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EXPLORE AND MANAGE PARTNERSHIP IN THE KNOWLEDGE EXCHANGE WORLD

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***Abstract*:** We will explore Knowledge Exchange activities and how we support academic, including industry led partnership- Knowledge Transfer Partnerships (KTPs), Continuous Professional Development (CPD), Consultancy activities. Routes to develop partnerships from industry and academic view, stages and challenges in developing and managing partnerships.

Key Words: Knowledge Exchange- How Knowledge Exchange between academia, industry, and governments drives innovation.

Case study: Satisnet-ENU KTP, SSCL-University of York AAKTP, BC Mexico leadership, ENU and Deloitte CPD

INTRODUCTION

In the global knowledge economy, collaboration between universities and industry drives innovation. This paper explores how knowledge exchange between academia, industry, and governments drives innovation. The paper identifies systemic barriers to collaboration and uses Knowledge Transfer Partnership (KTP), BC Mexico leadership and Deloitte and ENU CPD as successful case studies. The paper discusses routes to developing partnerships and addresses challenges at different stages.

KNOWLEDGE EXCHANGE AND INNOVATION

According to Knowledge Exchange Concordat, Knowledge exchange can be defined as ‘a collaborative, creative endeavour that translates knowledge and research into impact in society and the economy. KE includes a set of activities, processes and skills that enable close collaboration between universities and partner organisations to deliver commercial, environmental, cultural and place-based benefits, opportunities for students and increased prosperity’.

THEORETICAL FOUNDATIONS

Triple Helix (Etzkowitz, 2008) model emphasises interdependence among universities, industries, and governments to foster innovation. University–industry–government relations can be considered as a triple helix of evolving networks of communication (Etzkowitz and Leydesdorff, 1997). KE activities include:

COLLABORATIVE R&D: the UK government has put enhanced emphasis on science, R&D, technology and innovation at the heart of its economic growth and global strategy. Our research councils, Innovate UK and Research England foster collaboration work across the UK and internationally. Collaborative programmes and the industry-led research help drive commercialisation to address industry needs and advance economic, technological and social progress. Bringing together the unique skills of experts from a diverse range of disciplines, these collaborative programmes seek to tackle complex challenges and align research with practical industry requirements.

KNOWLEDGE TRANSFER PARTNERSHIPS (KTPS): KTP is UK leading programme 'to strengthen the competitiveness, wealth creation and economic performance of the UK by the enhancement of knowledge and skills and the stimulation of innovation through collaborative projects between business and the knowledge base' (UKRI). It is three ways partnership between Academic, Business and Associate. Since 1975, KTPs have driven innovation and growth by creating collaborations between businesses and academic institutions. KTPs are tailored to specific requirements, addressing specific needs. Through the high qualified associates, businesses gain innovative solutions new technologies and expertise over 12-36 months. KTPs have proven effective, generating over £2 billion for UK economy from 2010-2020.

CONTINUING PROFESSIONAL DEVELOPMENT (CPD): CPD is defined as learning experiences which help individual develop and improve professional practice. This includes building on own strengths, as well as developing and enhancing their capabilities. Many UK universities offer CPD in Business and other subjects. For example, Alliance Manchester Business School has a list of short business courses, customised programmes for organisations and Executive Education to develop management and leadership skills.

INTELLECTUAL PROPERTY (IP) AND COMMERCIALISATION: Intellectual property rights are a form of protection that gives the owner the ability to take legal action under civil law to try and stop others from making, using, importing or selling their creation. Universities are responsible to manage their IP and make sure those generating the IP get appropriate benefit from its exploitation. IP is normally identified and managed by Academic and in partnership with their Technology Transfer Offices or Research Innovation Offices. Collaboration agreement is normally used to support research funded by research councils.

COMMERCIALISATION

Licensing is a powerful way of allowing a third party to utilise IP without them taking ownership. Normally academics are in a position to license out their IP to industrial partner.

Spin out companies are created using IP. Basically, when the IP has been sufficiently protected the owner can use it as a basis to form a company.

CASE STUDY: SATISNET AND EDINBURGH NAPIER UNIVERSITY KTP

ENU had been working with Satisnet- a leader, in the Security Services industry across the UK and the world. Satisnet is a specialised Value-Added Reseller (VAR) focused on both the leading and upcoming security/infrastructure tools on the market on KTP project. The aim of the KTP project was to create a completely scripted environment for the creation of advanced cyber security training, using scripted scenarios for the creation of the training elements, and providing feedback on performance metrics.

CHALLENGE

Cybersecurity is a growing global concern and its impact intensified by the alarming rate of new resources of attacks and the lack of recognised company personnel trained to level to. There are a lot of security management software tools in the market but the lack of confidence in using them effectively. Satisnet faced challenge of moving beyond training in such product. A key challenge and innovation of the infrastructure was to integrate evaluation metrics which will give instructions on how trainee could improve their response to the scenario.

PROJECT JOURNEY AND OUTPUT

The length of the KTP project was two years, led by Prof. Bill Buchanan from School of Computing. The First year was to review of Existing Infrastructure and Outline of Future Plans, and Scripting scenario creation for vSoC. The Second year involved Pilot trial (Showcase) of vSoC Prototype Architecture and Evaluation, vSoC Production Ready and customer engagement, Commercialisation and to identify further business opportunities,

The project output has led to several publications and inform research around the automation of red teaming attacks, pedagogy towards authentic online systems. The output for Satisnet was quite significant, which contributed to develop Strategy and business model for international partnerships and franchising

CASE STUDY: AFRICA AGRICULTURE KNOWLEDGE TRANSFER PARTNERSHIP (AAKTP)

AAKTP using a novel partnership structure, involved a UK academic institution, an African Business and an African University to deliver an Agrifood innovation project.

University of York, University of Development Studies (UDS), Ghana and SSCL, a social business drive SME in Ghana to work on a solution to the nutrition crises, especially for children in that area. The purpose of the partnership was to devise a targeted intervention that could improve the lives of those affected by food insecurity and malnutrition in northern Ghana.

PROJECT OUTCOME

The two year AAKTP by applying cutting-edge knowledge in supply Chain and marketing, a new product was developed with fortified flour and sourced locally. The product ‘C-Real’ aimed to primarily feed school children and promote regenerative agriculture to improve smallholder livelihoods. C-real produced using energy-efficient technology to deliver tasty nutrition at an affordable price. The AAKTP was aligned with UNSDG 2,3,4 and 5.

The project has provided sustainable jobs and income for local farmers, provided a ready market for farms to produce at competitive prices, regenerated the local economy by empowering female, educated school children in deprived areas about the importance of a safe, healthy and nutritious meal. Most importantly, the project

has provided policy related feedback to the UK high Commission and Ghana government bodies to transfer successful model of partnership to industries.

The project has won best ‘AAKTP’ and ‘Changing the World’ awards by Innovate UK in 2024.

CASE STUDY: BC MEXICO LEADERSHIP

The creative leadership programme (CLP) was part of Creative economy portfolio of the British Council in Mexico, to support the development of cultural and creative leaders by improving their governance and leadership skills. Through strategic alliances, the CLP generates programmes and studies that drive short, medium and long term change (British Council 2024).

Dring 2023 and 2024, the programme was delivered in person as one-week residency, in the city of Edinburgh in partnership with Counterculture.

ENU has utilised vast professional networks to ensure a range of inspiring and creative leaders from UK and international top level organisations as guest speakers to contribute to deliver the programme, to BC Mexico selected delegates. ENU has designed intensive programme to explore cross-cutting and intersectional themes, as well as organising site visits to Edinburgh’s Festival Centre, National Museum of Scotland, V&A Dundee etc to offer a diversity of insight and perspectives from senior management and board members.

IMPACT OF THE PROJECT

The outcome of the project has developed Mexican leaders’ leadership and governance skills, access to a global network consisting of UK and Mexico creative and cultural practitioners. The feedback from participants was very positive. The programme offers a trusted environment where professionals can interact with each other in the cultural sector and share experiences and perspectives, which enriches their personal vision and leads to news ideas for project development. The programme has impact on public service -In the field of public service, the knowledge acquired in terms of various models of culture governance allows for the development of work process that are more flexible and adaptable to the needs of the context. The CLP programme is a unique and transformative experience that offers culture sector professionals the opportunity to strengthen their skills, broaden their knowledge, establish valuable networks and contribute to the development of

cultural sector in Mexico and internationally. According to the results of the analysis, the investment made by British Council of CLP has already had a beneficial impact on the economic, symbolic, cultural and social capital of its participants, these benefits could be scaled up to the entire regional and even to the world, considering the international mobility.

The partnership has fostered culture understanding and exchange, and promoted diversity

CASE STUDY: ENU AND DELOITTE CPD

The opportunity came across through an interdisciplinary collaboration between ENU academics - from the Business School and School of Computing, ENU's research, innovation and enterprise (RIE) office brokered the development of a unique new CPD provision in the form of postgraduate education programme for Deloitte, the leading professional services firm. The MSc Digital and Business Risk Management was co-created by Deloitte Directors and the ENU academic team who and the agreement which will be in place for the next five years and has a value of £1.5million, enables Deloitte to offer a unique, part-time Master of Science (MSc) qualification in Digital and Business Risk Management from Edinburgh Napier University to its IT Audit & Assurance and Risk Advisory graduate hires in the UK.

Directors from Deloitte met with Edinburgh Napier University (ENU) academics in 2020 and there was a mutual desire to collaborate together in a way that ensured their new employees, joining via the graduate programme entry route, had skills that were fit for the future. There is opportunity to apply this model to other departments across Deloitte as well as other large corporates which is a strategic initiative at ENU for the next academic year.

Deloitte was key to identifying the skills gap required in their workforce. They worked very closely with the ENU academics to ensure that the programme's curriculum addressed these gaps.

Adam Conway-Howe, director in IT Audit & Assurance at Deloitte UK, said: "As technology and digitalisation continues to transform the world of business, it's more important than ever that our people are aware of the opportunities and risks this creates for our clients.

Created in close collaboration with Edinburgh Napier to ensure the programme is tailored specifically to the needs of modern businesses, this MSc offers a unique learning experience for our people right from the outset of their careers, alongside the practical experience they gain working at Deloitte."

ROUTES TO DEVELOPING AND MANAGING PARTNERSHIP

There are different routes to develop partnerships with industry.

Academic Liaison with industry is flexible. The most common one is collaborative partnership such as collaboration research, student placement/internship, aimed at fostering mutual benefits. This enables universities to align with the curriculum with real world needs, while industry can gain access to cutting edge research.

Procurement fee-for-service arrangements involved industries paying universities directly for expertise, consultancy to address specific challenges. Such services often cover analysis, technical consulting, or access to facilities etc. This model is short term, providing solutions to meet business needs.

Industry Funding to universities, either in kind contribution or cash contribution, supports collaborative research and innovation. E.g., Scottish Funding council offers Innovation voucher, where Industry can contribute to a matching kind value such as staff time, equipment or both. Such investment from industry allows them to gain insights into emerging technologies and research.

Why partner

From the industry view, partnership can be viewed as part of the community and depend on the advances in the field as a whole. The academic environment provides breeding ground for innovation, allow access to cutting edge research. It also gives access to talents as partners and potential hires for skilled workforce

From the academic view, it provides access to significant resources, access to funding, routes to collaboration and most importantly, a route to impact.

Partnerships build trust that foster future collaborations leading to win-win outcomes, which give industries competitive advantage, while universities translate knowledge into real-world impact.

STAGES AND TYPICAL CHALLENGES IN DEVELOPING AND MANAGING PARTNERSHIPS

There are different stages in partnership development

Strategy, selection and project planning

When selecting new partners, there are certain criteria to be met. Version and values are to be shared among partners. Aligning drivers across multiple stakeholders from the onset and aligning with external government or funding strategy or policies.

Legal Contracting

Legal contract negotiation can be very time consuming. We need to ensure Due Diligence is conducted to mitigate risks. Due to lengthy process of organisation/university, which can lead to delayed project start. Budget, IP, project deliverables etc can take long time to agree. It is more difficult to align with more complex organisational views, especially involved with larger collaborations

Project Execution and Oversight

Once the contract is signed, project is ready to start. Recruitment, setting up project team are in place. We need to ensure project delivers in compliance with contract terms and conditions. Organisations have different administrative systems and requirements to manage projects and track risks.

Closure, reporting and dissemination

The final stage is project closure. We need to ensure all data received and all obligations completed. There may be further opportunities e.g., Follow on funds, We need to ensure that impact delivered while protecting Intellectual Property.

CONCLUSION

In a period of rapid change, the need to adapt and innovate has never been more urgent. As industries evolve, government priorities change, and research organisations battle with external pressures, knowledge exchange plays a pivotal role in translating innovation into real-world solutions.

This paper explores how businesses, government, funders and researchers can collectively define the future by driving impactful collaborations, accelerating

innovation process, drawing on strategic partnerships and enabling to grow and embrace the technological future.

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BEHAVIORAL ECONOMICS AND MORAL EMOTIONS: THE CASE OF THE GIG ECONOMY

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Abstract: The arrival and development of digital platforms have changed the landscape of the labor market. These platforms made possible the emergence of new forms of work, which are characterized by greater flexibility as well as by an increasing degree of job precariousness. Much of the work associated with this new economy is freelance work, which is not paid through a regular wage but rather by piece of work effectively done. This is the reason why workers in this platform economy are called gig workers and the new setting has received the designation of gig economy. Services as Uber Eats are good examples of how the gig economy has penetrated in our everyday lives. Given the increasing relevance and complexity of the gig economy and the changes it has brought to the way work is performed, it is important to investigate how it impacts its stakeholders. This research approaches the interplay between gig activities and moral emotions. The goal is to understand which the main emotions are felt by purchasers of gig services. Moral emotions, like anger, disgust, empathy, guilt, pride, and shame are scrutinized in the context of gig economy transactions. The analysis has been conducted through semi-structured interviews with Uber Eats users in Portugal and Brazil.

Keywords: Behavioral economics; Gig economy; Moral emotions; Platform economy.

