pay plans are provided so they may feel secure in their futures. The bulk of supervisory managers have been with the company for five to eight years, making them true professionals whose departure would be extremely detrimental to the business. Ordinary staff, such as telephone operators, delivery drivers, sorters, and loaders, rotate easily and painlessly throughout the organization. As a result, it might be challenging to identify a particular group of individuals who work with DHL because there are so many distinct departments and divisions that perform vastly dissimilar functions. But at this point, it is crucial to describe several phases and job kinds inside the DHL organization.

Every employee at the organization must complete a week-long introduction course during their probationary term because every employee's employment begins with training. These are group seminars offered as part of the global certification program, whose subject matter is the same across all DHL offices worldwide. The company's CEO, Ken Allen, had the concept for such a generic course. Near the conclusion of the week, lessons on regional peculiarities (such laws) are given. The presenters include company employees. At the training sessions, even business caricatures are displayed. Their heroes are people in charge of several company functions, like Max (management), Nima (marketing), May (client service), and Zach (operations department).

The next phase of training is called "Learning to know my function" and it comes after all this. A supervisor or manager will go into further depth regarding the organization and duties of their department in this two-hour lesson. The organization has a custom where every new employee must collaborate with a courier for half a day. He/she will thus have a better understanding of how packages are delivered to clients. An initial three-week training program and one week of practice are required for new customer support representatives. He takes a test each day to see how well he has absorbed the content, and at the conclusion, he passes an exam. After clearing the very first instruction of the corporate education program, a special card called the passports of the international expert of DHL is granted, which contains all points about finished training courses and courses. In the years that follow, personnel receive ongoing training as well. On the e-learning platform, employees can take online training in addition to in-person ones. The yearly employee evaluation is "wired" within the same system. All workers must pass this certification to be certified. Competence and task performance quality are both evaluated. As a result, the employee's income and career development are directly impacted by how well he managed his job for the year.

## 4.2 Interview

To understand the effect of the system on ordinary employees, two structural interviews with people engaged in working for DHL for a period less than a year are conducted and they are asked fundamental questions to inquire about the internal situation about the e-learning system of DHL headquarter in Prague. Surveys are conducted by means of online devices and notably, Google Meet. Two employees have been contacted through the series of acquaintances who also work for DHL and share their workspace with two selected participants.

Obviously, the limitations of conducting an interview with just two people are fully understood – it cannot anyhow be categorized as a representative sample, given the scale of DHL and even the scale of DHL's headquarters in Prague. Yet, it is alleged that the selected sample for the interview is illustrative, and it helps to understand the context and get deeper data about the effect of e-learning on ordinary workers.

Thus, A brief overview of two interviews had with the selected employees of DHL office in Prague is presented. The full transcript of the interviews is shown in the appendix of the following bachelor thesis.

When it comes to the working position of people interviewed, it came out that both are occupying a junior position on the operational level with one being a BPM sales support analyst and the second one a graduate trainee. Also, both share the same trait – they work for either a year (the case with the first person) or just four months, so this makes them nearly perfect participants for the interview about the effect of the e-learning system, since employees recently engaged into the company are more likely to perceive different aspects of the organization. Apart from that, both work in a big international organization for the first time, and both share the same opinion about having an opportunity to work for DHL – they do not take it for granted and really appreciate having a good opportunity to work there.

As they specified when answering the question of whether their company possess an e-learning platform/system, they both answered positively, so they did in fact manage to come

across DHL's platform. Participants provided additional information about benefits of the e-learning system of DHL, which are language-learning, IT, and finance courses, according to participants of the interview. The first participant is likely happier than the second one, but both believe that the e-learning system of DHL was helpful for their careers and professional lives. According to one of participants, he managed to find the best use of the system while practicing his Power BI skills, which is believed to have a direct positive effect on the participants working performance. As for the negative sides, participants mention the presence of bugs and a slightly outdated mechanism of the platform itself. As for another participant, he believes that the biggest drawback of DHL's e-learning system is the fact that a given number of people are required to start a course, which is not always achieved. Overall, despite facing slight problems, participants still believe that they will continue using the system and getting the best use of it.

