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THE CASE OF NON-INDUSTRY DRIVEN APPRENTICESHIP SCHEMES AND THE DIGITALIZATION OF THEIR ADMINISTRATION AT THE MALTA COLLEGE OF ARTS, SCIENCE AND TECHNOLOGY (MCAST, MALTA)*

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Abstract
This study, being conducted as part of the EU4DUAL project, of which the Malta College of Arts, Science and Technology (MCAST, Malta) is a project partner, seeks to understand what MCAST thinks are the pros and cons of having apprenticeship schemes which are not industry-driven, as is the case here at MCAST, and whether, from the College's perspective, the transition to digital is making the administrative processes involved with regard to the apprenticeship schemes here at MCAST easier or harder.

1 Introduction

The Malta College of Arts, Science & Technology (MCAST), established by public deed by the Government of Malta in 2000 [6], is Malta's leading vocational educational and training (VET) institution [12] that offers a wide range of full-time courses and part-time vocational courses, ranging from certificates to Doctoral level (Malta Qualification Framework [MQF] Level 1 to Level 8) [14]. MCAST also offers awards pegged at MQF Introductory Level A and B [15].

The College was inaugurated with six institutes in 2001 [17], these being: the Institute of Applied Sciences (IAS), the Institute for the Creative Arts (ICA), the Institute of Engineering and Transport (IET), the Institute of Business Management and Commerce (IBMC), the Institute of Community Services (ICS), and the Institute of Information and Communication Technology (IICT) [14]. In 2002, the MCAST Gozo campus was inaugurated on Malta's sister island of Gozo [17]. The Apprenticeship and Work-Based Learning department at MCAST was set up in 2015 [17]. In 2018, an act to regulate local work-based learning (WBL) and apprenticeships within the context of VET programs came into force [5].

> "The main developments proposed by the act include the right of apprentices to receive an income equivalent to the national minimum wage per hour of work; this is as stipulated in the training program plan in compliance with the Employment and Industrial Relations Act, Young persons' employment regulations, Social Security Act and the respective subsidiary

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> legislation. There is also a governance structure to protect the rights and obligations of trainees and employers.
>
> The act aims at strengthening work-based learning and apprenticeship through definitions and operational parameters for work placements, apprenticeships and internships. It outlines responsibilities and governance structures, while defining rights and obligations for VET providers, employers and learners. It highlights the role of employers as responsible learning partners and sets the compulsory minimum number of hours for all forms of work-based learning. Contrary to the previous apprenticeship system, there is now a single apprenticeship qualification replacing the dual certificate system. The act also stipulates that a training agreement register should be in place, to simplify data collection and policy analysis" [2].

In 2020, the Apprenticeship Scheme call was launched [17]. The key features of this scheme entailed that: student apprenticeship must be defined and regulated by a work contract; the apprenticeship must be governed by a learning plan and schedule; attendance must be formally recorded; students engaged in apprenticeships must compile a logbook; and several monitoring visits from competent staff members must be held at the student apprentices' place of work [1]. Between 2013 and 2021, MCAST had registered 5,590 apprenticeships [16].

MCAST is an educational institution that embraces the dual education system of pedagogy. Dual education is a type of cooperative educational system which sees that youths receive both in-class pedagogy from their lecturers as well as professional training within the industry [20]. Dual education is intended to better prepare youths for entry into the workforce by providing them with the necessary job-related skills and experience that make them more "immediately useful" to the industry [8]. Dual education can bridge the gap between education and the workplace for learners, making their transition from education to employment more dynamic and informed [7] and provides learners with real-life scenarios, engages them in hands-on situations with the support of experienced mentors in industry, inculcates in them a professional attitude and culture, allows them to demonstrate autonomy within a semi-controlled environment, and improves their employability within the industry on completion of their studies [11].

Dual education ensures that although learning is being carried out, even if only partially, in industry in a semi-controlled environment, lecturing staff at the educational institution are still engaged in the supervision of the learning process [9]. The authors of this study believe this provides the learner with an additional level of support. By embracing dual education, MCAST is ensuring that "its programmes are flexible, relevant and responsive to the aspirations of the students and to the needs of industries which are constantly evolving to meet the challenges of a changing global economy" [14].