1. INTRODUCTION

Gig economy can be considered the labor market that uses digital platforms to hire short-term independent contractors (Woodcock & Graham, 2020). There is a distinction between the type of work made in these platforms: online work in platforms such as Clickworker is characterized by small, disaggregated tasks without

contact with the client, while offline work; in services such as Uber Eats, the platform arranges the task, and it is performed with direct contact of the client (Sundararajan, 2017).

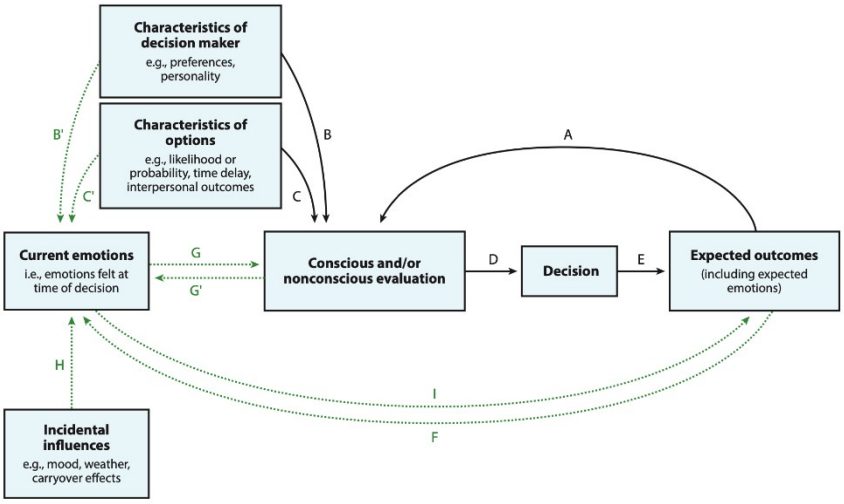
Gig workers are in a formal agreement with the platform to provide services to its clients. A problem arises due to a lack of negotiations between employer and employee on the rates they charge, leading to the possibility of exploiting workers when there are many applicants for those services (Kost *et al.*, 2020). At the same time gig economy helped create new jobs and sources of income for their workers. Nevertheless, it contributes to a decrease in working conditions due to lack of employment benefits and job security (Kost *et al.*, 2020). Thus, there is an urgent need for improvements in terms of this service regulation (Novitz, 2020). A Global collective bargaining agreement could be one of the ways to guarantee work rights and decent work norms as well as sustainability objectives.

In this context, morality can be considered a key aspect, shaping economic dynamics. Recent studies emphasize morality's crucial role in decision-making, influencing both daily choices and major decisions in people's lives and business (Strikwerda-Brown *et al.*, 2021), such as in balancing profit and ethics in market pricing (Ockenfels *et al.*, 2020). Given the multifaceted nature of morality and its far-reaching implications, this study provides an introductory exploration of the emotions associated with it in the context of the gig economy.

2. THE MORAL EMOTIONS

Emotions can be understood as "a complex reaction pattern, involving experiential, behavioral, and physiological elements, by which an individual attempts to deal with a personally significant matter or event" (APA, 2018, p.1). Emotions are an important aspect of decision as they influence people's heuristics and biases (Kahneman, 2013). Lerner *et al.* (2015) model describes some of the relationships between emotion and the other dimensions of decision-making (see Figure 1).

Figure 1: The emotion-imbued decision model



Source: Lerner *et al.* (2015)

Considering the relevance of social relationships to human behavior (Manner & Gowdy, 2010), this study focuses on the denominated moral emotions, which are related to human morality (Walsh, 2021). At this point, it is important to highlight that emotion, and the conscious evaluation of an emotion are two distinct events (Mobbs *et al*., 2019) and that this study is based on the conscious evaluation of moral emotions during the acquisition of a service.

3. METHODOLOGY

According to Moraes *et al.* (2024), some of the most recurrent emotions mentioned in the moral behavior literature are anger, disgust, empathy, guilt, pride, and shame. These dimensions were applied in the content analysis of the 10 interviews conducted in this study. Furthermore, to deepen our analysis, the 'ineffable' dimension was added. The sample of this study consists of individuals aged between 30 and 50 years, with an equal gender distribution. Half of the interviewees are users of the service in Portugal, and the other half in Brazil.

The interview questions were:

(Q1) As a consumer of this type of service (Uber Eats), what do you generally feel: anger, disgust, empathy, guilt, pride, shame, or ineffable emotions? Users could indicate more than one option.

(Q2) Why?

(Q3) Would you like to be a service provider through a platform like Uber Eats?

(Q4) Why?

4. RESULTS

Given the nature of the present study (qualitative and exploratory), the quantitative distribution of the answers will not be analyzed. However, we highlight the predominance of empathy, as well as the presence of responses in the ineffable category, which can be related to people's inability to classify their emotions and, therefore, to the importance of initiatives aimed at developing emotional intelligence throughout life.

No disparities were found between the answers from the two countries considered. Concerning the statements, people expressed concerns about providers' working conditions. These concerns are related to interviewees' emotions of disgust, empathy, shame, and guilt. However, it was also evidenced that this kind of work itself should not automatically be labeled as bad. There are indications that the decision to use the service stems from factors such as poor time management or overwork on the part of the users, adding to the feeling of shame for contributing to an unjust work market.

Emotion	**Yes Occurrences**	**Why? (Examples)**
Anger	1	(User 3) "The service provider helps the owner of the platform get rich and has no labor guarantee. They usually have to work very hard to get a decent pay."
Disgust	2	(User 7) "I feel bad every time I need a service like Uber Eats because I'm always thinking that the person offering it is someone who can't pay their bills with a regular job. And then I realize that making money and having a decent job is not easy for most people."
Empathy	8	(User 10) "I know that, many times, it's a hectic and tiring job for delivery app drivers, so I try to put myself in their shoes and overlook situations like delays in order deliveries, etc. However, I understand that some types of work are more exhausting and/or dangerous than others, which doesn't, by itself, justify labeling the profession as bad or inhumane. That said, if even the minimum isn't guaranteed to the service provider under labor laws, then we can discuss the company's exploitative and unlawful behavior."
Shame	3	(User 1) "I feel a bit of shame every time I use this type of service because I know that the deliverer's working conditions are usually terrible. However,

		since my salary is not very high and I need the service on some occasions, I use it."
Pride	0	-
Guilt	3	(User 2) "I always feel guilty when I'm not ready to pick up the order when the delivery driver arrives. I know they are always under a lot of time pressure, and I don't want to add more stress for them, as this could even put their lives at risk."
Ineffable Positive	0	-
Ineffable Negative	3	(User 9) "I acknowledge the laziness, poor time management, or excess of work that led me to choose this service."

Regarding the question "would you like to be a service provider through a platform like Uber Eats?", all the interviewees reported that they do not want because of the working conditions. One of the users stated "no, unless I were really in financial difficulty".

5. CONCLUSIONS

The sample used in this study is limited in terms of size, geography, and self-reporting bias. Notwithstanding, the research is relevant in emphasizing how the platform economy or gig economy came to change the organization of work. New ways of providing services have emerged, bringing with them, as well, new challenges that have to be approached. Because we are still in the infancy of the development of these activities, we are obviously in an adjustment phase, and employers and employees are still adjusting to offer a service that is perceived, in society, as a source of prosperity and progress for all the involved. Evidently, not all the problems will be solved by market mechanisms, leading to a series of negative feelings or emotions that are pervasive among players and that tend to persist. Hence, public authorities must intervene as well, and have an active role, thus guaranteeing that worker and customer rights are duly protected, and that the gig part of the economy is capable of thriving.

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POLLUTION OF AGRICULTURAL LANDS AND INNOVATIVE APPROACHES TO THEIR RESTORATION

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The modern agricultural sector faces significant environmental challenges related to the pollution of natural resources, posing a serious threat to food security, human well-being, the sustainability of agroecosystems, and the long-term preservation of the natural environment.

According to the Food and Agriculture Organization of the United Nations (FAO), approximately 2,250 km³ of wastewater is discharged into the environment annually, including 330 km³ of municipal wastewater, 660 km³ of industrial wastewater (including cooling water), and 1,260 km³ of agricultural runoff (FAO, 2021).

The use of agrochemicals, particularly nitrogen and phosphorus fertilizers, leads to excessive nutrient enrichment of soils and aquatic systems, resulting in serious environmental issues such as groundwater pollution and eutrophication of aquatic ecosystems (Abbasi et al., 2013; Kumar & Yaashikaa, 2019).

The increasing use of pesticides poses a significant threat to global natural resources, as these chemicals can accumulate in ecosystems, leading to the decline of beneficial insects, pollution of water bodies, and the formation of persistent pollutants that adversely affect human and animal health (Abbasi et al., 2013).

The natural resources of the agricultural sector of Ukraine are subjected to significant pollution, primarily from industrial enterprises. Harmful industrial emissions accumulate on lands directly adjacent to production facilities, disperse through the air over hundreds of kilometres from emission sources, and settle on the land surface through atmospheric precipitation in the form of acid rain, which has become a frequent occurrence.

In areas affected by industrial emissions, both natural and cultivated biocenoses degrade, leading to a decline in species diversity and fauna populations. The physicochemical properties and biological activity of soils deteriorate, resulting in soil acidification, reduced agricultural productivity, and the accumulation of toxic substances in crops. Numerous studies have demonstrated that within industrial

impact zones, grain crop yields decrease by 20–30%, sunflower yields by 15–20%, vegetable yields by 25–30%, and fruit yields by 15–20%.

Industrial pollution is particularly prevalent in the Donetsk and Kryvyi Rih basins, as well as in the Pavlohrad, Nikopol-Marganets, and Kalush-Drohobych regions, where metallurgical, chemical, coal, and mining industries are concentrated.

The aforementioned processes of natural resource pollution have significantly intensified as a result of military actions in Ukraine, which initially began in the Donetsk Basin region and now affect parts of five southeastern oblasts.

In conflict zones, surface and groundwater, air, and soil are subjected to chemical pollution due to the release of significant amounts of combustion byproducts from munitions, as well as the destruction of military and civilian equipment, municipal infrastructure, chemical plants, fuel and lubricant depots, and liquid chemical fertilizer storage facilities. These chemical pollutants include petroleum products, heavy metals, nitroaromatic explosive compounds, organophosphorus nerve agents, radioactive elements, and other hazardous substances.

The passage of vehicles, detonation of explosive ordnance, and other military activities lead to soil compaction, structural damage, reduced water and air infiltration, and the development of anaerobic processes. These factors decrease land productivity and negatively affect the growth of agricultural crops. According to findings from specialized institutions, all types of pollution –chemical, physicochemical, mechanical, physical, and biological – are observed in lands affected by military actions (Splodytel et al., 2023; Balyuk, 2003).

The issue of natural resource pollution in the agricultural sector is further complicated by the aftermath of the Chornobyl Nuclear Power Plant disaster. As a result of the explosion, radioactive emissions polluted more than 8.4 million hectares, and even a decade later, the density of radioactive cesium pollution still exceeded permissible limits (Danylyshyn et al., 1999).

Thirty-five years after the Chornobyl disaster (as of 2021), the concentration of ^{137}Cs in agricultural products across most polluted areas remains at or near the permissible limit, often exceeding it. Additionally, growing concerns arise over the increasing levels of ^{90}Sr contamination, attributed to its enhanced bioavailability to plants (Resolution of the Round Table *“Consequences of the Chornobyl Nuclear Power Plant Accident: Current State, Conclusions, and Prospects”*, 2021).

Currently, the primary source of collective radiation exposure among the population (up to 95% of the total dose) is the consumption of food products grown on radioactively contaminated land.

Among the measures for comprehensive rehabilitation and rational use of contaminated land, biological methods of soil remediation – commonly known as phytoremediation techniques – have gained significant attention. Phytoremediation is defined as the process of using green plants to facilitate, transfer, stabilize, or degrade contaminants in soil, sediments, and surface and groundwater (Laghlimi et al., 2015; Elekes, 2014; United States Environmental Protection Agency, 2001; Paz-Ferreiro et al., 2014). The term derives from the Greek word *phyto* (plant) and the Latin suffix *remedium* (capable of healing or restoring).

These methods are based on the ability of various groups of living organisms to decompose or accumulate pollutants in their biomass during their life processes, including heavy metals, radionuclides, nitrogen, phosphorus, and organic compounds (Bilyk et al., 2008).

Phytoremediation operates within the natural, synergistic interactions between plants, microorganisms, and the surrounding environment. By employing phytoremediation methods, humans enhance the natural inactivation or restoration of polluted soil. Phytoremediation processes occupy an intermediate position between technical and natural remediation. They are neither complex nor cost-intensive and do not require the implementation of intensive technological measures. Their essence lies in the formation of plant and microbial communities that, in combination, facilitate the inactivation of polluted areas.

Compared to mechanical, chemical, or geological remediation methods, phytoremediation is an innovative, cost-effective, and environmentally aesthetic technology. Plants serve as an inexpensive and readily available renewable resource. While decontaminating polluted soils, they can simultaneously reduce soil erosion processes.

Currently, a substantial number of patented phytoremediation methods for polluted soils exist in Ukraine, utilizing industrial and oilseed crops, turf grass, and stress-tolerant transgenic plants resistant to heavy metals (Patent No. 50789 UA, 2010; Patent No. 76416 UA, 2013; Patent No. 45299 UA, 2009; Patent No. 90279 UA, 2010).

Scientific research and practical applications have identified hyperaccumulator plants capable to accumulate the highest concentrations of metals in their biomass. These include alfalfa, Sarepta mustard, sorghum, sunflower, and certain cereal crops.

A specific group of crops has been identified that accumulate metals primarily in their root systems, preventing their entry into the food chain. These include various species of fescue, timothy grass, and several other grass species, which are effectively used for revegetating contaminated lands. Additionally, grasses with their

extensive root systems help reduce wind and water erosion, rapidly establish vegetation cover on the soil surface, and decrease evaporation. It is crucial to consider hyperaccumulator crops when planning crop rotations.