#### **4.2.1 Survey**

Then, after collecting qualitative and deep data about the company's e-learning system, collection of quantitative data, which can easily be assessed by the means of statistical application – SPSS are proceeded. A survey with fifty participants from Prague's DHL office is incorporated. The sample is partially representative as it is estimated that the office located in Prague has approximately 1,000 employees, so the author's sample includes a relatively considerable number of participants – 5% of them. However, it is considered that the research has an illustrative character, so it has been tried to just understand general tendencies rather than to come to fundamental conclusions about the performance of the e-learning system of DHL. After collecting responses with questions, whose breakdown is presented in the appendix of the thesis, hypotheses are tested using the Chi-Square test. Those hypotheses are:

- Age and feeling improvements in the working performance are related.
- Gender and categorizing the system as hard are related.
- Having the first experience working for an international organization and feeling improvements in the working performance are related.



- Having the first experience working for an international organization and categorizing the system as hard are related.
- Age and categorizing the system as not user-friendly are related.

The following dataset presents a part of the result of survey data collection with the dataset used for the hypothesis testing:

**Figure 3: Dataset used for testing**

	Howoldareyou	Whatsyourgender	ForhowlonghaveyoubeenengagedwithworkingforDHL	Isityourfirsexperienceofworkingforaninternationalorganization	Haveyoualreadybeenacquaintedwiththelearningsystem...	Wasyourexperiencewiththeinterfaceofthesystempositive	Canyoucategorizetheexperiencewiththesystemashardandnotuserfriendly	Wasthesystemsoutputhelpfulforyourworkingprocess	Doyoufeelanymovementsinyourworkingperformance
1	Adult	Male	2	No	Yes	No	No	No	Yes
2	Adult	Male	1	No	Yes	No	No	No	No
3	Young	Female	2	Yes	Yes	Yes	Yes	Yes	Yes
4	Young	Male	1	Yes	Yes	Yes	No	Yes	Yes
5	Adult	Male	1	Yes	Yes	Yes	Yes	Yes	Yes
6	Adult	Female	3	No	Yes	No	Yes	No	No
7	Old	Male	3	Yes	Yes	Yes	No	Yes	Yes
8	Young	Female	2	Yes	Yes	Yes	No	Yes	Yes
9	Old	Female	3	No	Yes	No	Yes	Yes	Yes
10	Adult	Male	2	Yes	Yes	Yes	Yes	Yes	Yes
11	Adult	Male	1	Yes	Yes	Yes	No	Yes	Yes
12	Young	Female	2	Yes	Yes	Yes	No	No	No
13	Adult	Male	3	No	Yes	No	Yes	No	No
14	Adult	Female	2	No	Yes	Yes	No	Yes	Yes
15	Young	Male	3	No	Yes	Yes	No	No	No
16	Young	Female	1	Yes	Yes	Yes	No	Yes	Yes
17	Old	Male	3	No	Yes	Yes	No	Yes	Yes

Source: Own research

The dataset consists of nine qualitative variables resulted from the survey, whose breakdown is available in the appendix of the thesis. Consequently, it is proceeded to the testing of the first hypothesis – age and feeling improvements in the working process are related. Testing procedure is presented on the following figure:

**Figure 4: First hypothesis testing**

**How old are you? \* Do you feel any improvements in your working performance after using the system? Crosstabulation**

		Do you feel any improvements in your working performance after using the system?		Total	
		No	Yes		
How old are you?	Adult	Count	7	11	18
		Expected Count	5.0	13.0	18.0
	Old	Count	2	11	13
		Expected Count	3.6	9.4	13.0
	Young	Count	5	14	19
		Expected Count	5.3	13.7	19.0
Total	Count	14	36	50	
	Expected Count	14.0	36.0	50.0	

**Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.112 <sup>a</sup>	2	.348
Likelihood Ratio	2.175	2	.337
N of Valid Cases	50		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 3.64.

