Professor Sarah Montano and Dr Inci Toral—written evidence (ACT0010)

House of Lords Communications and Digital Select Committee inquiry: Scaling Up: AI and creative tech

Submitted by: Professor Sarah Montano, Professor of Retail Marketing, University of Birmingham and Dr Inci Toral, Associate Professor of Marketing, University of Birmingham

AI and the need for so-called human skills

This advice primarily responds to the Communications and Digital Committee's inquiry on "Scaling Up - AI and Creative Tech", particularly focusing on the role of academic institutions in strengthen their commercial ties with AI and creative technology. This submission will **concentrate on the skills gap** that hampers the scaling up of SMEs in these sectors and the role that universities play in addressing such gaps.

Problem Statement

The UK has a dynamic startup scene known for innovation. However, transforming these startups into stable, scaled-up businesses remains a challenge, impacting the UK's long-term economic prosperity. Scaleups are crucial for the UK economy as they generate highly skilled jobs, boost productivity, and enhance competitiveness. Although they constitute just 1% of UK SMEs, they contribute 22% of turnover, amounting to £497 billion in 2023.[1] The rapid integration of AI across all sectors, but specifically in creative industries and sectors that use creativity (e.g. media, marketing and languages),[2] is causing a swift evolution of the job market and required skills sets for employees.[3] Academic institutions are essential in bridging the existing skills gap and nurturing this future workforce. However, universities must adapt and evolve to meet these changing demands effectively as the graduates play a critical role in shaping the future economy.[4] That is, the UK must create a workforce competent in both digital and creative skills to fully benefit from the potential of AI.

Challenges

This advice examines the challenges encountered by SMEs at two levels: macro and micro. While both are important, this submission will **primarily address the micro-level challenges**, as they directly impact individual career paths and SMEs' capacity to attract and retain talent.

Macro Challenges

These challenges are broad, systemic issues affecting the business and educational landscape:

---

[1] https://www.smf.co.uk/only-1-of-smes-are-scale-ups-yet-they-contribute-500bn-to-the-uk-economy/
[2] https://post.parliament.uk/artificial-intelligence-and-new-technology-in-creative-industries/
[3] Lynn, T., Rosati, P., Conway, E., & van der Werff, L. (2023). The Future of Work: Challenges and Prospects for Organisations, Jobs and Workers.
[4] https://www.timeshighereducation.com/campus/spark-creativity-your-students-and-boost-their-employability

- **Financial Impact:** Securing adequate funding is a persistent challenge for SMEs, particularly in AI and creative technology, where investment needs can be substantial. Specifically with the rapid changes in AI, it is a challenge for all institutions not just SMEs to stay up to date. Until the current hype in adopting settles down, the investment, maintenance, training, development and adoption costs will remain unpredictable for all businesses.[5]

- **Slowing Down AI Productivity:** While current applications of AI offer certain opportunities that offer a productivity boost to many sectors,[6] this may slowdown as these offers can result in several limitations, such as overprediction of human behaviour and offering a limited number of services, problematic results that resurface from the depths of forgotten history due to machine learning legally challenging the institutions (e.g. sexism), and lack of further use cases which happened with many other new technologies (e.g. 3D printers, 3D TVs, driverless cars, etc.).[7]

- **Loss of Jobs – World Wellbeing:** Fast adoption of AI might result in loss of unskilled and certain skilled jobs. A large portion of the population might not only be unemployed and become an economic burden, but also might impact the wellbeing of the world as the happiness index would be downwardly adjusting.[8]

Micro Challenges
These challenges directly affect individuals and their readiness for the evolving job market:

- **Social Mobility – Digital Inequality:** Unequal access to digital tools from an early age creates a digital divide, hindering social mobility and limiting the talent pool for SMEs.[9]

- **Subject Focussed Degrees and Lack of Marketing Skills:** Traditional, subject-focused degrees, especially in creative arts, frequently lack the integration of digital skills essential for the modern creative industries, such as marketing in broad terms. Marketing is often treated as either sales or promotional activities. Yet, SMEs need more focus on marketing skills.[10]

- **Skills Outside the Curricula:** Integrating digital tools and skills development across all subjects, beyond traditional curricula, is needed to equip graduates with practical, interdisciplinary skills.[11]

[5] https://ai-infrastructure.org/wp-content/uploads/2023/09/AIIA-ClearML-Survey-Report-Sept-2023.pdf#page=7.52
[6] https://www.ifow.org/publications/old-skills-new-skills---what-is-changing-in-the-uk-labour-market
[7] https://www.imf.org/en/Publications/fandd/issues/2023/12/Macroeconomics-of-artificial-intelligence-Brynjolfsson-Unger#:~:text=Boosting%20productivity%20growth%20may%20be%20the%20globe's%20most%20fundamental%20economic%20challenge.&text=On%20one%20path%20of%20the,(Zolas%20and%20others%202021).
[8] https://www.ifow.org/publications/old-skills-new-skills---what-is-changing-in-the-uk-labour-market
[9] https://repository.jisc.ac.uk/9232/1/ai-in-tertiary-education-a-summary-of-the-current-state-of-play-september-2023.pdf#page=16.39
[10] https://www.forbes.com/sites/allbusiness/2024/04/30/a-2024-report-reveals-small-business-marketing-challenges/
[11] https://www.timeshighereducation.com/campus/spark-creativity-your-students-and-boost-their-employability