The bioavailability of metals to plants can be enhanced through the use of various soil amendments that promote the sorption and precipitation of pollutants. One promising material is basalt tuff, which can absorb up to 100 g of ammonia and 400 g of various chemical compounds per kilogram (Patent No. 112025 UA, 2016).

Scientists are actively working on developing genetically modified hyperaccumulator plants. For example, researchers at the University of Washington have created a genetically modified poplar variety capable of breaking down certain highly toxic industrial compounds, transforming them into harmless substances.

For phytoremediation of technogenically contaminated and depleted soils, a multifunctional biopreparation has been developed. It is derived from the cultural liquid of *Pseudomonas sp.* PS-17, cultivated in an optimized nutrient medium, followed by sterilization and the removal of cell sediment (Patent No. 77228 UA, 2013).

A method for cleaning oil-contaminated soils has been developed using Carex hirta (rough-leaved sedge) and other plant species.

The search for plant species capable of accumulating excess heavy metals is ongoing. Scientific interest is focused on the mechanisms that enable hyperaccumulator plants to absorb and store heavy metals, which remain not fully understood.

In Ukraine, agricultural production is predominantly narrow-specialized, with a shift towards monoculture and the absence of crop rotation. Under rising temperature conditions due to climate change, this practice contributes to the spread and accumulation of plant diseases, pests, and weeds, necessitating the continuous increase in the use of chemical plant protection agents (Kaminskyi, V.F., 2015).

The majority of the approximately 1,000 registered pesticides and agrochemicals approved for use are often applied in violation of established regulations and guidelines, leading to their increased accumulation in agricultural products and subsequent entry into the bodies of humans and animals. Around 90% of all fungicides, 60% of herbicides, and 30% of insecticides are classified as carcinogenic.

Regarding the restriction of pesticide use, the biological method of plant protection serves as a strategic alternative to chemical approaches and is a key component in the transition to agroecological farming. Biologically synthesized products include:

- Biological fungicides – live organism-based preparations used to protect agricultural crops from diseases.
- Biological insecticides and acaricides – specialized microorganisms with targeted action designed for pest control.
- Biological fertilizers – specific soil microorganisms that, together with biologically active synthesized substances, are used to provide crops with bioavailable nutrients, stimulate their growth and development, increase yields, and improve product quality.

According to scientific estimates, in the coming years, the level of biological protection for agricultural crops against pests, diseases, and weeds should be increased to 23–25% of the total rational volume of protective measures, covering approximately 35 million hectares annually (Turenko et al., 2023).

The use of biological agents will enhance environmental safety, significantly improve the phytosanitary conditions of agrobiocenoses, and prevent agricultural products from contamination, thereby improving their quality and positively impacting human health.

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THE CRISIS IN FOOD MARKET AND THAILAND'S COMPETITION LAW

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There is a rising concern over increasing concentration in food value chains globally. The Global South is the most susceptible to this development which is principally caused by climate change and the influence of major global undertakings causing reduction in market competition. The food market is thus gravely affected. Thailand, as part of the Global South, is not exempted from this phenomenon.

One of the regulatory tools used to combat food insecurity globally is none other than competition law. By design, competition law regulates markets by prohibiting anti-competitive practices to ensure a free and fair competition in the market for all competing undertakings. It follows that this law is well regarded, and more than 130 countries have adopted competition law or a similar kind of anti-monopoly law.[1] Thailand is one of the countries adopting a national competition law. The current Trade Competition Act (the Act) was enacted in 2017.[2] It established an independent Trade Competition Commission (the Commission) responsible for both investigation and enforcement of competition law as a form of public enforcement of competition law. Private enforcement of competition law is allowed in a restricted manner only when brought by the Consumer Protection Commission, or associations or foundations that the Consumer Protection Commission recognizes under the law on consumer protection on behalf of consumers or members of the associations or foundations.[3] The Act contains all the three principal prohibitions: abuse of dominant position,[4] anticompetitive agreement,[5] and merger control.[6] Some provisions are unique to the Act such as prohibition of unfair business practice[7] and a special

[1] Whish, R., & Bailey, D. (2021). *Competition law* (10th ed.) p. 1.
[2] Trade Competition Act (2017).
[3] Trade Competition Act. s. 69.
[4] Trade Competition Act. s. 50.
[5] Trade Competition Act. ss. 54-55.
[6] Trade Competition Act. s. 51.
[7] Trade Competition Act. s. 57.

prohibition on international trade contract resulting in monopoly or unfair trade limitations with serious damage to the economy and consumer general interest.[8]

When applied to the food market, competition law has the potential to guard the market against harm to the market competition and ensuring the achievement and maintenance of food security for a more stable food market. In contrast to the global trend, little effort has been made to ensure a free and fair food market in Thailand. The food value chain in Thailand is in a dire state punctuated by a strong presence of conglomerates at every stage of the food value chain. The situation has significantly worsened since 2020 when the Competition Commission approved of a merger between two retail undertakings and therefore reinforcing the dominant position in the food market of Thailand's most prominent conglomerate.

This presentation analyses the enforcement of competition law in Thailand's food market. In the beginning, the Commission seemed eager to regulate competition, especially in the local food market. However, it failed to protect competition in the national food market. The presentation concludes with a grim picture of Thailand's current crisis in the food market.

I. THE REGULATION OF COMPETITION LAW IN THE LOCAL FOOD DISTRIBUTION

After the enactment of the new Act, the Commission was eager to produce tangible results. For this endeavour, the prohibition on unfair trade practices is often employed. Section 57 of the Act prohibits unfair trade practices, including obstruction of another undertaking's business operation, unfair use of superior market power or superior bargaining power, or unfair trade conditions that restrict or prevent trade.

One of the earliest cases considered by the Commission under the current Act involved a pumpkin contract farming in the Northern province of Thailand.[9] An undertaking concluded a contract farming with local farmers stating that in exchange for pumpkin seeds provided by the undertaking, the farmers must exclusively sell to the undertaking at the price set by it. The undertaking later tried to unilaterally change the term. The Commission decided that this behaviour fell within the perimeter of unfairly setting trading conditions that restrict or prevent the business

[8] Trade Competition Act. s. 58.
[9] Trade Competition Commission (2020, 18 August). *Decision on Unfair Trading Behavior of an Agricultural Product Buyer in Mae Hong Son Province* [Thai].

operation of others which was a violation of prohibition on unfair business practice. A year later, the Commission decided on another case involving fruit distribution.[10] In this case, a fruit packing factory entered into a sale contract of longans with the orchardist at an agreed price. The fruit packing undertaking would later attempt to renegotiate and unilaterally set a new price which was significantly lower than the price previously agreed. The Commission decided that this practice constituted an unfair business practice since the undertaking had unfairly used superior market power or superior bargaining power to unilaterally set a favourable sale term. Another case from the same year involved a fruit distributor operating in the Eastern region of Thailand which concluded a contract on the collection and sale of longans with an orchardist.[11] The undertaking would later try to haggle the price down but when met with resistance resorted to refuse the collection of the longans, thus violating the contractual terms. Consequently, the Commission issued an unfair business practice decision against the fruit distribution undertaking.

In its early days, the Commission was focused on the enforcement of competition law in uncomplicated markets. The local or provincial food distribution market was selected with ease of enforcement in mind. Granting priority to the enforcement of unfair trade practices provisions was a particular choice by the Commission. In enforcing unfair trade provisions, the Commission could freely extend its exercise of discretionary power, which is not possible under other provisions with a more defined set of rules. Therefore, it creates less certainty in the application of law. However, this was an understandable choice made by the Commission as it was a relatively new competition law agency with little experience in enforcing competition law. In addition, it suffered from limited financial and human resources, resulting in a smaller sized agency. Such a competition authority must prioritize and focus its scarce resources on smaller and uncomplicated cases in the hope of setting precedent and advocating competition law to interested parties and the general public. It was expected that the Commission will gain sufficient experience and public recognition after successfully continuing the enforcement of competition law.

[10] Trade Competition Commission (2021, 18 May). *Decision on Fruit-Packing Undertaking Engaging in Unfair Trade Practice* [Thai].
[11] Trade Competition Commission (2021, 22 July). *Decision on Fruit Distributor Operating in the Eastern Region* [Thai].

II. THE NON-REGULATION OF COMPETITION LAW IN THE NATIONAL RETAIL MARKET

Such expectation would soon be curbed. If the authority had succeeded in regulating competition in local food markets, it failed to do so in national markets. The unintended landmark case occurred in 2020 involving two prominent supermarket chains: Charoen Pokphand Group (CP Group) and Tesco Stores Co. which notified the Commission of its proposed merger.[12] According to the Act, mergers resulting in monopolies or dominant positions in the market must submit a pre-merger notification to the Commission.[13] The Commission would then evaluate the proposed merger based on the rule of reason test. No efficiency defence will be permitted if the proposed merger severely damages the economy or negatively impacts essential benefits that consumers are entitled to.[14]

The merger is spurred by Tesco's desire to exit from the Southeast Asian market. At the time Tesco operated over 1,967 chain stores in Thailand including supermarkets, hypermarkets, and convenient stores.[15] CP Group is Thailand's most important conglomerate in the food sector. It controls Southeast Asia's largest animal feed and meat processor and owns Thailand's 7-Eleven convenience stores, Siam Makro hypermarkets, mobile and wireless network, and several property developments.[16] The proposed merger would help CP Group acquire retail stores operating in supermarkets, hypermarkets, and convenient stores, reinforcing its hold over Thailand's food retail market.

Identifying the relevant product market is challenging in this case. While both undertakings operated in the retail sector, the scale, size, and number of stores differ. However, the type of products on the shelves in each store present certain similarities. CP Group had a large retail portfolio including 7-Eleven convenient stores and Siam Makro hypermarket.[17] On the other hand, Tesco operates Tesco Lotus supermarket/hypermarket and Tesco Lotus Express. The Commission

[12] Trade Competition Commission (2020, December). *CP/Tesco Merger*.
[13] Trade Competition Act. s. 51.
[14] Trade Competition Act. s. 52.
[15] Jolly, J. (2019) *Tesco Weighs Up Sale of Thai and Malaysian Stores*. The Guardian. https://www.theguardian.com/business/2019/dec/08/tesco-weighs-up-sale-of-thai-and-malaysian-stores.
[16] Nguyen, A. (2021). *Siam Makro surges on $7 Billion deal to control Lotus stores.* Bloomberg. https://www.bloomberg.com/news/articles/2021-09-01/siam-makro-surges-on-7-billion-deal-to-control-lotus-stores.
[17] Id.

recognized the relevant product market as modern retail market[18] and divided the relevant market by size into three sub-markets: hypermarkets, supermarkets, and small retail stores.[19] It is rather unfortunate that it did not take into account other alternative criteria such as distance between each store or target customers in its analysis of the market. The Commission found that CP Group's 7-Eleven and Tesco Stores' Tesco Lotus Express competed in the same small retail store market. In the small retail store market category, 7-Eleven held the largest market share at 73.60%, leaving Tesco Lotus Express and Central Group's Family Mart along with Tops Daily far behind at 9.45% and 4.795 respectively.

It is noticeable that the Commission only recognized CP Group's Siam Makro as a cash-and-carry store and ignores its retail business side when the store practiced both trades.[20] By excluding Siam Makro from the retail market analysis, the Commission concluded that CP Group did not have a presence in the hypermarket sector and therefore the hypermarket would not become part of its market analysis. The inclusion of Siam Makro as a hypermarket could have signified the competition between CP Group and Tesco Stores in another market. Remarkably, the Commission also neglected the digital retail side of both undertakings whereas digital retail had consistently been on the rise since the pandemic.[21]

The Commission then proceeded to identify the relevant geographic market as national, ignoring the general practice of focusing on local market to highlight retail sales to the end-consumers.[22] National market is often a choice when competition law authorities want to highlight the wholesale trade of both raw and manufactured products and food chain. In most cases involving supermarkets, the relevant geographic markets are typically local to better demonstrate the degree of concentration in a given market.[23] The Commission noted that the national small retail store market was already highly concentrated with Herfindahl-Hirschman Index

[18] Trade Competition Commission (2020). 4.
[19] Id.
[20] Author's personal retail experience.
[21] Thabchumpon, N. et al. (2021). *ASEAN in the disruptive era: digital economy and the future of work* [Thai]. 53-72.
[22] Chauve, P., Parera, A. & Renckens, A. (2014) Agriculture, food and competition law: Moving the borders. *Journal of European Competition Law and Practice*, 5(5), 304-313.
[23] Balto, D.A. (2001). Supermarket merger enforcement. *Journal of Public Policy and Marketing*, 20(1), 38-50.

(HHI) as high as 5553.19.[24] After the proposed merger, the market share would soar to 83% with 6896.60 HHI.[25] A reduced number of undertakings in a highly concentrated market would naturally face a high risk of collusion.[26]

The Commission decided that the proposed merger, comprising of 83% of market share in national small retail store market with HHI at 6896.60, constituted "an increase in dominant position but is not a monopoly."[27] It rigidly followed the *Notice on Merger Notification* which considers monopoly as "a sole undertaking in a particular market in which it has a substantial power to determine price and quantity of a product or service independently and has the sales revenue of at least 1 billion baht."[28] The Commission did not make any attempt to consider the dominant positions in the market of the proposed merger.

The Commission approved of the merger estimating that it would not cause substantial harm to competition.[29] To mitigate the potential harm to competition that could rise from this merger, the Commission ordered seven behavioural remedies, most of which focus on the promotion and protection of SMEs.[30] One measure ordered a 10% rise in SMEs' products available in the merged entity. It is unclear whether this remedy could prevent the harm caused to the competition in the market from the merger.[31] Additionally, the Commission prohibited information sharing between the merged entity and other entities under the same economic entity.[32] This order presumes that the Commission has the ability to constantly monitor the retail food market and investigate the internal communications of concerned undertakings. The Commission refrained from issuing a structural remedy.