Source: Own research

- *Ho: Age and feeling improvements after using e-learning of DHL are not related*
- *Ha: Age and feeling improvements after using e-learning of DHL are related*
- *A = 0.05*
- *Chi-square test*
- *P = 0.348*
- *0.348 > 0.05 => Ho is not rejected. Age and feeling improvements are not related statistically.*

After failing to reject the first hypothesis, it is proceeded to the second one about the relatedness of gender and categorization of DHL's e-learning system as hard. The output of the testing procedure is presented below:

**Figure 5: Second hypothesis testing**

**What is your gender? \* Can you categorize the experience with the system as hard and not user friendly? Crosstabulation**

		Can you categorize the experience with the system as hard and not user friendly?		Total	
		No	Yes		
What is your gender?	Female	Count	14	9	23
		Expected Count	15.6	7.4	23.0
	Male	Count	20	7	27
		Expected Count	18.4	8.6	27.0
Total	Count	34	16	50	
	Expected Count	34.0	16.0	50.0	

**Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.995 <sup>a</sup>	1	.318		
Continuity Correction <sup>b</sup>	.481	1	.488		
Likelihood Ratio	.995	1	.319		
Fisher's Exact Test				.373	.244
N of Valid Cases	50				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.36.

b. Computed only for a 2x2 table

Source: Own research

- *Ho: Gender and having problems with the user interface of the e-learning platform of DHL are not related*
- *Ha: Gender and having problems with the user interface of the e-learning platform of DHL are related*
- *A = 0.05*
- *Chi-square test*
- *P = 0.318*

- $0.318 > 0.05 \Rightarrow H_0$  is not rejected. Gender and having problems with the user interface of the e-learning platform of DHL are not related.

Based on the testing procedure, it is possible to say that gender in fact does not influence the way people feel about the user interface of DHL – two genders equally have problems with it, if there are any. Then, it is continued to the testing of the third hypothesis:

**Figure 6: Third hypothesis testing**

**Is it your first experience of working for an international organization?  
\* Do you feel any improvements in your working performance after using the system? Crosstabulation**

		Do you feel any improvements in your working performance after using the system?		Total	
		No	Yes		
Is it your first experience of working for an international organization?	No	Count	9	9	18
		Expected Count	5.0	13.0	18.0
	Yes	Count	5	27	32
		Expected Count	9.0	23.0	32.0
Total	Count	14	36	50	
	Expected Count	14.0	36.0	50.0	

**Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6.752 <sup>a</sup>	1	.009		
Continuity Correction <sup>b</sup>	5.155	1	.023		
Likelihood Ratio	6.605	1	.010		
Fisher's Exact Test				.019	.012
N of Valid Cases	50				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.04.

b. Computed only for a 2x2 table

Source: Own research

- $H_0$ : having first experience of work and feeling improvements in the working performance thanks to the e-learning system of DHL are not related

- *Ha: having first experience of work and feeling improvements in the working performance thanks to the e-learning system of DHL are related*
- *A = 0.05*
- *Chi-square test*
- *P = 0.009*
- *0.009 < 0.05 => Ho is rejected. Having first experience of work and feeling improvements in the working performance thanks to the e-learning system of DHL are related.*

Based on the outcome, it can be concluded that people who had their first experience of work starting in DHL and contacting the e-learning system feel significant improvements in their working performance. Then, continuing to the fourth hypothesis testing:

**Figure 7: Fourth hypothesis testing**

**Is it your first experience of working for an international organization?  
\* Can you categorize the experience with the system as hard and not user friendly? Crosstabulation**

		Can you categorize the experience with the system as hard and not user friendly?		Total	
		No	Yes		
Is it your first experience of working for an international organization?	No	Count	10	8	18
		Expected Count	12.2	5.8	18.0
	Yes	Count	24	8	32
		Expected Count	21.8	10.2	32.0
Total	Count	34	16	50	
	Expected Count	34.0	16.0	50.0	

**Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.002 <sup>a</sup>	1	.157		
Continuity Correction <sup>b</sup>	1.208	1	.272		
Likelihood Ratio	1.967	1	.161		
Fisher's Exact Test				.211	.136
N of Valid Cases	50				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.76.

b. Computed only for a 2x2 table

Source: Own research

- *Ho: having first experience of work and categorizing the system as hard are not related*
- *Ha: having first experience of work and categorizing the system as hard are related*
- *A = 0.05*
- *Chi-square test*
- *P = 0.157*
- *0.157 > 0.05 => Ho is not rejected. Having first experience of work and categorizing the system as hard are not related.*