Apprenticeship schemes at MCAST are non-industry driven in that the programme design of these apprenticeship schemes, and all administrative and logistical procedures related to them, are handled by the education provider, specifically the Apprenticeship and Work-Based Learning department at MCAST. An industry driven approach to apprenticeships, though, "puts businesses front and centre in the design, development and ongoing assessment of this in-work training; giving employers the confidence they are fit for purpose and industry relevant" [19]. An industry driven approach to apprenticeships ensures that employers "actively engage with and invest in apprenticeship training" [3]. In an industry driven apprenticeship scheme, employers are as such put "in the driving seat of programme development" [13].

MCAST offers apprenticeship schemes at EQF/MQF Levels 3, 4, 5 and 6 [4]. Other WBL modalities are also provided at the College, such as life cases, placements, and internships (as communicated to the authors during an informal meeting held with the Apprenticeship and Work-Based Learning department, MCAST), but these will not be the focus of this study. The modality of the apprenticeship schemes at MCAST varies and is dependent on the MQF level and the

requirements of the courses of studies. The way apprenticeship hours are worked out is supported by the Bologna Process, in that 1 European Credit Transfer and Accumulation System (ECTS) credit workload requires 25 total learning hours for a taught unit [4]. The number of ECTS for accredited work-based learning (AWBL) is established at 6 ECTS (out of a total of 60 programme ECTS) for MQF Level 3 and 12 ECTS (out of a total of 120/180/240 programme ECTS) for MQF 4, 5 and 6 [4]. Following a ratio of 1:4, for every 25 total learning hours in class per ECTS, students must commit to 100 hours at the workplace per ECTS. Students must fully attend their days of apprenticeship to receive the credits assigned to the AWBL component [4] and they must also pass their logbook/reflective journal that they compile during their apprenticeship with help from their employer and which is graded by their mentor within their respective institute at the College (this as communicated to the authors during an informal meeting held with the Apprenticeship and Work-Based Learning department, MCAST).

This study aims to analyse what the College itself thinks are the pros and cons of having apprenticeship schemes which are not industry-driven, as is the case at MCAST. A study by Jacoby and Lerman [10], analysing industry-driven apprenticeship in the United States, list five policy recommendations:

- A true alternative: industry-driven apprenticeship schemes need a brand that makes them recognizable by employers and aspiring youths as reputable and effective;
- Skills standards: equipping the workforce of tomorrow with the right job-related skills requires standardized occupational frameworks-curricula that shape both in-class pedagogy and training in the industry;
- Government funding: synergy and pooling of resources is needed between government and employers;
- Marketing: take-up of apprenticeship schemes by employers depends on effective marketing aimed at selling and organising these schemes;
- Outcome metrics: effective quality assurance mechanisms are a must, ensuring that standards are met, and quality is assured.

A separate but related line of investigation in this study seeks to examine what the College thinks are the effects the recent transition from manual data inputting to the use of a digital management information system (MIS) for the administrative processes of the apprenticeship schemes offered here at MCAST has had on the employers involved.

It is expected that the analytical outcomes of this research would firstly be that the College would be mostly of the opinion that the case of having industry-driven apprenticeship schemes would make these schemes more efficient in most, if not all, domains. Secondly, it is expected that participants would believe that keeping the current non-industry driven approach to apprenticeships would mean that the problem of digitalization of the administrative tasks involved would still be a hurdle that would have to be overcome by fully addressing the current needs of the apprenticeship schemes being offered at the College and also the current needs of the department, the Apprenticeship and Work-Based Learning department, at the College that handles these schemes.

2 Method

An initial informal meeting was held with the Apprenticeship and Work-Based Learning department at MCAST, and information obtained from that informal meeting paved the way for the researchers of this study to formulate the above-mentioned two lines of investigation. One (1) formal three-way/triadic group interview [18] was held with three (3) members of staff at the Apprenticeship and Work-Based Learning department at MCAST who were identified as best suited to answer questions set on the themes of this research study by the director of the department. Ethics clearance was obtained from the MCAST Research Ethics Committee in writing prior to conducting the three-

way/triadic group interview. This semi-structured three-way/triadic group interview was divided into two parts: in the first part, questions were asked that aimed to address the day-to-day workings of the Apprenticeship and Work-Based Learning department at MCAST (1. What are the main tasks of the department on a daily basis?; 2. What challenges do you frequently encounter in your work at the department?; 3. What could be done at an institutional level to lessen or help you overcome these challenges?).