These remedies were not respected. Even with the prohibition of information sharing, CP Group conducted an internal restructuring resulting in the consolidation of all of its retail and wholesale business under one undertaking. Consequently, Siam Makro

[24] Trade Competition Commission (2020). 6.
[25] Id.
[26] Kokkoris I. & Shelanski H. (2014) *EU merger control: A legal and economic analysis*. 273.
[27] Trade Competition Commission (2020). 24.
[28] Trade Competition Commission. (2018, 4 October) *Notice on rules, procedures, and conditions for notification of merger transaction B.E. 2561* [Thai]. art. 3. para. 3.
[29] Trade Competition Commission (2020).
[30] Trade Competition Commission (2020). 24-25.
[31] International Competition Network (2016). *Merger remedies guide*.
[32] Trade Competition Commission (2020). 24-25.

and all the Lotus chain (previously Tesco Lotus) formed a new entity.[33] It is therefore not an exaggeration that the Commission was complicit in worsening the concentration of the market power in the national retail market and stood starkly against the grain of global competition law enforcement in service of ensuring food security.

III. CONCLUSION

It is undeniable that the Commission plays a significant role in destabilizing the country's food security. The merger decision was resoundingly unwelcomed and received many harsh criticisms.[34] Thailand's food security is in a worsening shape after the merger decision. The position of CP Group has been strengthened in the retail market. It has a stronger presence in the convenience store market with 7-Eleven holding over 14,545 stores[35] and Lotus' Go Fresh's (previously Tesco Lotus Express) 2,050 stores. CP Group also has a dominant position for the supermarket and hypermarket sector with Lotus' 404 stores.[36] The Commission unabashedly utilizes its enforcement of competition law to strengthen the position of a prominent national conglomerate in the food market.

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[33] Nguyen A. *Siam Makro surges on $7 Billion deal to control Lotus stores*.
[34] See, e.g., Nithiweerakul N. (2020, 28 November). *What Thai society lost when CP merged with Tesco* [Thai]. Way Magazine. https://waymagazine.org/the-merger-of-cp-tesco; Pananond P. (2020, 25 Novermber). *CP Group takeover of Tesco's Thai unit raises alarming questions*. Asia Nikkei. https://asia.nikkei.com/Opinion/CP-Group-takeover-of-Tesco-s-Thai-unit-raises-alarming-questions; Techawongtham W. (2020, 14 Novermber) *A more unequal society than ever before*. Bangkok Post. https://www.bangkokpost.com/opinion/opinion/2019335.
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[36] Id.

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BUSINESS PROCESS MANAGEMENT DRIVES DIGITAL TRANSFORMATION

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BUSINESS PROCESS MANAGEMENT (BPM)

For many companies the start into digital transformation begins with the automation of individual process steps or digital applications and functions such Process Mining, Robot Process Automation. However, success often falls short of expectations.

One of the reasons of this lack is a missing holistic perspective about all existing processes. Therefor Scientists from the Business Process Management area promote the use and application of BPM methods for digital transformation projects. (Allweyer 2020)

(Business-)Process Management (BPM) has a long history and is an organizational approach. BPM supports a company achieving their effectiveness and effectivity goals through the design, monitoring, control and continuous improving of business processes. (Dumas u.a. 2018)

The benefit of using BPM methods in digitalization projects is undisputed. (Brucker-Kley u.a. 2018)

Designing object of BPM is the business model and all relevant internal and cross-company End-to-End business processes. The relevance arises, among other things, from the influence of the achievement of corporate objectives. (Bullinger u.a. 2020; Dumas u.a. 2018; Meyer/ Teuteberg)

The tasks of Business Process Management are classical mapped in the BPM Lifecycle with Process Identification, Process Discovery, Process Analysis, Process Redesign, Process Implementation and Process Monitoring. The long-term monitoring aims to continuous organizational adoptions. The short-term perspective is to ensure meeting the process goal of each single process. For short-term process controlling early warning indicators are defined, which enables timely intervention in the respective process in the event of problem. (Dumas et al. 2018, S. 9ff.)

BUSINESS PROCESS MANAGEMENT AND DIGITALIZATION

Although BPM offers a methodical platform for digitalization projects, BPM methods are not always used. However, studies on this topic also show that it is difficult to make clear statements in this regard because sometimes BPM methods were used but not named in the classical way.

Nevertheless, digitalization projects are difficult to implement successfully without BPM methods. (Lederer u.a. 2017)

A discussion of digitalization topics without relation to BPM may have the risk that already known and solved mistakes are done again and problems are discussed and solved again under a new headline because the authors are not familiar with BPM methods. (Allweyer 2020, S. 53; Lederer u.a. 2017)

What both approaches have in common at the business model level is, e.g. for example the development of new AI-supported value propositions or services. Here BPM provides support through consistent customer orientation, what is realized by identifying and analyzing end-to-end (E2E) processes. An E2E process starts with customer needs and ends with the satisfaction of this customer need (effectiveness goal). More recent developments emphasize this in customer orientation by working out points of contact between customers and the company (so called touch points) and mapping customer interaction processes with the company as customer journeys.

Another common aspect is the reduction of resource costs and quality improvements, which is traditionally achieved by reducing throughput times and process costs through automation or the elimination of unnecessary steps and redundancies. In addition, the aim is to increase process quality by reducing errors and organizational and IT interfaces (efficiency target).

Another objective pursued with process management is the fulfillment and control of compliance targets and the fulfillment of regulatory requirements, which are becoming increasingly important in the context of supply chain design, life cycle management and ecological footprints, among other things. (Bearing Point, S. 14; Hüsselmann, S. 5)

If companies are understood as socio-technological systems, employee-oriented goals are also emphasized. This is because process improvement should lead to

employees being relieved of unnecessary work steps and given better conditions to do their jobs. This also includes the involvement of employees in the development of solutions and the understanding that employees are the real experts for the processes on site. (Merkel-Kiss/ Garrel 2023, S. 460; Bearing Point)

When companies initiate digital transformation, companies often look for an entry-level solution that has low hanging fruits (quick and easy implementation with high benefit). To avoid single isolated solutions, it is important to start with an overall planning approach to see the impact of the project results for the whole company.

SOME DIGITALIZATION APPROACHES FOR BPM

Business Process Management (BPM) sees IT as an enabler for the design of a new business model and the processes. Trend topics such as digitalization, cloud computing, sustainability, artificial intelligence and big data are giving BPM new impetus to develop solutions that for example, increase customer benefits, reduce process costs and enable new business models. (Hüsselmann u.a. 2024, S. 16; Lesch u.a. 2020, S. 2) In a study low-code application development, robot process automation (RPA), process mining and artificial intelligence (AI) were named as the most frequently used digitalization technologies. (Hüsselmann u.a. 2024, S. 18)

Despite this new impetus, the number of scientific and practical articles on the topic of BPM is only increasing slightly compared to articles on topics such as “business transformation”, “intelligent information systems” or “digital transformation”. One interpretation is that the topic of digitalization has more appeal than the classic, sometimes somewhat bureaucratic BPM. (Allweyer 2020, S. 6)

Two digital solutions that are in process management projects and are frequently chosen by companies are described below: Robot Process Automation (RPA) and Process Mining (PM).

- Robot Process Automation (RPA) und Hyperautomation

Robot Process Automation (RPA) is the use of software that takes over simple and standardizable routine tasks for humans, such as data entry, creating regular reports and so on. No or only few adjustments need to be made to existing software systems from outside. (Smeets et. al. 2023, S. 5) Robots or “Bots” have the advantage that they are working free of mistakes, i.e. they don’t make random errors, and don’t get tired even when performing repetitive, monotonous tasks, called “monkey work”. As

implementation is relatively simple, these solutions are also frequently used in companies. (Reich/ Braasch 2019, S. 296)

Normally process automation requires formally documented processes that are standardized. However, less structures and knowledge-intensive processes should also become automatable in the future with the help of AI. As the number of automated processes increases significantly, they should be controlled via a central component. (Allweyer 2020, S. 17)

A further development of RPA approach with the use of complex AI-systems leads to “hyperautomation”. The goal is to combine several AI-tools to support automated decisions. This application needs a high maturity level of data and process management and requires a good understanding of its business model and the interdependencies between costs, revenue, risks and quality. (Balakrishna 2022, S. 52) to realize RPA Low-Code/ No-Code-technologies are often used.

- Process Mining

Process Mining is a method to discover, analyze and control business processes automatically regarding the digital footprints of the activities when data are stored in e.g. in an ERP-system. The base are eventlogs of certain activities belonging to a certain business case (case ID). With the timestamp it is possible to bring the activities in an order so that the result is a business process. With Process Mining it is possible to discover, analyze, control and enhance processes. On the one hand the method supports classical BPM goals of creating transparency and improving processes with regard to identify unnecessary, unwanted or duplicate work steps.

At the same time, it is possible to check whether people are working in the predefined order of steps and other compliance rules are being adhered to. (van der Aalst et al. 2011) Process Mining is not limited on the displaying and analyzing of processes but supports in combination with data mining, Machine Learning (ML) or Artificial Intelligence (AI) the forecasting of process results and can be used to prepare or take decisions. (van der Aalst 2011/ Lehto 2021)

OPPORTUNITIES AND RISKS OF THE DIGITAL TRANSFORMATION

Opportunities und positive results are mainly clear to reduce costs, gain flexibility and rise customer satisfaction, but what are the risks and why do digital transformation projects fail? Problems that hurdles have been examined in some studies. What is

surprising from a BPM perspective is that after half a century the same problems still occur during implementation, such as a lack of process knowledge, inadequate support from top management, poor communication and a lack of participation.

One paper lined out the biggest hurdles for companies in the digital transformation appear to a lack of skills. This relates to a lack of IT-knowledge on the one hand and a lack of process knowledge on the other. (Merkel-Kiss/ Garrel 2023, S. 461) So we can assume that purely technical approaches driven by digitalization are not enough and non-technical factors will determine the success of solutions in the long-term run. (Ruess u.a. 2024)

MATURITY MODELS AND TEMPLATES AS A STARTING POINT FOR AN OVERALL PERSPECTIVE

Digitalization projects are used to automate individual work steps or entire processes to develop business models via new digitally supported value propositions and services. This means that every digitalization project also includes aspects of BPM. To avoid implementing only isolated, technical-oriented digitalization projects that automate individual tasks or solve individual problems, the entire E2E-process under consideration should be analyzed using a BPM approach. Because problems rarely occur where they are caused. It therefore seems logical to implement digitalization projects from a BPM perspective. (Allweyer 2020, S. 6)

From an IT technical perspective, the topic is discussed under the term process orchestration. For approaches that are more BPM and business-driven is recommended to use maturity models to determine the status quo for digitalization projects. There are theoretical models (BPM-Maturity model) and models from software providers based on best practice approaches (e.g. Camunda, SAP) (Akkiraju/ Ivan 2010; Hogrebe/ Nüttgens 2014)

Another model that is ideal for illustrating the relationships goals and processes between the certain Aspects of BPM at different levels of detail is Scheruhn's Enterprise Online Guide (EOG). (Scheruhn 2023)

On the one hand these models cover the relevant design areas of BPM, but often lack a long-term economic and – something that must always be considered nowadays - ecological perspective.

Research approaches could focus on evaluating the economic and ecological impacts of these digitalization approaches, especially from a business perspective.

It might be interesting to more closely integrate financial KPIs used for decision-making with Process Mining PPIs, which describe the original work out behind this KPIs, how employees work, and what potential problems in production and shop floor are behind the KPIs.

Since people and the people working there are the most important success factors of a company, the interaction between people and software, as well as the interaction between work results and KPIs could be interesting teaching and research topics.

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PORTUGAL'S PUBLIC SECTOR WAGE BILL EVOLUTION (1986–2023): AUSTERITY, STRUCTURAL REFORMS, AND FISCAL SUSTAINABILITY

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Abstract: The public sector wage bill, entailing the remuneration and associated social contributions for public sector workers, is one of the most significant components of general government expenditure and, as such, is a key element to a country's fiscal framework and fiscal sustainability. This extended abstract provides an analysis of the evolution of Portugal's public sector wage bill from 1986 to 2023. It shows that reduction in the public sector wage bill has been large, contributing to fiscal consolidation efforts, despite increases in the qualifications and in the total number of public-sector employees. Further, it presents policy recommendations for the future management of the public sector wage bill.

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1. EVOLUTION OF THE PUBLIC SECTOR WAGE BILL

The public sector wage bill in Portugal has undergone significant fluctuations over the past decades, influenced by changing political, economic, and fiscal conditions. Between 1986 and 2023, the evolution of public administration expenditures reveals a complex interplay between government policies aimed at expanding public

services, the fiscal constraints imposed by the European Union (EU), and the structural challenges within the public sector workforce.

A major turning point came in 1989 with the introduction of the New Remuneration System (NRS). This reform aimed to address pay disparities across various public sector careers and introduced a standardized salary structure. This reform, along with a significant expansion in the number of public sector employees, resulted in rapid increases in public sector remuneration costs. The years following this reform saw significant growth in the public sector workforce, reaching a peak in the early 2000s, especially between 2002 and 2006, when the ratio of Portugal's public sector wage bill to GDP became one of the highest in the Eurozone (MF, 2017).

In 2007, the Portuguese government introduced major reforms to the public sector remuneration system. In particular, with few exceptions for so-called "special careers", public sector remuneration schemes ceased to be linked to seniority or time served. Instead, career progression became dependent on periodic individual assessments. Further, the global financial crisis of 2008 and the subsequent Euro Area sovereign debt crisis had a major impact on fiscal policy and on public sector expenditures. The EU imposed stringent fiscal rules on Portugal, and as a result, successive governments undertook significant measures to reduce the public sector wage bill. Between 2008 and 2019, Portugal adopted a series of austerity measures, including salary freezes, reductions in public sector recruitment, and cuts in both wages and benefits (UTAO, 2020). The aim of these policies was to reduce the fiscal deficit and comply with EU budgetary requirements.