It is possible to conclude that regardless of the first or not first time working, people equally categorize the system as hard if they do so. The final testing procedure:

**Figure 8: Fifth hypothesis testing**

**How old are you? \* Can you categorize the experience with the system as hard and not user friendly? Crosstabulation**

		Can you categorize the experience with the system as hard and not user friendly?		Total	
		No	Yes		
How old are you?	Adult	Count	12	6	18
		Expected Count	12.2	5.8	18.0
	Old	Count	4	9	13
		Expected Count	8.8	4.2	13.0
	Young	Count	18	1	19
		Expected Count	12.9	6.1	19.0
Total	Count	34	16	50	
	Expected Count	34.0	16.0	50.0	

**Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	14.538 <sup>a</sup>	2	<.001
Likelihood Ratio	15.889	2	<.001
N of Valid Cases	50		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.16.

Source: Own research

- *Ho: age and categorizing the system as hard are not related*
- *Ha: age and categorizing the system as hard are related*
- *A = 0.05*
- *Chi-square test*
- *P = 0.157*
- *0.001 < 0.05 => Ho is rejected. Age influences the way people perceive the system's difficulty.*

Based on the final testing procedure, it can be assumed that age and having a particular attitude towards the user-interface of the e-learning system are related.

## **5 Results and Discussion**

### **5.1 E-learning and Performance**

When finally proceeding to the chapter where the findings are presented, it can be stated that the e-learning system has been proved to have a positive effect on the performance of employees of DHL. However, the conclusion is achieved based on the survey analysis and hypothesis testing on data with just fifty observations, so it is essential to keep in mind the limitations of the author's research.

Apart from that, another problem of stating the fact the e-learning of DHL does have an impact on the working performance is based on the subjective evaluations of employees themselves, who provided a positive answer to the question of whether they feel those improvements or not. Henceforth, in order to get more reliable conclusions, it would be more rational to apply a different kind of methodology with a more empirical approach that would measure productivity before and after contacting the system. For instance, the study done by Haverila, (2011), is an example of how the original methodology of the author's research can be expanded and improved.

Also, contrary to the outcome of the positive outcome of the hypothesis testing for two variables – first experience of working and feeling improvements, the pair of variables – age and feeling improvements in the working performance brought a slightly different result, where the original hypothesis about those variables not being related was not rejected. It can be said that in the context of the research, the effect of e-learning on the working performance depends on a series of traits. For instance, in the case of the age variable, it is not possible to say that age and feeling any improvements in the working performance are related. The same is found by Fleming, (2017), who suggests that despite a common stereotype about hard perception of technology for older people, age is not anyhow a



significant factor that somehow defines differences related to e-learning. In addition, e-learning systems facilitate an ongoing culture of learning where employees can enhance themselves in their field respectively and stay up to date with innovations which results in increased efficiency and productivity in the workplace. Employers may reward this positive effect with an increase in salary which is achieved through a series of interviews that has been conducted with two participants.

Finally, it is surely enough to state that to some extent, e-learning has a positive effect on working performance, but it is still subject to additional aspects and circumstances. Thus, age is surely enough not one of them, but having a first experience of working is exactly the case that can boost the working performance of individuals with the help of e-learning.

## **5.2 Potential Development and Difficulties**

Then, continuing to the analysis of the author's findings, it is wise also to mention potential difficulties and problems that arise with the e-learning platform of DHL and why it is important to tackle them. Obviously, when talking about any e-platform, one of the biggest challenges are challenges related to accessibility and being user unfriendly, since those two aspects are the ones that are believed to have a negative influence on potential benefits that can be achieved with the help of the e-learning.