- **Internationalisation Barriers:** Covid-19 offered opportunities for some SMEs in going international. However, internationalisation of business activities is full of challenges. Among the one of the crucial barriers is the lack of language skills which hinder understanding the international market (infrastructure, legal entities, consumers, etc..[12]

- **Visibility:** SMEs often struggle to establish a strong presence beyond social media, making it difficult to attract customers, partners, and investors, ultimately hindering growth.

Most Sought-After Skills – Industry Skills and The So-called Human Skills

Employers are increasingly searching for graduates who can think creatively, adapt to change, and find innovative solutions to complex problems.[13] According to Universities UK: *Six in 10 (61%) senior figures and talent acquisition specialists at the UK's FTSE350 listed companies say more creative thinkers are needed to make the most of new AI tools. …more than 11 million extra graduates will be needed to fill jobs in the UK by 2035, in addition to the 15.3 million graduates currently in the UK workforce.*[14] Both the Digital Marketing Institute[15] and Sotheby's[16] report the following skills for graduates and jobs in creative industries:

- Social Madia

- Search Engine Marketing (SEM)

- Data Analytics

- Content Marketing

- Email Marketing

- Mobile Marketing

- Digital Marketing Strategy & Planning

- Social Selling
- Pay-Per-Click (PPC) Marketing

- Video Creation

However, in addition to these industry skills, our research has shown that graduates also need to balance these skills with soft skills[17] or given the

---

[12] Cui, A. P., Walsh, M. F., & Gallion, D. (2011). Internationalization challenges for SMEs and global marketing managers: A case study. International Journal of Business and Social Research (IJBSR), 1(1), 57-69.

[13] https://www.timeshighereducation.com/campus/spark-creativity-your-students-and-boost-their-employability

[14] https://www.universitiesuk.ac.uk/latest/news/creativity-and-critical-thinking-craved

[15] https://digitalmarketinginstitute.com/blog/10-digital-skills-that-can-make-students-instantly-employable

[16] https://www.sothebysinstitute.com/news-and-events/news/five-tried-and-tested-skills-for-a-career-in-the-art-world

[17] Montano, S (2023) Developing an Ecosystem: Authentic Assessments, Employability Skills and

progress of AI we have recently defined these as so-called "human skills" as these are the types of skills that AI and broader technologies cannot deliver. Universities need to consider how to change their practices and enable students to develop stronger skills that incorporate innovation, technology, and creativity and, as educators we are uniquely positioned to provide the very foundations for students to develop these future skills.[18] We define these human skills, as skills such as:

- Creativity

- Critical thinking

- Communication

- Analysis

- Evaluative judgment

- Entrepreneurial

AI and creative technologies will only progress if we ensure that students leave university with these "human skills". We identified that graduates need broad based creativity skills and critical thinking, as AI may be able to produce the content, but for example only people can establish if what is produced will meet customer expectations. If there is not a sense check, then situations arise such as the Glasgow Willy Wonka debacle.[19] This situation arose as whilst AI created the vison, reality did not create or match the desired experience, AI can only do so much. We argue that universities do have a key role in ensuring that students have these skills by enhancing and improving links with industry and SME's. Universities are critiqued by various bodies for not delivering on these needed skills[20, 21, 22] with nearly 80% of employers thinking that graduates do not have the required skills[23] and thus must adapt.

Recommendations:
Based on our research[24, 25] and subsequent analysis of graduate outcomes we make the following recommendations to ensure that SMEs become successful

Knowledge Transfer in Daniels, K and Loer Hansen, S Enabling the Employability of University Graduates.

[18] Adegbite, W. M., & Adeosun, O. T. (2021). Fourth industrial revolution skillsets and employability readiness for future job. *Global Journal of Social Sciences Studies*, *7*(1), 35-49.

[19] Montano, S.; Toral, I. and Suleymenova, K. (2024) A world of AI imagination – Is AI marketing the latest tool for misleading customers? - University of Birmingham

[20] CMI 2021 https://www.managers.org.uk/wp-content/uploads/2021/09/employability-skills-research_work-ready-graduates.pdf

[21] UNEP Green Economy https://www.unep.org/regions/asia-and-pacific/regional-initiatives/supporting-resource-efficiency/green-economy

[22] Teng, W., Ma, C., Pahlevansharif, S., & Turner, J. J. (2019). Graduate readiness for the employment market of the 4th industrial revolution: The development of soft employability skills. *Education+ Training*, *61*(5), 590-604.