Despite the contraction in public sector remuneration during the austerity period, the demographic composition of the public sector has undergone significant changes. As of 2023, the average age of public sector workers in Portugal was 48.3 years, a notable increase from 2011. Moreover, approximately 33% of public sector employees were over the age of 55, a figure that represents a 91% increase since 2011. This trend highlights the aging workforce within the public administration and presents significant challenges for the future sustainability of public services (UTAO, 2024).

2. CURRENT FISCAL CONTEXT AND PUBLIC SECTOR WAGE BILL

In recent years, Portugal has seen a shift in fiscal policy, with increased spending on public sector wages in response to economic recovery and public service demands.

Following the austerity measures foremost in 2009-2014, the government has been able to reinstate certain benefits, including yearly salary adjustments to account for inflation and targeted wage increases for key public sector professions. These increases were aimed at addressing recruitment challenges in essential areas such as healthcare, education, and law enforcement. These changes, however, come at a time when Portugal's public sector faces significant fiscal pressure.

The public sector wage bill remains one of the largest categories of public spending, and the government must balance the need to ensure fair remuneration for public sector employees with the requirement to maintain fiscal discipline and reduce national debt levels. In 2023, the public sector wage bill in Portugal was projected to increase significantly, influenced by factors such as inflation and new government policies. In particular, salary adjustments were made to align with agreements on national income distribution and wage agreements for 2023 and beyond, while special career paths, career acceleration measures, and salary supplements were introduced to address specific demands from key sectors (MF, 2017).

Despite these increases, the public administration faces ongoing challenges, particularly in the context of an aging workforce and recruitment difficulties in key areas. Public sector wages have generally been below the private sector market rate, contributing to labor shortages in professions such as teaching, healthcare, and law enforcement. These shortages are compounded by the difficulty in attracting younger professionals to the public sector, with many choosing the private sector for better compensation and career prospects.

3. NET PUBLIC WAGE BILL: A KEY INDICATOR

One of the crucial concepts for evaluating the fiscal impact of public sector wages is the notion of "net personnel expenditure" or "net public wage bill". This concept accounts not only for the direct wages paid to public sector employees but also for employer contributions to social security, health insurance, pensions, and other mandatory benefits. These expenditures are partially offset by employee contributions, including taxes such as income tax (IRS) and employee social security payments, but they remain a significant component of public spending.

The net public sector wage bill allows for a more comprehensive understanding of the fiscal burden imposed by public sector wages. This metric is particularly important when considering policy measures, such as salary increases or the

introduction of new career pathways, as it reflects both the direct costs of labor and the fiscal revenues generated by employee contributions and taxes. The analysis of net personnel expenditure is essential for determining the sustainability of public spending and ensuring that public sector wage policies do not exceed the government's capacity to finance them (MF, 2017).

4. DEMOGRAPHIC CHALLENGES AND THE AGING WORKFORCE

The aging workforce within the public sector is a major issue in Portugal. As previously mentioned, the average age of public sector employees has risen steadily, with a significant portion of the workforce nearing retirement age. This presents several challenges for the sustainability of public services, as there is a risk of losing experienced professionals without sufficient replacement by younger employees. In particular, sectors such as education, healthcare, and law enforcement are facing increasing difficulty in attracting and retaining qualified staff.

This demographic shift has implications for public sector expenditures, as older workers typically earn higher salaries due to their years of service. Additionally, the need for pension and healthcare contributions for an aging workforce places further pressure on public finances. To mitigate these challenges, the Portuguese government will need to focus on attracting younger workers to the public sector and investing in training and career development programs that make public sector employment more attractive to younger generations.

5. POLICY RECOMMENDATIONS FOR MANAGING THE PUBLIC SECTOR WAGE BILL

Several policy measures can help manage public sector personnel expenditures while maintaining the quality of public services and addressing the demographic challenge. These recommendations aim to strike a balance between fiscal discipline and the need to retain and attract skilled workers.

First, it is recommended that salary increases in the public sector be tied to productivity growth and inflation. This approach ensures that public servants experience real wage growth, helping to attract and retain talent, while minimizing inflationary pressures. Real wage growth has been largely absent in the public sector since the early 2000s, contributing to dissatisfaction among employees and difficulty in recruitment (UTAO, 2020).

Second, reforms to career progression systems should partly account for seniority or time served rather than relying solely on merit-based advancement. The recent reforms to the SIADAP personnel evaluation system, which allow for a greater differentiation of performance and facilitate faster career progression, represent a positive step in this direction. By linking career advancement to performance, public sector employees will be incentivized to increase their productivity and contribute to the achievement of public service goals (UTAO, 2024).

Additionally, public sector modernization through digitalization and process optimization can reduce the need for additional personnel while improving service delivery. Investment in technology will help streamline administrative tasks, reduce inefficiencies, and enhance the quality of public services. This modernization will also help control the growth of public sector wage bill by reducing the number of employees needed to deliver public services.

Finally, targeted wage increases for sectors facing severe labor shortages — such as healthcare, education, and law enforcement — should be considered. While such increases would lead to higher public sector wage expenditures in the short term, they would help ensure the long-term sustainability of public services by improving recruitment and retention in critical sectors. These increases should be carefully targeted and based on clear, evidence-based assessments of labor market needs.

6. CONCLUSION

The public sector wage bill in Portugal has been subject to significant fluctuations over the past decades, influenced by economic, political, and fiscal factors. While austerity measures were adopted to reduce the wage bill during the financial crisis, the aging workforce and the challenges of attracting skilled workers to the public sector have placed continued pressure on public finances. Going forward, policy measures should focus on linking salary increases to productivity and inflation, implementing merit-based career progression systems, modernizing public administration, and addressing labor shortages in critical sectors. By adopting a balanced and sustainable approach to personnel expenditures, Portugal can ensure the long-term viability of its public administration while maintaining high-quality public services.

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THE PRINCIPLE *PAY OR CONSENT* AND ITS CONSEQUENCES FOR THE CONSTITUTIONAL PROTECTION OF HUMAN PERSONALITY

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1.- THE COMMODIFICATION OF HUMAN PERSONALITY.

Although consent is not the only legal basis for processing personal data, it has become a guiding principle in regulating the digital world thanks to the 2016 GDPR. In the GDPR, consent is actually used to balance the protection of the individual with the economic interests in the exploitation of personal data.

This condition deconstructs some of the main architectures of the constitutional protection of human personality because Constitutions have always been a language alternative to the interests. Their logic solidifies juridical entities that must be regarded as unique, not replaceable, and not open to negotiation.

Globalization, however, significantly restricted the ability of Constitutions to act on economic relations because it is rooted in a *lex mercatoria* replacing the order created by the States with the universal language of economic interests. In this context, the legal discourse on rights easily transcends into a deferral to the individual's will, making it difficult to reason about the impact that some business practices may have on human personality.

Offering goods and services in exchange for consent to the processing of personal data has become a very common practice, raising concerns about the effective freedom of human beings in a digital context.

The Consent or Pay model plays an important role because it represents the instrument through which many digital platforms comply with European rules by offering users the possibility of choosing between consenting to the processing of their data or paying a fee for this not to occur. This mechanism contributes to disarticulating the idea of personality as unique. It equalizes personal data with

money, even symbolically, making it the currency we pay for our hyper-connected lives.

Thus, human personality becomes a commodity, a raw material that is relevant for its exchange value but is very difficult to define through stable and objective characteristics.

This paper analyzes the difficulties of the European Union in tackling the spread of Pay or Consent in the data market.

Paragraph two considers how consent is rooted in the European regulation after the GDPR and how one of the main interpretative issues concerns the actual freedom of consent, which the EU has tried to correlate with the possibility of accessing the desired services even without consenting to data processing.

Paragraph three highlights the path outlined by some national antitrust authorities, the Italian and the German, that, on a consumer legal base, forced tech companies to introduce specific consents to interoperability of data and set that users denying their consent must have access to an alternative that should be equivalent even if not personalized.

Paragraph four illustrates the rules that the EU introduced after the 2019 Digital Strategy in order to define ad hoc legislation for digital markets. The 2022 Digital Markets Act contains a specific regulation obliging some digital companies, named gatekeepers, to offer an equivalent alternative to users denying their consent.

After the Act came into force, one of the gatekeepers, Meta, provided an equivalent alternative using a binary model of Pay or Consent, and the European Commission opened an oversight procedure alleging that users denying consent should have an alternative that should be at the same time equivalent and for free.

In conclusion, it will be stressed how difficult this could be a path for European legislation, considering that article 16 of the European Charter of Fundamental Rights has always been interpreted as guaranteeing the freedom of companies to set the price for their products and proposes instead to use the traditional tools of constitutional law to define a strong protection of human personality in the digital world.

2. THE RELEVANCE OF CONSENT IN EUROPEAN LEGISLATION.

Consent as a tool to restore self-determination in processes that may be exploitative or commodifying has been used by the EU since the Eighties, with the first privacy regulations. However, it is only with the GDPR that consent has reached the status of a general principle.

In the GDPR, consent is the balancing element used to protect human personality with the economic interest of the market in the exploitation of personal data.

The Recitals are evidence of that: the first affirms that the protection against data treatment is a fundamental right, but the fourth says that it is not an absolute right and should be balanced with the freedom of economic initiative.

The result is a protection of personality that relies on the subject's practical awareness when consent is asked and given. Effective freedom of consent has become thus a key interpretative issue. The private law already considered freedom absent whenever pressure or conditions of weakness could induce the subject to grant authorization.

Also, the Working Party article 29 (WP29) established in 2017 that consent can only be considered free «if the subject has genuine choice and control over their data», but it has always been tough to affirm that the commercial exchange of services with data could influence the freedom of consent.

In fact, after the GDPR, the European market testified to a proliferation of the Pay or Consent model: many digital service providers used a binary scheme in which either there is a full acceptance of the processing, profiling, and interoperability of data or users can have privacy by paying a sum of money.

The tackling of this situation began with some national antitrust authorities that tried to limit Pay or Consent using consumer and competition law.

3. TACKLING PAY OR CONSENT THROUGH CONSUMER AND COMPETITION LAW. THE EXPERIENCES OF ITALIAN AND GERMAN ANTITRUST AUTHORITIES.

Digital markets compromise traditional European competition law based on strict regulatory and macro-economic neutrality of the legislator. The multiplication of proceedings for abuse of dominant positions against many tech companies was only

the evident symptom of a pathology that involved the generality of standard antitrust rules.

Some national antitrust authorities, the Italian and the German, started to define new strategies against the power that private companies can develop by exploiting personal data.

The opportunity was the acquisition of WhatsApp by Facebook: the data exchange between the two companies disclosed a scenario in which information and data shared on WhatsApp could be used to improve Facebook's social network services. The Italian antitrust authority (AGCM) sanctioned as an aggressive business practice the request to WhatsApp users to consent to data sharing with Facebook by implying that the denial of consent affected the proper functioning of the messaging application.

The German authority (Bundeskartellamt) went far. It convicted Facebook of abuse of a dominant position, imposing the introduction of different specific consents that could allow the user to articulate the authorization of data processing and choose the single segments to accept. It was requested that data interoperability between Facebook and WhatsApp be subject to ad hoc authorization and that the denial of consent concerning this specific point could not affect the proper functioning of the various services.

Also, the European Court of Justice (ECJ), deciding on the appeal of Facebook against the decision of Bundeskartellamt, affirmed that it isn't enough to ask the user for consent. However, it is also necessary to provide users with an alternative that should be equivalent and, even if less personalized, not worse in functionality. Regarding the Pay or Consent, the ECJ said that it could be possible to ask for a fee for the alternative, preserving the user from profiling and advertising.

This evolution pushed European institutions to define new rules for digital markets and to try to limit the proliferation of pay or consent significantly.

4. ARTICLE 5 OF THE DIGITAL MARKETS ACT AND ITS USE IN THE LIMITATION OF PAY OR CONSENT.

Starting in 2019, the EU elaborated a new digital strategy in which tech companies are no longer considered neutral facilitators but are seen as extremely powerful entities thanks to their hegemony on personal data.

In a few years, the EU introduced five regulations (Digital Service Act, Digital Markets Act, Data Act, Data Governance Act, AI Act) that rewrite the market rules for big digital corporations with the overall goal of limiting the collection of personal data and preserving the consent of the user as a free expression that should not be influenced by the concern of not enjoying digital services.

The Digital Markets Act (DMA) opened a season in which Article 102 of the TFEU takes an unprecedented significance for certain digital corporations, the gatekeepers, who become subject to antitrust ex-ante obligations. Art. 5 has introduced some restrictions on the commercial use of users' data: the gatekeepers are forced to ask explicit consent for the interoperability of data, and if the user denies consent, the providers must guarantee access to a service that, even if less personalized, must be equivalent.

Meta (previously Facebook) decided to comply with the DMA obligations with a classic Pay or Consent: the user could subscribe to an offer for a monthly fee or accept to be profiled and advertised.

The European Commission considered this binary scheme as a way to circumvent the purpose of preventing the accumulation of personal data by the gatekeepers. It affirmed that the alternative offered to consumers should be both equivalent and free of charge.

The position of the Commission highlights how the everyday use of personal data as a currency could compromise the idea of free will and the integrity of the human personality. Unfortunately, there is no legal base in European Law for considering prohibited Pay or Consent: Article 5 of DMA is explicitly oriented to assure the functional equivalence of the alternatives to profiling, but there is no requirement for it to be for free.

In addition, article 16 of the European Charter of Fundamental Rights has always been considered, also by ECJ, as the full right of the companies to set the price for their business, and it is also tough to affirm that a price of a few Euros per month is a barrier to the access of digital service.

In conclusion, with its optimistic view of the market, European Law doesn't have the instruments for imposing full respect for human personality in digital environments. The Pay or Consent affair shows that, indeed, it is tough to face the liquid reality of digital society with an element based on individual consent: the flow of information

managed by digital actors is a mass phenomenon that cannot be neutralized by an individual who, moreover, when giving consent, operates with limited rationality.