Thus, it is considered as one challenge to the e-learning system of DHL and evaluated the way some characteristics of workers might influence the way they consider the difficulty of the e-learning system. For instance, one of the most obvious factors that influences the perception of difficulty of the e-learning system in the case of DHL is age, since the testing procedure revealed the presence of strong statistical relatedness between two variables. When it comes to the question of subjectivity, compared to the case mentioned in the first chapter about measuring the working performance according to workers' own opinion, measuring difficulty is generally a subjective point, so it can be assumed that his conclusions in that regard are valid. Another author, Zhang, (2009), mentioned that older people are more likely to have negative experience with utilization of user interfaces that are suitable more for younger people, which is also partially concluded by the author of this bachelor thesis.

Then, having a first experience of working and perception of difficulties are not related, which is an anticipated result. Finally, it is concluded that perception of difficulty of the e-learning system of DHL and gender are not related, which is also achieved by Johnson, (2011).

Proceeding to the results of the qualitative analysis, i.e., the structural interview with two participants, it can be said that one of the biggest challenges for employees in DHL's office in Prague is the concept of the e-learning system itself, where a particular number of interested employees is essential to start a given course, which is a significant disadvantage, as it was identified according to two participants. Overall, employees seem to be satisfied with it.

## **6 Conclusion**

The presented bachelor's thesis aims to spot the effects of corporate e-learning on working place performance. To fulfil this goal, survey and interviews are conducted in DHL office in Prague during the practical part of this thesis. The interviews with selected two participants demonstrate deeper understanding of user's experience with e-learning systems rather than general tendencies which is also achieved by survey. Moreover, the survey has been conducted by questionnaire survey with fifty participants where deep data is collected deals with the hypotheses focused on different traits and correlations such as age, gender, having the first experience for an international organisation. However, it is wise to mention again the limitations of this study. To depict more definitive interpretations, expanded and deeper data should be examined by series of diverse methodologies.

In conclusion, the incorporation of Internet and electronic devices has emerged a transformative impact, not only in academic fields but also at corporate working places within thirty years span. It is possible to say the study conducted has proved that the e-learning system for people working in DHL office in Prague experience an increase in the overall working performance after using the e-learning platform offered to them. Nevertheless, it must be confessed that this conclusion and statement are relevant for circumstances, and one of such circumstances is having the first working experience, and for those cases, the effect of e-learning can be the highest. As for age and gender, it is not a significant factor that might influence the working performance of employees using DHL's e-learning system which shows the diverse usage availability of e-learning services by different demographics.

Apart from that, although the overall positive impact, a series of challenges to the e-learning system of DHL were identified. They are the following: not user-friendly interface for older people, requiring a particular number of people to start a course and having some technical difficulties with the way the platform is being run. Hence, these issues can be underscored as highlight areas for possible improvements.

Finally, it can be closed as that the system of e-learning of DHL is a well-optimized one helps some employees to improve their working experience and feel themselves more interested in the working process. This shows that regardless of challenges, the integration of e-learning platforms plays an important role in diverse corporate environments in order to keep track of non-stop evaluations and advance effectiveness whilst embracing new workplace dynamics.

## 7 References

- *Printed documents*

BAILEY, J. *Isaac Inside the Cultural Filters on Truly New Computing: Computational Aerosciences in the 21st Century*. Dordrecht: Springer Netherlands, 2000, p. 1-13. ISBN 978-94-010-3807-2.

BAZ, F. Ç. *New Trends in e-Learning: Trends in E-learning*. London: InTech, 2018, p. 162. ISBN 978-1-78923-542-5.

BROWN, S.M. and SEIDNER, C., J. *Evaluating corporate training: Models and issues*. Boston: Kluwer Academic Publishers, 1998, p. 390. ISBN 9780792380269

BUCKLEY, P. J. and STRANGE, R. *The Governance of the Global Factory: Location and Control of World Economic Activity*. *Academy of Management Perspectives*. 2015, Vol. 29, No. 2, p. 237-249. ISSN 1558-9080.

DE VILLIERS, R. *The incorporation of soft skills into accounting curricula: preparing accounting graduates for their unpredictable futures*. *Meditari Accountancy Research*, 2010, Vol. 18, No. 2, p. 1-22. ISSN 1022-2529.

DHIR, S. and SUSHIL. *DHL. Cases in Strategic Management*. Singapore: Springer Singapore, 2019, p. 260. *Flexible Systems Management*. ISBN 978-981-13-7063-2.