In the second part, questions were asked that focused on the apprenticeship schemes offered here at the College and opinions were sought from the research participants about the pros and cons of industry driven and non-industry driven apprenticeship schemes (1. We understand that the College offers apprenticeship schemes to students following courses at MQF Level 3 to MQF Level 6. Currently, the apprenticeship schemes at MCAST are non-industry driven. How do non-industry driven apprenticeships differ from industry driven apprenticeships? Why do you think MCAST makes use of the non-industry driven approach and what do you think are the pros and cons in having apprenticeship schemes here at MCAST non-industry driven?; 2. If the College had to come to an agreement with the industry and other stakeholders to have all apprenticeship schemes driven by the industry, what do you think would be the pros and cons of such a new approach?; 3. Are the majority of the employers participating in the apprenticeship schemes at MCAST small and medium-sized enterprises [SMEs]?; 4. If the apprenticeship schemes at the College had to become industry driven, do you think this would mitigate/lessen the challenges being encountered and how?).

Questions were also asked about the challenges members of staff faced in their working relationship with the employers and, more specifically, about any challenges the transition to digital involved in the administrative processes associated with the apprenticeship schemes offered at the College may have had (1. We have been informed that the administrative aspects of the apprenticeship schemes have been digitalized. Why was there a need for this digital transition? What is the expected outcome of this digital transition? What are the main challenges that are being encountered because of this digital transition?; 2. The digital transition is here to stay – ample research is proving that this is becoming the new status quo within the workplace. How can the college-industry partnership find ways to overcome the digitalization hurdle for the benefit of all parties involved?).

The three identified members of staff at the Apprenticeship and Work-Based Learning department were given prior to the three-way/triadic group interview an information sheet, explaining the aims of this research study and their rights as research participants, and a consent form for them to complete. The information letter and the consent form explained to the members of staff at the department that they were sitting for the three-way/triadic group interview willingly and that they could exert their right at any point during the three-way/triadic group interview to stop the interview and for any audio recording taken to be deleted immediately together with any other information related to them. Those members of staff that consented to take part in this research study were then invited for the three-way/triadic group interview. One signed copy of the consent form was kept by the participant and one copy was kept by the researchers. The consent forms were stored in a secure place. Having obtained the consent of all research participants, the three-way/triadic group interview was audio recorded for transcription purposes only. The research participants were informed that the audio recording of the interview would be transcribed and stored anonymously. The researchers made it clear that the audio recording would only be used for the transcription related to this research study and that it would be destroyed at the end of this research study. Pseudonyms were used during the three-way/triadic group interview in order that no personal identifiers would be recorded in the audio recording taken. During the three-way/triadic group interview, no questions were asked that would enable the identification of individuals or their roles within the department. Questions asking about the day-to-day work of the department did not seek to gather any information about individual roles in the department or specific tasks that would allow identification of research participants.

3 Results

- The main daily tasks of the department

Participants explained that currently the department was divided into two sections. One section provided customer care services to students, which also involved the preparation and signing of training agreements, and the other section worked directly with the industry, doing outreach activities with the industry, contacting industry partners, enticing industry partners to offer apprenticeships to students at the College, assisting industry partners with the use of the digital MIS used at the College, and responding to all related email communication. Participants explained that the department was headed by a director and had a member of staff who was responsible solely for payroll activities. Participants stated that the department had an open-door policy: industry partners and students could visit the department at any time during working hours, and sometimes even outside of office hours. Participants explained that the department had other duties, which included the gathering of data for the Board of Governors with regard to placed and unplaced students, collating information about placements, training activities, and one-to-one meetings.

Participants explained that the department was tasked with regular recording of students' attendance, and any holiday leave/sick leave availed of by the students (including processing of sick leave certification). This process, the participants explained, was necessary for payroll purposes. The participants explained that the department was also still closing off post-COVID-19 activities with regard to apprenticeship schemes since in some instances documentation related to apprenticeships offered during the pandemic was lacking (such as students' attendance records and training agreements). Lastly, participants explained that the department was also engaged in one-off tasks such as participating in Fresher's Week, conducting induction sessions, liaising with senior administrative officers at the various institutes at the College, conducting training sessions with different cohorts, and notifying students about new job vacancies.