The link between data and human personality requires a different legal approach, meaning we need to deconstruct many of the choices we made during globalization and start thinking about constitutionalizing the digital society. For Constitutions, the personality is not negotiable, but it is unique and rigidly defended by any power, public or private. Using those kinds of juridical instruments and elevating them to a European level is probably the best opportunity to avoid the commodification of human personality made by data processing.

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*THE ´AHA!` MOMENT*: WATCHING CREATIVITY AND THE ROLE OF OBSERVATORIES AT HIGHER EDUCATION INSTITUTIONS (HEIS) BY THE POWERHOLDERS` PERCEPTION

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Abstract: Creativity at school is no longer a fashion, but a critical demand for higher education institutions (HEIs). *The Aha! Moment* is the new Eureka signal. It means the situation that someone has a sudden realization, inspiration, insight, recognition, or comprehension of something previously obscure/unrecognised. It`s hard to register and assess these moments at organisational scenario. So, creativity needs full time watchfulness in order to be identified and effectively managed. In this circumstance, the creation of structures to help HEIs deal with the complexity of this subject can be an important strategy. This paper presents a case study looking at the perception of the powerholders in the creation of an observatory for creativity (CO). Interviews were carried out in four institutions of the Polytechnic University of Lisbon(PUL), using an inductive and qualitative methodological approach. The findings underline the significance of establishing this type of structure, and some suggestions are advanced for possible activities.

Keywords: Creativity, Observatory, Higher Education Institutions (HEIs), Power holders` perception.

1. INTRODUCTION

Dave Wendland (2019) states that creativity begins with observation, presenting a couple of examples of breakthroughs based on science events, starting with the apple tree and Isaac Newton. Far way from Archimedes, the eureka effect remains, and today is also known as the *Aha! Moment*. It refers to the experience of suddenly is understanding a previously incomprehensible problem/concept. Some research (e.g. Carpenter, 2019) in psychology describes it as the *Aha!* situation. Current work aims to discuss the role of observatories to register and assess the creativity at Higher Education Institutions (HEIs).

Some projects and studies have been pointed creativity as a critical issue. For instance EUA (European Universities Association, 2005 and 2007) has considered the HEIs as the place where creativity should be prompted and fostered. The EUA highlights the ways through which creative processes are supported, namely: creative partnerships (HEIs and external stakeholders); creative learners; innovation in teaching and learning; creative cities/regions and governments. Accordingly with this scenario the driving question of current work was: *What is the role of creativity observatories (CO) at Higher Education Institutions (HEIs) by the powerholders` perception?*

Case studies were carried out with interviews with decision-makers/powerholders from 4 institutions of the Polytechnic University of Lisbon (PUL). The next section introduces the theoretical framework, followed by the presentation of method and procedures, an then results and conclusion.

2. WHAT ARE OBSERVATORIES AND WHAT IS THEIR FUNCTION?

An observatory is considered to be a structure designed to learn about a specific issue and to provide information on a given situation, monitoring the trends and patterns of the associated phenomena. The basic activities of an observatory are to collect, organise and present information with a focus on informing stakeholders and, at the same time, supporting decision-making (Marcial, 2009). Observatories can be categorised into two groups (Lopes, 2010): i. focused on results - with the aim of acting on the real world, shaping decision-making by those in power functions; and ii. focused on processes - enhancing learning, developing actions/activities to promote processes of effective change and generate innovation.

As well as focusing on results or processes, and as Martins (2010) points out, there are also ‘second generation observatories’, which focus on interactivity between the subjects and the ‘objects’ of research, mixing processes with information centres, exchanges and collaborative actions involved in the production and dissemination of knowledge.

Nowadays, a the new educational scenario is emerging, galvanised by changes from the generalisation of AI (artificial intelligence, and by tools such as ChatGTP). Thus, some anxieties are being raised, such as the role of algorithms and the resulting biases, ethical issues in their use, the problem of privacy and the use of personal data, transparency in the use of AI tools and the problem of control, given its

unpredictability. As a result of these concerns, the Corporate Europe Observatory (the EU's own observatory for these matters) warns for the danger of the technology companies` influence on the first Artificial Intelligence law. It starting to be discussed and there are a pressing for a reduction in security obligations (Lusa, 2023).

Within this setting, higher education observatories can be important agents of pedagogical and scientific supervision, ensuring the quality of knowledge/teaching, working on problems associated with ethics, privacy, unpredictability and transparency. Therefore, in the context of higher education, the relationship between research and applied knowledge is unavoidable. From a research-action-research perspective, observatories play a very important role, knowing how to develop new things or solve problems, or even create problems. In this sense, the innovation epicentre in the fulfilment of HEIs' mission could be consolidated.

3. METHOD AND PROCEDURES

This work followed an inductive approach. Firstly, the interview grids were produced according to the research goal. This grid included three open-ended questions, namely: 1. Do you consider an observatory for creativity to be important in the PUL? 2. Why do you consider it important/not important? 3. What suggestions do you have for the creation of a possible observatory?

Four HEIs of the PUL were selected: Lisbon Engineering School (LES), Lisbon Film School (LFS), Lisbon Theatre School (LTS) and the School of Communication and Media Studies (SCMS). The data were collected from 2017 to 2020, and later updated in 2023/24. Data analysis (qualitative and content-driven) followed the recommendations of Bardin (1977). This analysis was carried out per category and context unit (information sources), allowing for the intersection of several co-occurrences in the content analysis. Thus enabling the inferential process. In addition, MAXQDA software (https://www.maxqda.com/trial - versions 2022 and 2024) was used to help categorise and reduce data. The case study methodology was also employed (Stake, 1994; Yin, 1994). 16 (n=16) semi-structured interviews were conducted with privileged interviewees, including the deans of universities and directors of department/scientific areas, totalling around 36 hours and 30 minutes of conversation. Table 1 describes this information.

Table 1. Empirical field and interviewees

HEIs (Interviews Nbr./time/ pages Nbr.)	Gender	Powerholders (Position/Function)
SCMS N=5 1h30X5=7h30 hours; 18 transcribed pages	Female: 2 Male: 3	School Dean Advertising and Marketing Degree Coordinator Social Communication Degree Coordinator 'Poliempreende' Entrepreunership Programme Coordinator Master in Advertising and Marketing Coordinator
LES N=5 2hX=5=10h; 23 transcribed pages	Male: 5	School Dean Mechanical Engineering and Systems Control Department Director Electronic Engineering and Telecommunications and Computers Director Polytech ID Director Chemistry Department Director
LFS N = 3 1h30X3=3h90; 13 transcribed pages	Female: 1 Male: 2	Lisbon Theatre and Film School Vice-President and Film Department Director Production Area Coordinator Pedagogical Council and Argument Area Coordinator
LTS N=3 1h30X3=3h90; 12 transcribed pages	Female: 1 Male: 2	Lisbon Theatre and Film School Vice-President and Theatre Department Director Acting and Performing Arts Department Coordinator Drama and Performing Area Coordinator

The findings are described below.

4. RESULTS

The results comprise the analysis of the three main questions addressed to the powerholders of the HEIs studied (LES, LFS, LTS, SCMS) in the the PUL group.

1. *Do you consider an observatory for creativity (CO) to be important in the PUL?*

In all HEIs, the answer was yes. However, the interviewees emphasised that the usefulness would only be effective if the collaboration between the different HEIs in the PUL group took place by developing combined practices/policies/interventions. Figure 1 shows this scenario for each HEI.

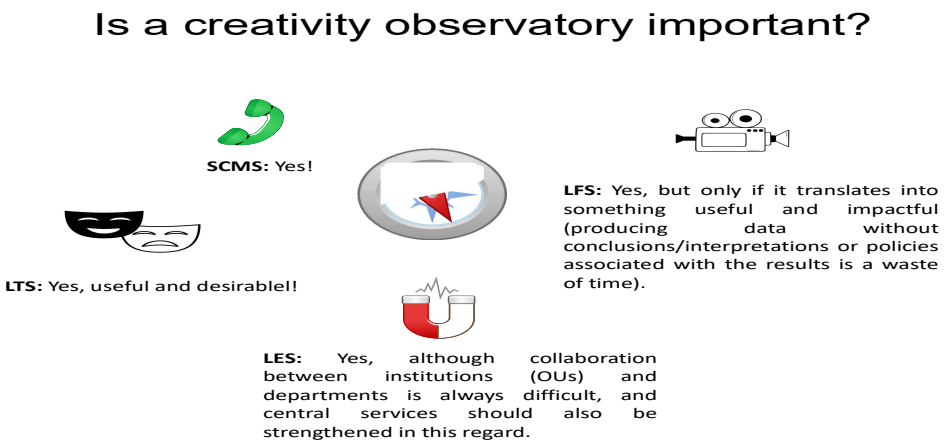


Figure 1. The observatory's relevance

***2.** Why do you consider a CO important/not important?*

Once the answer was also yes. One of the arguments is that the OC would be a differentiating instrument for the PUL, as it would bring together knowledge and practices from diverse areas (from the arts, to engineering, management, education and health...). It would be something unique/different in the country, due the existing diversity of skills and competences, driving a new form of research and knowledge. It would be a way of converging synergies and mobilising resources, facilitating better operationalisation of creative practices. At the same time, could be a solution to break the isolation of the HEIs (it was referred as an obstacle to creativity in PUL), and contributing to the consolidation of a stronger PUL identity. Figure 2 summarises the set of reasons in order to implement the CO at PUL group.

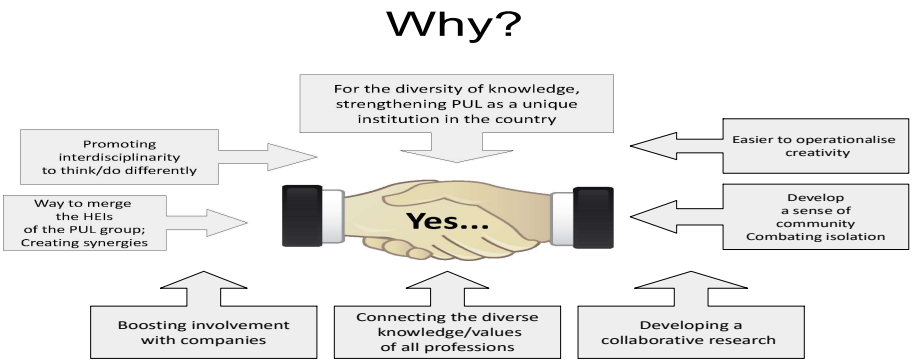


Figure 2. Reasons to implement a creativity observatory

***3.** What suggestions do you have for the creation of a possible CO?*

Having recognised the importance of the CO and the given reasons, potential actions for this structure were also requested. So, according to the interviews data it is possible to list a focus on results and processes as the CO activities`

The actions carried out by the CO could induce effective creative performances and potential managent. In addition, a better policy for innovation and creativity generation could be obtained by integrative and planning actions and processes development (diagnostics, databases, benchmarking, management methods and tools, building pilot cases, training...), and by the creation of a mutual space for developing dynamics with collaborative/inter-pluri-transdisciplinary work teams. Figure 3 summarises some of these possible activities.

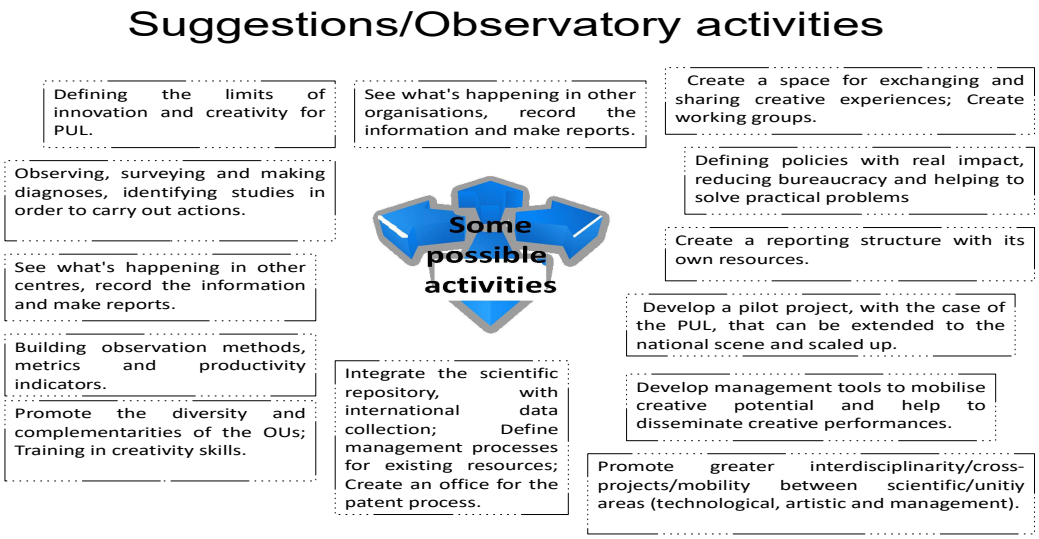


Figure 3. Suggestions and observatory activities

In response to the driving question - *What is the role of creativity observatories (CO) at Higher Education Institutions (HEIs) by the powerholders` perception? -,* and based on the above data, the implementation of a CO can be decisive in differentiating the PUL on the national/international scene. It will be a chance to combine different knowledge and skills. In this sense, PUL is boosting the innovation practices. Thus, by allowing interdisciplinarity between different areas such as the arts, technology and engineering, business, education and communication sciences, it can have a greater reach and outstanding impact. The OC would be a structure of creativity and innovation that would allow the PUL to differentiate itself from its peers and in the society.

5. CONCLUSION

The OC could be the guardian of creativity at PUL, allowing the information/knowledge registration and assessment, and even trigger the emergent *Aha! Moments*. As an integrative structure of different and diverse competences and knowledge it will promote the innovation; and will push forward the radicals ideias and new projects. Given the changing global world, there is a pressing need for structures to observe, reflect and develop creativity.

Currently, not only the new knowledge generation is a challenge for HEIs. There are some emergent problems flourishing, such as the technological effects of AI, the role of algorithms, the ethical and privacy by the use of personal data, and so on... Never

before the sense of unpredictability has been so evident. Thus, stuctures like OC could help HEIs to face the upcoming novelties and pressures of the complex and chaotic global world.