FLEMING, J. *Factors for successful e-learning: does age matter?*. *Education + Training*. 2017, Vol. 59, No. 1, p. 76-89. ISSN 0040-0912.

GELB, M. J. *How to think like Leonardo da Vinci: Seven steps to genius every day*. New York: Dell, 2009, p. 321. ISBN 9780440508274.

MARCUS, A. *User interface design and culture: Usability and internationalization of information technology*. Florida: CRC Press, 2005 p. 392. ISBN 9780805844795.

NICHOLSON, P. *A History of E-Learning: Computers and Education*. Dordrecht: Springer Netherlands, 2007, p. 1-11. ISBN 978-1-4020-4913-2.

SUN, Z., STRANG, K. and LI, R. *Big Data with Ten Big Characteristics: In: Proceedings of the 2nd International Conference on Big Data Research*. New York, NY, USA: ACM, 2018, p. 56-61. ISBN 9781450364768.

WOOLLEY, D. R. *PLATO: The emergence of online community: Social Media Archeology and Poetics*. Cambridge: MIT Press, 1994, p. 445. ISBN 9780262034654.

- **Electronic documents**

ACAMPORA, G., GAETA M., and LOIA V. *Combining Multi-Agent Paradigm and Memetic Computing for Personalized and Adaptive Learning Experiences: Computational Intelligence*, 2011, Vol. 27, No. 2, p. 141-165. ISSN 08247935. DOI 10.1111/j.1467-8640.2010.00367.x. Accessed 14 March 2023.

ALEXANDER, S. *E-learning developments and experiences: Education Training*. 2001, Vol. 43, No. (4/5), p. 240-248. ISSN 0040-0912. DOI 10.1108/00400910110399247. Accessed 14 March 2023.

ALTMAN, S. A. *DHL Global connectedness index: Mapping the Current State of Global Flows*. 2019. Available from:

<https://www.dhl.com/content/dam/dhl/global/core/documents/pdf/g0-en-gci-2019-update-complete-study.pdf>. Accessed 14 March 2023.

BUCHEM, I. and HAMELMANN, H. *Microlearning: a strategy for ongoing professional development: eLearning Papers*. Barcelona, Spain: P.A.U. Education, S.L., 2010. Vol. 21, No. 7, p. 1-15. ISSN 1887-1542. Available from:

[http://www.elearningpapers.eu/index.php?page=doc&doc\\_id=17006&doclng=3](http://www.elearningpapers.eu/index.php?page=doc&doc_id=17006&doclng=3). Accessed 14 March 2023.

CHURCH, T. S., THOMAS D. M., TUDOR-LOCKE C., et al. *Trends over 5 Decades in U.S. Occupation-Related Physical Activity and Their Associations with Obesity: PLoS ONE*. 2011, Vol. 6, No. 5, p. 1-7. ISSN 1932-6203. DOI 10.1371/journal.pone.0019657. Accessed 14 March 2023.

HARRIS, D. and LI, W. C. *An extension of the Human Factors Analysis and Classification System for use in open systems: Theoretical Issues in Ergonomics Science*. 2011, Vol. 12, No. 2, p. 108-128. ISSN 1463-922X. DOI 10.1080/14639220903536559. Accessed 14 March 2023.

HAYERILA, M. *Prior E-learning experience and perceived learning outcomes in an undergraduate E-learning course: MERLOT Journal of Online Learning and Teaching*. 2011, Vol. 7 No. 2, p. 206-218. Available from:

[https://jolt.merlot.org/vol7no2/hayerila\\_0611.pdf](https://jolt.merlot.org/vol7no2/hayerila_0611.pdf). Accessed 14 March 2023.

HOŠKOVÁ-MAYEROVÁ, Š. and ROSICKÁ Z. *E-Learning Pros and Cons: Active Learning Culture?: Procedia - Social and Behavioral Sciences*. 2015, Vol. 191, No. 9, p. 958-962. ISSN 18770428. DOI 10.1016/j.sbspro.2015.04.702. Accessed 14 March 2023.