- Challenges frequently faced by the department

The first challenge that participants mentioned was the lack of human resources at the department. Participants explained that the department always aimed to give a better service and be more efficient when dealing with the students and the industry partners. Unfortunately, participants reported, there were only two members of staff dealing directly with the industry and replying to all email communication. Participants explained that the department had over two thousand companies registered with the department. Participants further stated that payroll activities took a lot of time, and pressure on current human resources was augmented by factors such as members of staff on reduced hours, members of staff approaching retirement, and employee turnover. Participants agreed that lack of human resources at the department was one of the main challenges they encountered in their work at the department. Participants also mentioned that not having the department included in the early stages of decision making was problematic, but they also stated that with the lack of human resources at the department it was difficult to attend meetings like Board of Studies.

Participants explained that payroll activities took a lot of time and that not all the information was always available at hand, giving rise to the need to liaise with the Minister for Education, Sport, Youth, Research and Innovation (MEYR), who then issued the payments. Also, participants explained that any issues the students had with payments were directed to the department, as this was their contact point. It was the department, then, that had to liaise with the MEYR and the Office of the Prime Minister regarding any such issues with payments. (Participants explained that part of the payment came from the industry and the rest was paid by the government, this to bring the payment given to the students in line with the national minimum wage rate. Payments had to include changes due to COLA and any other factors.)

- Support at institutional level to lessen challenges faced

The participants believed that an increase in human resources was needed in order that more specific roles could be created within the department, this to increase the efficiency of the department. Also, participants mentioned the need for more induction sessions to be held with the students, this so that they could meet more students before they started their apprenticeships. Related to this, participants felt the need for outreach sessions with the students before they submitted their application for their chosen course of studies, this so that members of the department could provide prospective students with detailed information about the apprenticeship scheme associated with their chosen course of studies. This, though, they stressed would only be possible with an increase in human resources. The fact that training agreements were specific to each course of studies, took a lot of time for the members of staff at the department to prepare, something which they felt could again be addressed by increased human resources.

Participants expressed their need for more assistance when dealing with specific industry sectors as those would have very limited knowledge in IT and hence experienced problems operating the digital MIS used by the College. Participants explained that this need arose with the transition to digital and that the related issues due to this transition were mostly arising from self-employed employers, with some not even owning a computer. They further explained that these same issues were also encountered to some extent with SMEs and larger companies and that meetings with industry partners and providing them with written and graphic instructions on how to operate the digital system was still not proving useful for industry partners to be able to overcome those issues that arose due to the transition to digital. The ability to meet industry partners on site was another need mentioned by participants. Currently, due to the lack of human resources, participants were meeting industry partners online, this to reduce travelling time and thus maintain active hours at the office. Lastly, participants noted that some companies involved in the apprenticeship scheme did not have time to read the contents of the training agreement (even though they were provided with both a hard copy and a digital copy), and this caused problems further down the line.

- The case of non-industry driven apprenticeship schemes at the College

Participants explained that with the apprenticeship schemes at the College being non-industry driven, it was up to the College to approach the industry to encourage uptake of its schemes by new industry partners that would enable them to be able to start offering apprenticeships to students at MCAST. Participants noted that some companies took the initiative themselves and approached MCAST to join the schemes, this with the intended aim of investing in their future workforce. Also, participants explained, some companies contacted the College asking for upskilling training programmes for their current workforce. Ultimately though, participants explained, with the schemes being non-industry driven, the College was always at the centre, and everything depended on the College and its initiatives. This, the participants further explained, placed the College in a difficult position, as being at the centre of the schemes and having to shoulder all responsibilities associated with the schemes, the College had to always ensure that there were sufficient opportunities within the industry for all students making use of the schemes to be provided with apprenticeship opportunities. Participants noted that students could make their own search for opportunities, but ultimately any choice taken had to be vetted by the College as the College had to ensure that the chosen employer had the necessary credentials to provide the student with an apprenticeship that could ultimately be accredited by the College.