In the context of higher education, creativity is also inseparable from research. Near future, the university's mission will certainly be very different. Hence, it is expected to involve applied creativity and research-action-research. It is no longer enough to know, not least because knowledge also quickly becomes outdated. Solving problems, anticipating problems and even creating problems is the challenge of the future. Without creativity, it's difficult to meet this challenge. Having good, cutting edge observatories could be a smart politicy bet for HEIs.

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SMART SPECIALISATION AND SUSTAINABLE INNOVATION: LESSONS FROM EREI 2030 IN THE ALENTEJO

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Abstract: The Alentejo Regional Smart Specialisation Strategy 2030 (EREI 2030) is a case of aligning innovation and sustainability in the context of regional development. This extended summary analyses Alentejo's experience of implementing a smart specialisation strategy, highlighting the definition of priority areas for regional specialisation, its alignment with European Union policies and agendas, the preliminary results observed and the lessons learned for other regions. Based on documentary research, analysis of indicators and interviews with regional actors, a scientific and critical discussion is beginning on how EREI 2030 has contributed to concentrating investments in innovation in the sectors with the greatest regional competitive advantage, while simultaneously promoting social cohesion and environmental sustainability objectives. Preliminary results point to a strengthening of the Alentejo's innovation ecosystem - with a concentration of investments in strategic sectors, an increase in R&D projects and the strengthening of quadruple helix partnerships - while important challenges are identified in the training of human resources and the continued involvement of local actors. The discussion explores the lessons this strategy offers for other European regions, emphasising the importance of participatory governance mechanisms, adapting to local specificities and integrating sustainability into policy design. It concludes with public policy recommendations aimed at amplifying the impact of the smart specialisation strategies, reinforcing their role as levers for sustainable innovation and regional development in line with the European goals for 2030.

Key words: Smart specialisation, Sustainable innovation, Regional development, Public policies, Alentejo

INTRODUCTION

Over the last decade, Smart Specialisation has established itself as a strategic public policy approach to innovation, guiding territories to concentrate investment in research and development (R&D) in areas with regional competitive advantages (European Commission, 2012). Its operationalisation is based on entrepreneurial discovery, a collaborative and participatory process, conducted in a predominantly *bottom-up* manner, which involves the main actors of the quadruple helix - universities, companies, public bodies and civil society - in identifying and highlighting priority areas (Foray et al., 2012; Carayannis & Campbell, 2012). The main aim of this approach is to promote structural changes in regional economies, channelling efforts towards the sectors with the greatest potential for innovation and avoiding the dispersion of resources across multiple areas with low transformative impact (Foray, 2015).

At European level, smart specialisation was institutionalised in 2010 as part of the Europe 2020 strategy, and from 2014 it became a mandatory criterion for access to European structural and investment funds (European Commission, 2012). In the current 2021-2027 programming period, this focus has been strengthened, with the role of RIS3 strategies in the green and digital transition being highlighted (European Commission, 2019). In Portugal, the approach is implemented through the National Strategy for Intelligent Specialisation (ENEI 2030), linked to the Regional Strategies for Intelligent Specialisation (EREI), adapted to the reality of each NUTS II (National Innovation Agency, n.d.).

In the case of Alentejo, this approach materialised in the EREI 2030, approved in 2021 by the Regional Innovation Council. The strategy sets out the vision of "building a stronger, more cohesive, innovative, sustainable and distinctive region" by 2030 (CCDR Alentejo, 2023). This ambition aims to reconcile economic competitiveness with the principles of environmental sustainability and social cohesion, responding to the challenges posed by the climate, demographic and digital transition.

EREI 2030 defines areas of specialisation aligned with regional assets and European public policy objectives, with the aim of directing transformative investments towards areas with high innovation potential. These areas are structured around sectors such as sustainable bioeconomy, clean energy, mobility and logistics, sustainable tourism, cultural and creative industries and social innovation (CCDR Alentejo, 2023).

With this study we intend to critically analyse the application of EREI 2030 in the Alentejo, assessing its impacts on building a regional ecosystem of sustainable

innovation. The research also aims to reflect on transferable lessons for other European regions, highlighting the role of smart specialisation in achieving the United Nations 2030 Agenda (United Nations, 2015) and the European Green Deal (European Commission, 2019). The objectives, the methodology being adopted, the main results and a critical discussion of the challenges, opportunities and public policy recommendations arising from the Alentejo experience will be presented.

OBJECTIVES

The general objective of this study is to assess the impact of EREI 2030 on the Alentejo innovation ecosystem, linking innovation and sustainability in regional development. The following specific objectives derive from this general objective:

- Evaluate the effects of EREI 2030 on innovation dynamics and regional competitiveness, namely through R&D indicators, the number of innovative projects and other regional performance metrics.
- Examining the results and good practices resulting from the implementation of the strategy, identifying success stories and new value chains geared towards sustainable competitiveness.
- To identify lessons and proposals that can be transferred to other regions, extracting guiding principles and critical success factors from the Alentejo experience of intelligent specialisation.

METHODOLOGY

A qualitative case study methodology being adopted for the Alentejo region, combining various data collection and analysis techniques. In particular, the study includes the following methodological steps:

- Documentary analysis: In-depth study of the EREI 2030 plan, legislation and strategic guidance documents.

- Project analysis: Identification and evaluation of initiatives financed by European or national funds, aligned with the strategic areas.

- Regional indicators: Collection of innovation and sustainability data (R&D, patents, socio-economic indicators) to assess the strategy's progress.

- Semi-structured interviews: To be conducted with quadruple helix actors to capture perceptions on entrepreneurial discovery, governance and implementation, complementing the analysis with other qualitative perspectives.

The combination of these sources of evidence - documents, project data, indicators and stakeholder testimonies - will enable a robust triangulation of the results, increasing the validity of the conclusions. The analysis is being conducted on the basis of the theoretical framework of smart specialisation and sustainable development strategies, making it possible to critically position Alentejo's findings in relation to the literature and current public policies.

RESULTS

Alentejo's EREI 2030 defines six priority areas of specialisation based on regional characteristics and assets, supported by two cross-cutting areas. These domains orientate the region's strategic investments towards sectors with high potential for innovation and sustainable development (CCDR Alentejo, 2023). The priority areas are:

- Sustainable Bioeconomy, focusing on the valorisation of agroforestry and marine biological resources;
- Sustainable energy, centred on renewables and clean technologies;
- Mobility and Logistics, aimed at innovative solutions such as air mobility and intelligent logistics;
- Tourism and Hospitality, promoting sustainable and differentiated tourism;
- Cultural and Creative Ecosystems, boosting the creative economy and valuing cultural heritage;
- Social Innovation and Citizenship, with the Alentejo as a "living laboratory" of participatory public policies.

The cross-cutting areas - Circularity of the Economy and Digitalisation of the Economy - are applicable to all areas, promoting more efficient, sustainable and technologically advanced production models (National Innovation Agency, n.d.). This structure makes it possible to align regional investments with global trends in the

green and digital transition, fostering competitive, intelligent and resilient development (European Commission, 2019).

The implementation of EREI 2030 in the Alentejo has made it possible to orient investments more focussed on the priority areas defined. Preliminary data indicates that around 62 per cent of eligible investment has been allocated to just two areas - Food and Forestry and Critical Technologies, Energy and Intelligent Mobility - reflecting a clear concentration of strategic resources (CCDR Alentejo, 2023).

There was an increase in investment in R&D and in the number of innovative projects supported by European funding, indicating a strengthening of the regional innovation ecosystem (National Innovation Agency, n.d.).

In terms of quality, there has been a strengthening of cooperation between universities and companies, favoured by collaborative projects aligned with strategic areas. This approach has fostered clusters and sectoral networks, promoting synergies and knowledge sharing (CCDR Alentejo, 2023). Also noteworthy is the emergence of start-ups with solutions geared towards regional challenges, such as water efficiency, renewable energies and the valorisation of local resources.

In summary, the preliminary impacts of this study show that EREI 2030 has acted as a catalyst for innovation in the region, encouraging coordination between players and strategic specialisation. These results support its potential to consolidate a more competitive and sustainable development model, although challenges remain in the medium and long term.

DISCUSSION

EREI 2030 is strongly aligned with the priorities of the EU's Cohesion Policy 2021-2027, contributing to a smarter, greener, more connected and social Europe that is closer to its citizens (European Commission, 2019). The strategy guides investments in innovation, sustainable bioeconomy, clean energies, territorial cohesion and social inclusion. It is also linked to the National Smart Specialisation Strategy 2020-2030 and the Recovery and Resilience Plan (PRR), ensuring coherence between national and regional levels (National Innovation Agency, n.d.; CCDR Alentejo, 2023).

EREI also incorporates global macro-trends such as the Sustainable Development Goals (SDGs) and the commitments of the European Green Deal, promoting decarbonisation, circular economy and resource efficiency. Its areas of specialisation

converge with these goals, ensuring the strategy's relevance on a national and European scale (United Nations, 2015; European Commission, 2019).

Critical challenges remain, such as the shortage of technical skills in the region, requiring investment in training and attracting talent to emerging areas (CCDR Alentejo, 2023). Internal territorial cohesion is also a sensitive point: there is a risk of benefits being concentrated in urban centres such as Évora, which requires strategies to enhance rural territories (National Innovation Agency, n.d.).

Another challenge is maintaining participatory governance structures throughout the execution of the strategy. Entrepreneurial discovery requires the continuous involvement of all the actors in the quadruple helix, promoting monitoring, adaptation and social legitimacy (Carayannis & Campbell, 2012).

The experience of the Alentejo offers valuable lessons:

- A shared strategic vision mobilises players around common objectives;
- The valorisation of competitive niches allows rural regions to stand out, as is the case in the Alentejo with the bioeconomy and renewable energies;
- Continuous participatory governance is essential to ensure the alignment and dynamism of the strategy;
- The diagnosis of regional assets underpins strategic choices and increases impact;
- Integrating sustainability into the strategy from the outset reinforces its transformative effectiveness.

Each region must adapt smart specialisation to its context, as the Alentejo has done by combining social innovation with sustainability and regional tradition. Based on the analysis carried out, some public policy recommendations are formulated to strengthen the impact of smart specialisation strategies in similar regional contexts:

- Reinforce investment in R&D, through public funding and stimulating public-private partnerships;
- Training local human resources with technical and higher education in strategic areas;
- Promoting inter-regional co-operation, facilitating the exchange of good practices and synergies between territories;

- Monitoring with clear quantitative and qualitative indicators to guide strategic reassessment;

These recommendations aim to reinforce the virtuous circle of regional development that is sought after: focusing on the territory's areas of excellence, innovating in a collaborative way between regional players, generating inclusive economic growth and, at the same time, preserving natural resources and social cohesion. Together, these policy measures will help consolidate smart specialisation strategies as robust instruments for sustainable regional transformation.

CONCLUSION

The analysis of EREI 2030 in Alentejo shows that a smart specialisation strategy, when well structured, can be an effective lever for sustainable innovation and regional development (CCDR Alentejo, 2023). The region's experience underlines the importance of defining an integrated strategic vision that mobilises local players and is aligned with the territory's resources and potential (National Innovation Agency, n.d.).

Each territory must build its own specialisation path, adapted to its context, avoiding replications of external models that disregard local specificities (Foray, 2015). The success of EREI 2030 also depends on strengthening public policies, from education and science to funding, creating an ecosystem favourable to innovation.

In addition, this strategy contributes to the Sustainable Development Goals (SDGs) and the European Green Deal, positioning the Alentejo as a territory committed to green, digital and inclusive transitions (European Commission, 2019; United Nations, 2015). In short, the link between smart specialisation and sustainable innovation, supported by collaborative governance and a shared vision, has the potential to transform regional challenges into opportunities for resilient, long-term development.

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FOSTERING ENGAGEMENT IN HIGHER EDUCATION: DIGITAL STRATEGIES FOR ACTIVE LEARNING

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Higher education is being increasingly challenged to foster active student engagement in a digital era. In language courses – especially Languages for Specific Purposes (LSP) such as Business English and Business Spanish – lecturers seek innovative strategies to motivate students and enhance learning outcomes. The aftermath of the COVID-19 pandemic accelerated the integration of educational technology, highlighting both opportunities and challenges in digital pedagogy (McAllister et al., 2023). In response, lecturers are exploring socioconstructivist approaches that leverage peer collaboration and technology to make language learning more engaging (Zingaro et al., 2023).

This paper presents a socioconstructivist framework for active learning in higher education language classes, illustrated by four digital case studies from the Lisbon Accounting and Business School (ISCAL). Each case uses specific digital tools to promote engagement, peer learning, and critical thinking. This approach is grounded in socioconstructivist learning theory, which posits that knowledge is co-constructed through social interaction and active engagement. Socioconstructivism emphasises that learners build understanding by comparing, sharing, and negotiating meaning in collaborative contexts (Zingaro et al., 2023). In practice, this means that peer discussion, group projects, and interactive tasks are central to learning – an idea famously influenced by Vygotskian thought on the social nature of cognition. Modern active learning theory, rooted in these socioconstructivist principles, underscores that students learn best by doing: actively participating rather than passively listening. Research consistently shows that such active engagement leads to deeper comprehension and improved academic performance (Anane, 2024).

Accordingly, lecturers have a responsibility to create learning environments rich in interaction, where students can collaboratively solve problems, reflect on content, and construct new knowledge. In language education, a socioconstructivist approach aligns with communicative and task-based teaching paradigms that encourage students to use the target language in meaningful exchanges. Learners, especially in higher education LSP contexts, benefit from scenarios that mirror real-world communication and require negotiation of meaning. Social learning elements – like peer feedback, group discussions, and collaborative projects – can increase motivation and accountability. As Jonassen & Rohrer-Murphy (1999) note, learning designs that promote peer collaboration and peer tutoring enable students to reshape their knowledge structures through social interaction. This theoretical lens guides the design of the case study activities, ensuring that digital tools are used not for their own sake, but to facilitate active, collaborative learning experiences.