IGEL, C., ULLRICH, C., and KRAVCIK, M. *Using artificial intelligence and the internet of things to enable context-dependent recommendations in the smart city and smart factory: Athens J. Sports*, 2018, Vol. 5 No. 4, p. 253-262. DOI 10.30958/ajspo.5-4-1. Accessed 14 March 2023.

JANELLI, M. *E-Learning in Theory, Practice, and Research: Voprosy Obrazovaniya / Educational Studies Moscow*, 2018, Vol.4, No. 1, p. 81-98. ISSN 2412-4354. DOI 10.17323/1814-9545-2018-4-81-98. Accessed 14 March 2023.

JOCHEMS W., WRIGHT, P., VAN MERRIËNBOER J., KOPER R. and VAN MERRIENBOER J. *Integrated e-Learning: Implications for Pedagogy, Technology & Organization: Canadian Journal of Education / Revue canadienne de l'éducation*. 2005, Vol. 28, No. (1/2), p. 227-230. ISSN 03802361. DOI 10.2307/1602168. Accessed 14 March 2023.

JOHNSON, R. D. *Gender Differences in E-Learning: Journal of Organizational and End User Computing*. 2011, Vol. 23, No. 1, p. 79-94. ISSN 1546-2234. DOI 10.4018/joeuc.2011010105. Accessed 14 March 2023.

JONES, A. M. and HENDRY C. *The Learning Organization: Adult Learning and Organizational Transformation: British Journal of Management*. 1994, Vol. 5, No. 2, p. 153-162. ISSN 1045-3172. DOI 10.1111/j.1467-8551.1994.tb00075.x. Accessed 14 March 2023.

MONAHAN, T., MCARDLE G. and BERTOLOTTO M. *Virtual reality for collaborative e-learning: Computers & Education*. 2008, Vol. 50, No. 4, p. 1339-1353. ISSN 03601315. DOI 10.1016/j.compedu.2006.12.008. Accessed 14 March 2023.

MOUBAYED, A., INJADAT M., NASSIF A. B., LUTFIYYA H. and SHAMI A. *E-Learning: Challenges and Research Opportunities Using Machine Learning & Data Analytics*. IEEE Access, 2018, Vol. 6, No. 1, p. 39117-39138. ISSN 2169-3536. DOI 10.1109/ACCESS.2018.2851790. Accessed 14 March 2023.

RAFIQ, M. *Radio Frequency Identification (RFID): its usage and libraries*. 2004, p. 18. Available from: <http://eprints.rclis.org/6179/1/RFID.pdf>. Accessed 14 March 2023.

RAHMAN, M. *A Study of Business Analysis of DHL: SSRN Electronic Journal*. 2018, Vol. 18, No. 2. ISSN 1556-5068. DOI 10.2139/ssrn.3280714. Accessed 14 March 2023.

ROGALLO, R. *An ILLIAC program for the numerical simulation of homogeneous incompressible turbulence*. 1977. NASA-TM-73203. Available from:

<https://ntrs.nasa.gov/api/citations/19780005424/downloads/19780005424.pdf>. Accessed 14 March 2023.

SEOK, S. *Teaching Aspects of E-Learning: International Journal on E-Learning*. 2008, Vol. 7, No. 4, p. 725-741. Waynesville, NC USA: Association for the Advancement of Computing in Education (AACE). Available from: <https://www.learntechlib.org/primary/p/24323/>. Accessed 14 March 2023.

SINGH, J., SINGH S. P., VOSS T. and SAHA K. *A study of the effect of pictorial markings and warning labels on handling of packages in the DHL single-parcel environment: Packaging Technology and Science*. 2009, Vol. 22, No. 1, p. 1-8. ISSN 08943214. DOI 10.1002/pts.800. Accessed 14 March 2023.

TROUTNER, J. *The Historical Evolution of Educational Software*, 1991, p. 19. Available from: [https://www.academia.edu/63470064/The\\_Historical\\_Evolution\\_of\\_Educational\\_Software](https://www.academia.edu/63470064/The_Historical_Evolution_of_Educational_Software). Accessed 14 March 2023.