Participants complained that with the current non-industry driven approach, the industry was not a stakeholder in the scheme. Participants listed as an example an issue the College experienced with the iGaming sector, where the sector requested the tailoring and provision of a specific course of studies but ultimately did not offer apprenticeships. The result was that students who embarked on this course of studies could not find apprenticeship opportunities within the sector, forcing a reprogramming of this course of studies. Participants were of the opinion that the apprenticeship schemes were valued by the industry, but not all companies invested in them due to lack of human resources and because of what some industry partners felt were an insufficient number of hours

being dedicated to the apprenticeship by each student every week (on average, an MCAST student on an apprenticeship was expected to commit one day a week to training on the workplace). Participants explained that the apprenticeship scheme at MCAST was from its very inception tailored on the non-industry driven approach and that the College was aiming to have all courses of studies on offer incorporate an apprenticeship component. This, they explained, was not yet the case at the College. Participants explained that when a course of studies was missing an apprenticeship component, students were still ensured work exposure by other WBL initiatives, such as by providing life cases.

The participants felt that if the industry was a stakeholder in the schemes, then it would be possible to offer more apprenticeships and other WBL modalities within the courses of studies on offer at the College. Participants were quick to note, though, that with increased WBL modalities would come added administrative demands, as these new modalities would require different work contracts, and, also, more mentors would be needed to ensure that all students received visits at the workplace from their mentors within their respective institute at the College. Also, participants noted that changes in WBL modalities might not go down well with all industries. None of the participants listed any pros with having apprenticeship schemes at MCAST non-industry driven.

- Transition to an industry driven approach: pros and cons

Participants reasoned that the pros would include less pressure on the department, as the industry would guarantee apprenticeships to the students at the College. The industry, participants said, would also shoulder some of the responsibilities associated with the apprenticeship schemes. Highlighting further challenges with the current scheme, participants explained that after their probationary period, employers tended to hold on to only a few students. The others would have their training agreement terminated, and the students affected had to then start the whole process of finding an apprenticeship again. This, participants explained, added further pressure on the department. Participants reasoned that in an industry driven system, industry would be providing work and training related to the apprenticeship. This, they explained, would entail that the department would not need to check if the tasks were in-line with the requirements, and the department would not need to match tasks with specific courses of studies. Participants believed that these tasks, in an industry driven system, would be handled by the industry. In an industry driven system, participants reasoned, the industry would have more input in creating apprenticeship schemes and would provide input in the development of the courses of studies targeted towards the provision of a future workforce in the various sectors. The participants listed no cons with a hypothetical transition at the College to industry driven apprenticeship schemes.

- Sector profile of the employers participating in the apprenticeship schemes at MCAST

Participants explained that industries in the manufacturing and business sectors participating in the scheme tended to be larger companies. Companies that employed mechanics, hairdressers, beauticians, and the like, tended to be smaller companies or even self-employed individuals. Participants explained that it all depended on the course of studies and the sector.

- Transition to digital: expected outcomes and main challenges

Participants explained that the transition to digital was the biggest hurdle they had experienced as a department so far. They argued that insufficient training was provided, and that the system was still a work in progress with frequent changes. They further explained that the transition to digital was a challenge not just for the department but also for the students and the industry. They noted that some companies couldn't comply with data sharing due to a common policy. Also, no dummy account was provided to help the department see how the system was presented to different operators. They explained that the system was still being enhanced and, due to that fact that it was developed and maintained by a non-local company, the limitations on enhancements and training kept increasing. Participants explained that sometimes students and/or employers noticed updates

to the system without the department having received any prior notifications that such updates were going to be implemented. The participants agreed that the system was not tailored for the requirements of the apprenticeship schemes and the department, and so the needs of both couldn't be fully catered for, with even the terminology used by the system being different from the terminology employed by the department. The participants explained that the transition to digital was mainly done due to students complaining about the need to visit campus every week, even during the summer period, to present their attendances. Participants argued that if the system had been created to address the specific needs of the schemes and the department, it would have been a very beneficial system. However, they explained that the system was currently not catering for those needs as it was not created specifically with the requirements of the schemes and the work of the department in mind.

- Transition to digital: overcoming the digitalization hurdle

Participants argued that a realistic perspective of the workings of the department needed to be adopted and considered by creating a system designed to specifically tackle the requirements of the department. This, they explained, would save the department a lot of time. At present, they further explained, the workload seemed to have doubled, this because the system was not yet reliable and had too many bugs e.g. automatic creation of usernames with around one hundred characters, or not granting access to others to authorise attendances, or submitting information late, which led to students not being paid on time (participants reported that some companies hadn't approved attendances in months).