Advances in educational technology provide a rich toolkit to implement socioconstructivist practices. From learning management systems to dedicated collaboration apps, digital platforms can transform language teaching and make it more dynamic. These tools, when used with pedagogy in mind, support socioconstructivist environments where students actively participate and learn from one another (McAllister et al., 2023). In the LSP context, technology can simulate professional scenarios and expose students to authentic materials, bridging the gap between the language classroom and real-world usage (ibidem). For example, business students can practice presentation skills by recording videos, or explore cultural concepts through virtual exhibits, all within a guided learning community.

Recent studies underscore the potential of digital resources to innovate or augment language learning in higher education. A European project report highlights that integrating technology can make language courses more engaging for both instructors and learner (Zingaro et al., 2023). Likewise, a 2024 study on game-based learning found that tools like Kahoot! significantly boost student enthusiasm and participation in foreign language courses (Anane, 2024). The *Digital Education Action Plan* (2021-2027) of the European Commission envisions exactly such scenarios of

high-quality, inclusive, and digitally-supported education, encouraging institutions to adapt teaching to the digital age[37]

The first case study is a collaborative activity aimed to help students explore and critically analyse ethical dimensions in taxation practices, focusing on issues such as tax avoidance, tax evasion, corporate social responsibility, and transparency. Using the cloud-based mind mapping tool MindMeister, students collaboratively create a digital mind map that visually represents their shared understanding and reflection on these ethical taxation issues. The activity combines individual reflection, collaborative group work, peer interaction, and whole-class discussions facilitated through Moodle forums. This activity places students at the centre of content creation, aligning closely with socioconstructivist theory, which emphasises collaborative knowledge building through meaningful social interaction. By collaboratively identifying, defining, and analysing ethical taxation issues, students actively negotiate meanings, question assumptions, and explore diverse ethical perspectives. The digital mind map functions as a dynamic representation of their collective insights, actively shaped by each participant. Additionally, the Moodle forum supports reflective practice and deeper cognitive engagement; as students articulate their reasoning to peers, they enhance their understanding through metacognition and exposure to multiple viewpoints, reinforcing the socioconstructivist perspective that meaningful learning occurs through active dialogue and social negotiation. The visual and collaborative dimensions of mind mapping made complex ethical taxation concepts clearer and easier to grasp, as students could visually track the relationships between different ideas and examples. Research suggests that visual collaboration can enhance critical thinking skills; for instance, a recent study found that collaborative mind mapping significantly improved students' learning achievement and self-efficacy in flipped classroom contexts (Zheng et al., 2020). Mind mapping in language education is known to support structuring complex information and highlighting conceptual connections (Amelina et al., 2023), benefits clearly reflected in students' engagement with and enthusiasm for this collaborative activity.

This second case study is designed to simulate real-world business communication tasks (such as pitching a product or reporting on a market trend) while engaging students in active production of language. The key components are student-created

37 https://education.ec.europa.eu/focus-topics/digital-education/action-plan#:~:text=The%20Digital%20Education%20Action%20Plan,States%20to%20the%20digital%20age.

video presentations, structured peer assessment through Moodle Workshop (a tool that manages submission, anonymous distribution, and grading of peer reviews), followed by in-class discussions to reflect on the feedback and content. This project turns students into active contributors and evaluators, embodying learning-by-doing and learning-by-teaching principles. Creating a video forces students to apply language skills in an authentic task, thus constructing knowledge through content creation. Meanwhile, the peer assessment process engages them in social learning; as students watch peer presentations and provide feedback, they are effectively teaching each other and reflecting on quality criteria. Such peer review activities promote critical thinking and deeper understanding of the subject matter. The Moodle Workshop tool scaffolds this process by structuring the peer feedback in a pedagogically sound way. According to educational technologists, the Workshop activity in Moodle is a powerful means to enable learners to evaluate each other's work, thereby fostering reflection and insight. It transforms assessment into a collaborative learning opportunity rather than a one-way judgement from teacher to student. In socioconstructivist terms, students actively construct knowledge about effective communication through evaluating examples (peer videos) and incorporating feedback into their mental models.

The third case study fosters intercultural reflection through art. The 'Museum of Curiosities' is an innovative virtual educational resource developed using Genially. Designed for undergraduate students majoring in Business and related fields at ISCAL, the museum integrates art appreciation with the exploration of critical social and cultural topics. The museum comprises six thematic rooms. Each room hosts several paintings, but only the central piece is interactive, linking students to further multimedia materials and targeted activities that prompt critical reflection and dialogue. This resource draws from socioconstructivist theories of learning, positioning students as active agents in their educational experience. The lecturers' primary intention was manifold: first, to demonstrate how artistic expressions can act as powerful catalysts for exploring significant social and intercultural themes. Second, to encourage students to uncover deeper layers of meaning within visual art, recognising that images often encapsulate profound social commentary and historical contexts that may not be immediately apparent. Third, to foster critical thinking and raise intercultural and ethical awareness by engaging students with culturally sensitive and provocative topics through an accessible, visually stimulating digital medium.

The fourth case study concerns an activity on the Moodle forum designed for students of Business Spanish I in ISCAL's International Business programme to develop their written expression skills. This activity takes place on the Moodle platform and requires students to write a short presentation in Spanish. The texts are read and commented on by the lecturer, but they can also be viewed and commented on by classmates. This allows everyone to get to know each other better, collaborate on improving their writing, and learn from each other's successes and mistakes. Students have the opportunity to put into practice the knowledge and skills acquired in the first lessons of the course, particularly those related to giving and understanding basic personal information. Hosting the activity in a Moodle forum enables students to benefit from peer feedback and mutual learning. It also allows those who are unable to attend face-to-face classes to participate and learn from their classmates' contributions.

Fostering engagement in higher education requires creativity and willingness to move beyond traditional lectures. Digital strategies, grounded in sound pedagogical theory, provide a pathway to do so. By embracing socioconstructivist, active learning designs, lecturers can enhance student engagement, make learning more relevant and enjoyable, and equip students with the collaborative and critical thinking skills they need in our interconnected, digital world. The positive initial results encourage continued exploration and research, and we invite further dialogue and collaboration on implementing these and other digital strategies across institutions and contexts to collectively advance active learning in higher education.

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THE OFFICE OF THE SCOTTISH CHARITY REGULATOR

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Abstract: Charitable organisations and other 'benevolent bodies' are frequently administered by individuals lacking formal training or relevant professional qualifications. As private undertakings, the governance of charities is a subject that has received little attention or regulation across southern European jurisdictions. However, the situation in Scotland is notably different. The Office of the Scottish Charity Regulator (or 'OSCR') was established in 2005 with the explicit mandate to regulate charities and to provide rules and guidance concerning the decision-making processes of those managing them – the trustees. The OSCR's statutory functions include determining which institutions may be classified as a "charity" under Scots Law, maintaining a public register of charities, monitoring compliance with legal requirements, investigating alleged misconduct, and advising the Scottish Government on issues connected to the third sector. Furthermore, recent changes were made to the charities' regulatory framework in 2023, which were aimed at expanded OSCR's powers and enabling it to undertake more robust reviews of trustees' decisions and, in certain circumstances, to direct trustees' actions in pursuit of the public interest. This summary aims to critically review the Scottish charities' regulatory framework reform of 2023, intended to enhance accountability of trustees and promote public trust in Scottish charities, as well as to make aware the Scottish approach to charity governance.

1. INTRODUCTION

Third-sector organisations, such as charities and other benevolent bodies, are fundamentally distinct from for-profit entities, primarily due to their focus on the common good rather than profit. While the actions and decisions of for-profit decision-makers are typically subject to legal regulation, those of not-for-profit (or charitable organisations) often remain unsupervised under the Law. This disparity prompts critical questions regarding the rationale for such a distinction and whether decision-makers in the third sector should be held to the same standards of accountability as their for-profit counterparts, particularly when the impact on communities may be comparable.

In Scotland, the regulatory landscape for charitable organisations is notably robust. The Scottish Charity Regulator (OSCR), established in 2005 under the Charities and Trustee Investment (Scotland) Act, is tasked with determining charitable status, maintaining a public register, monitoring compliance, investigating misconduct, and advising Scottish Ministers. As a non-ministerial office appointed by the Scottish Government and supervised by the Scottish Parliament, the OSCR plays a pivotal role in enhancing public confidence in the charitable sector by acting as an independent third party, distinct from trustees and stakeholders alike.

Currently, Scotland is home to approximately 25,000 registered charities, involving over 180,000 trustees, with a significant proportion dedicated to the welfare of children and young people. Unlike the situation in other European countries, the duties and responsibilities of charity trustees in Scotland are clearly delineated under Chapter 9 of the Charities and Trustee Investment (Scotland) Act 2005. Trustees are legally obliged to exercise due diligence and fulfil their fiduciary duties, ensuring proper governance and accountability within the sector. The implications and practicalities of these duties warrant further detailed examination.

2. THE SCOTTISH CHARITY REGULATOR

The OSCR collaborates with the Scottish Government under a framework designed to ensure ease of cooperation, independence, political neutrality, and transparency. While the Scottish Government is responsible for establishing the legal framework for charities, the OSCR's primary role is to independently regulate, guide, classify, and register Scottish charities. This separation of powers is to be regarded as fundamental to maintaining the integrity and impartiality of the regulatory process.

OSCR's responsibilities encompass determining charitable status under Scots Law, maintaining an up-to-date register of all Scottish charities, and supervising their actions, activities, and resource management. This regulator addresses complaints concerning the misuse of charitable assets, improper profit from charitable activities, and organisations falsely presenting themselves as charities. However, OSCR's powers do not extend to issues connected to fundraising or private contractual matters, such as employment or tort, which remain outside its jurisdiction (and within the court's scope).

Recent legislative developments, particularly the Charities (Regulation and Administration) (Scotland) Act 2023, have significantly expanded the OSCR's

powers. This new Act, is now being implemented in phases between April 2024 and the end of 2025, aiming to address gaps in the previous legal regime and to enhance regulatory oversight. Notably, the OSCR now has strengthened authority to direct charities, appoint interim trustees, investigate, and remove organisations from the register. These changes are intended to safeguard charitable assets and improve public confidence in the third sector.

3. TRANSPARENCY AND ACCOUNTABILITY UNDER SCOTS LAW

3.1 *Trustees*

The Charities and Trustee Investment (Scotland) Act 2005, establishes clear legal obligations for Scottish charity trustees, clearly expressing their mission to act in the public interest. Trustees are required to exercise care and diligence in managing the charity's affairs, prioritising the charity's objectives above personal or connected interests, as well as being expected to disclose any relevant conflicts of interest. Their responsibilities include ensuring that the charity's assets are managed prudently and that all decisions align with the charity's social purpose. Failure to fulfil these duties may prompt the intervention of the OSCR, which is now empowered to enforce compliance and uphold fiduciary standards.

In addition to these duties, Scottish charity's trustees are responsible for ensuring that the charity meets its statutory obligations, such as maintaining accurate accounts and complying to other legal requirements. Trustees must be proactive, as inactivity or persistent breaches can result in disciplinary measures, including their removal from the board by the OSCR. Section 69 of the Act further details the disqualification criteria for trustees, which includes convictions for dishonesty, bankruptcy, prior removals from similar positions, or others. These provisions are designed to safeguard the governance of charitable organisations in Scotland.

3.2 *The OSCR*

A significant innovation in Scots Charity Law, particularly following the enactment of the 2023 Act, is the expansion of the OSCR's active supervisory powers. The OSCR now possesses enhanced authority to request information and documentation from charities, remove trustees, and directly intervene in the decision-making processes. Under section 22 of the Charities and Trustee Investment (Scotland) Act 2005, the OSCR may obtain any necessary information or explanations from charities. Furthermore, section 70A empowers the OSCR to appoint trustees in situations

where a charity is unable to do so under its constitution, either due to an insufficient number of trustees or the absence of an internal mechanism for such appointments.

Additionally, the OSCR has the statutory power to direct the actions of trustees and, by extension, the charities themselves, particularly in cases of misconduct or when it is necessary to protect charitable assets. Following an investigation under sections 28 and 29 of the Act, the OSCR may issue directions specifying steps to be taken in the interests of the charity. These powers enable the OSCR to ensure the proper administration of charities and safeguard their assets, while respecting relevant statutory obligations. These proactive regulatory powers given to the OSCR marks a notable development in the governance charities.

3.3 *Transparency, accounts and public information*

Since 2005, Scots Charity Law has established the Scottish Charity Register. This publicly accessible record allows anyone to identify which organisations are recognised as charities in Scotland, or not, while being able to access information about their activities, financial accounts, and others, Inclusion in the Scottish Charity Register depends on passing the “charity test”, as described in section 7 of the Charities and Trustee Investment (Scotland) Act 2005, which requires that an organisation’s purposes are exclusively charitable and that it provides public benefit. Only organisations which meet these criteria may legally refer to themselves as “charities” in Scotland.

4 CONCLUDING REMARKS

Charity law in Scotland is notably advanced, particularly when viewed from a southern European perspective. Significant reforms are scheduled for 2025, including the requirement for Scottish charities to publish annual reports and accounts, the public disclosure of trustees’ names, the creation of a record of charity mergers, and others These measures aim to further promote transparency and accountability within the sector. This happens in contrast to other continental European countries, such as Portugal, where third sector governance often lacks clarity and robust regulation.

The Scottish system recognises the crucial societal role played by trustees of not-for-profit organisations, imposing strict legal duties to ensure competence, integrity, and the prioritisation of public benefit. Trustees are required to act with due care, manage assets responsibly, avoid and disclose conflicts of interest, and maintain legal

compliance, particularly in financial reporting. It is clear for these trustees what are their duties, and persistent or serious breaches may result in intervention and disciplinary action by the OSCR. The well-defined accountability framework established by Scots Charity Law stands in marked contrast to the situation in other countries, such as Portugal, highlighting the potential benefits of adopting similar reforms to enhance governance, integrity, and public trust in other jurisdictions.

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