VEERARAGHAVAN, P., HANNA D. and PARDEDE E. *Building Scalable and Secure Multicast Delivery Infrastructure in a Local Area Network: Electronics*. 2019, Vol. 8, No. 10, p. 1162. ISSN 2079-9292. DOI 10.3390/electronics8101162. Accessed 14 March 2023.

VIGNESH, G., and NAVEENKUMAR, K. *Employee behavior and performance of DHL couriers: ZENITH International Journal of Multidisciplinary Research*. 2019, Vol. 9, No. 4, 384-390. ISSN 2231-5780. Available from: [zenithresearch.org.in](http://zenithresearch.org.in). Accessed 14 March 2023.

VON AMMON, R. *Event-Driven Business Process Management: Encyclopedia of Database Systems*. Boston, MA: Springer US, 2009, p. 1068-1071. ISBN 978-0-387-35544-3. DOI 10.1007/978-0-387-39940-9\_577. Accessed 14 March 2023.

WAKE, C. *Two decades of digital pedagogies in the performing arts: a comparative survey of theatre, performance, and dance: International Journal of Performance Arts and Digital Media*. 2018, Vol.14, No.1, p.52-69. ISSN 1479-4713. DOI 10.1080/14794713.2018.1464097. Accessed 14 March 2023.

ZAKHAROVA O.A. *Development of corporate learning: from "e-Learning" to "we-Learning" // Educational technologies and society (Educational technology & society)*. 2013, Vol. 16, No. 2, p. 529-546.



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## 9 Appendix

### 9.1 Interview Transcript

#### 9.1.1 First Employee

- What is your working position?
- Graduate Trainee.
  
- For how long have you been working for DHL?
- 1 year.
  
- Is it your first experience of working for an international organization?
- Yes.
  
- How would you rate your experience with DHL so far?
- Good enough for the beginning of the career. DHL has been recognized as a great place to work by many people and I am one of them.
  
- Does your company have any means of e-learning?

- DHL provide online courses for internal employees in such areas as languages, IT, finance, etc., so yes, I have been acquainted with them.
- How would you rate your experience with the system of e-learning?
- Excellent.
- Was the system helpful in your initial stages of integrating into the company?
- Yes.
- What was the most useful function or information provided by the e-learning system?
- Practice skills in power BI.
- Are there any negative aspects of the e-learning system of DHL?
- Some courses need a lot of participants to be enrolled, which is not that easy to achieve.
- Have you had an increase in your wage after integrating with the system?
- Yes, since I can work with different tools effectively.
- Would you like to continue using the system?
- Yes.

### **9.1.2 Second Employee**

- What is your working position?
- BPM Sales support analyst.
- For how long have you been working for DHL?
- 4 months.
- Is it your first experience of working for an international organization?
- Yes.

- How would you rate your experience with DHL so far?
- Great opportunity to start a career with an experienced multi-national community.
  
- Does your company have any means of e-learning?
- Yes.
  
- How would you rate your experience with the system of e-learning?
- On average, the system itself is useful but the platform is rather buggy and complicated to use.
  
- Was the system helpful in your initial stages of integrating into the company?
- Yes, since it is highly convenient.
  
- What was the most useful function or information provided by the e-learning system?
- Cannot specify any.
  
- Are there any negative aspects of the e-learning system of DHL?
- User interface and numerous bugs.
  
- Have you had an increase in your wage after integrating with the system?
- Yes, I had.
  
- Would you like to continue using the system?
- Yes, because obstacles can be overcome, and the essence of its convenience will remain.

## 9.2 Survey Transcript

- How old are you?
  1. 18-25
  2. 26 – 41
  3. >41

- What is your gender?
  1. Male
  2. Female
- For how long have you have been engaged with working for DHL?
  1. Less than a year
  2. 1 – 4 years
  3. More than 4 years
- Is it your first experience of working for an international organization?
  1. Yes
  2. No
- Have you already been acquainted with the e-learning system of DHL?
  1. Yes
  2. No
- Was your experience with the interface of the system positive?
  1. Yes
  2. No
- Can you categorize the experience as hard and not user-friendly?
  1. Yes
  2. No
- Was the system's output helpful for your working process?
  1. Yes
  2. No
- Do you feel any improvements in your working experience after using the system?
  1. Yes
  2. No