- Transition to an industry driven approach: mitigation of challenges encountered

Participants explained that if the apprenticeship schemes at MCAST had to become industry-driven, then payroll and duties associated with training agreements would be borne by the industry. At present, participants explained that there could be many issues with regard to payroll and training agreements. Such a move, they explained, would allow the department more time to liaise with the students and to assist them with other issues. This, they felt, would be especially helpful with regard to vulnerable and foreign students at MCAST. At present, they stated, many meetings (including one-to-one meetings) were held with the industry to guide them as to how to operate the digital system, but there were logistical issues, with the department's working hours not coinciding with those of the industry/employers. Also, they stated, not all companies attended the training sessions or the one-to-one sessions. In fact, they explained, turnout to these meetings tended to be low, with the result being that companies then complained that the digital system was complicated and difficult to use. Participants explained that a guidebook was created and provided to guide the industry with inputting students' attendances on the digital system.

Participants reasoned that since the scheme was currently non-industry driven, and since the apprenticeship component was an essential component in any given course of studies being offered at MCAST, then all the associated problems had to be shouldered by the department. Also, lack of communication within the College saw the department getting to know about added apprenticeship components to courses of studies after the prospectus would have been published. Participants reasoned that the requirements of apprenticeship were on the increase as more courses of studies were being created and more students were enrolling at MCAST, and this increase in demand for apprenticeship schemes were increasing the demands placed on the department, which lacked human resources. At present, participants explained, not all companies were following protocol and ensuring that the students training at their premises had someone working with them, such as a mentor. With the current non-industry driven approach, the department was tasked with sending companies regular reminders to approve payments and the department also had to deal with issues related to student behavior at the workplace.

Participants explained that the department did not have full visibility of any psychological or physical conditions the students suffered from, and neither did the industry. This, they stated, could

have negative repercussions on the apprenticeship experience, both for the student and for the employer. Having an open-door policy, participants explained, saw the department at times providing additional beneficial support to students. Lastly, participants stated that many companies did provide students with employment after their apprenticeship, especially if students happened to be better at vocational rather than theoretical learning.

4 Discussion

Results from this study indicated that participants were in complete agreement when it came to discussing the pros and cons of the current non-industry driven approach to apprenticeships employed at the College. None of the participants mentioned anything positive about this approach and instead listed numerous challenges they encountered navigating within this approach. Conversely, results from this study indicated that the participants felt that an industry driven approach to apprentice schemes would introduce various benefits. This viewpoint was corroborated further by the fact that none of the participants mentioned any negative repercussions such an approach could potentially bring about. Regarding the transition to digital with regard to the administrative processes associated with the apprenticeship schemes at MCAST, participants listed various challenges they encountered when working with the current digital system. Participants were in agreement that the current digital system was not created with the needs of the College's apprenticeship schemes and the department in mind. It was felt by the participants that this one-size-fits-all digital system was not helping the department, and that a new digital system was needed that would be tailored to the specific needs of the College's apprenticeship schemes and the department.

5 Conclusion

Admittedly, one of the aims of this small-scale study was to investigate the College's viewpoints on the perceived pros and cons of non-industry driven and industry driven approaches to apprenticeship schemes. That the participants only listed negative issues with the non-industry driven approach, and only positive issues with the industry driven approach, does not lessen the importance of collecting viewpoints from all other stakeholders involved, namely, students, employers, and government bodies, in future research work investigating these two different approaches within the local context. Similarly, the other aim of this study was to investigate whether the College felt that transition to digital with regard to the administrative processes associated with the apprenticeship schemes at MCAST was making things more efficient or more difficult. Results indicated that the members of staff working within the Apprenticeship and Work-Based Learning department at MCAST believed that a new digital system tailored specifically for the needs of the College's apprenticeship schemes and the department was needed, as the current digital system being used did not address these needs properly. Yet again, though, future research work investigating this transition to digital with regard to the administrative processes associated with the apprenticeship schemes at MCAST would need to also collect the viewpoints of the other important stakeholder, namely the industry, which has been affected too by this digital transition.

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