[23] CMI 2021 https://www.managers.org.uk/wp-content/uploads/2021/09/employability-skills-research_work-ready-graduates.pdf

[24] Montano, S. and Toral Manson I. (2024), Responsible marketing and consumption starts with changing mindsets: How educators can embed responsible marketing and consumption into

and the UK has graduates leaving university with the desired skills. A recent Horizon scanning report, identified that curricula will need to change to equip young people with the skills needed to work creatively with AI:[26]

- Assessments need to change to include digital and creativity skills and to be authentic.[27, 28] An assessment that is authentic will mirror the workplace[29] and offer students the opportunity to develop their much-needed industry skills and human skills.

- To further enhance authenticity, SME's can be brought into the curriculum to create an assessment for students that mirrors their current workplace challenges. For example, creative organisations can work with universities on projects such as prompt engineering and writing.

- SME's can also offer students the opportunity to work on longer live projects and to create deliverables.[30] This offers impact through involving students as collaborators with businesses and as solution creators.

- Embed an experiential learning approach rather than a traditional approach to university teaching and assessment. Traditional assessments do not enable students to develop the full range of skills needed.[31] Our research has shown that experiential learning encourages metacognition, promotes active experimentation and balances subject knowledge with practical application.[32]

- When ChatGPT was first launched, much of the narrative was around the threat to academic integrity, however, given the fast adoption of AI by industry and the resulting skills gap, it is essential that universities do not return to traditional exams and assessments but include AI in curricula.[33,34]

curricula, in Responsible Marketing for Well-being and Society A Research Companion

[25] Toral I. and Montano S. (2023) An Experiential Learning Framework for Retail: Creative Authentic Skill Development, Developments in Marketing Science: Proceedings of the Academy of Marketing Science

[26] https://post.parliament.uk/artificial-intelligence-and-new-technology-in-creative-industries/ https://doi.org/10.58248/HS53

[27] Montano, S (2023) Developing an Ecosystem: Authentic Assessments, Employability Skills and Knowledge Transfer in Daniels, K and Loer Hansen, S Enabling the Employability of University Graduates.

[28] Montano, S., Gill-Simmen, L., Lee, D., Walsh, L., Duffy, D. and Newman, N. (2023). Assessing authentically–learnings from marketing educators. *Journal of Marketing Management*, *39*(17-18), pp.1677-1709.

[29] Montano, S (2023) Developing an Ecosystem: Authentic Assessments, Employability Skills and Knowledge Transfer in Daniels, K and Loer Hansen, S Enabling the Employability of University Graduates.

[30] https://www.birmingham.ac.uk/study/postgraduate/subjects/marketing-courses/strategic-marketing-and-consulting-msc

[31] Hernández-March, J., Martin del Peso, M., & Leguey, S. (2009). Graduates' skills and higher education: The employers' perspective. Tertiary education and management, 15, 1-16.

[32] Toral, I. and Montano, S. (2024) Marketing: Fusing resilience and power for public value – igniting marketing's social spirit, Academy of Marketing July.

[33] Montano, S. and Manson, I.T. (2024) Spark Creativity in your students- and boost their creativity, Time Higher Education, 2nd September 2024. Spark creativity in your students – and boost their employability | THE Campus Learn, Share, Connect (timeshighereducation.com)

[34] Suleymenova, K., Montano. S., Smith, K., and Newman, N. (2024) Employability Skills Not Tech Tools, CABS Dynamic Conversations https://charteredabs.org/insights/knowledge-sharing/employability-skills-not-tech-tools

We have found that by allowing students to use AI we are able to stimulate creativity but also enable students to learn to act responsibly.[35]

- Creative industries need people with imagination and creativity and so assessments must become creative such as digital design, blog writing or app creation. Students can be given much more freedom to create visual, digital and exciting content.[36, 37]

- Such human skills must be embedded throughout curricula, our set of graduate attributes enables programmes to be designed to reflect industry needs and for students to gain the knowledge, skills and attributes to excel in life.[38]

In conclusion, we present the evidence, that if the UK wishes to resolve the barriers for SMEs in scaling AI and creative technologies, then academic institutions are essential in bridging the existing skills gap. However, universities cannot continue as they are, they must adapt and evolve to ensure that graduates possess both industry and so-called human skills. We have shown that the way to deliver this is to bring AI into the lecture hall, change to an experimental learning approach and focus on skill development rather than just knowledge acquisition.

15 October 2024

[35] Montano, S. and Manson, I.T. (2024) Spark Creativity in your students- and boost their creativity, Time Higher Education, 2nd September 2024. Spark creativity in your students – and boost their employability | THE Campus Learn, Share, Connect (timeshighereducation.com)

[36] Montano, S. and Toral Manson I. (2024), Responsible marketing and consumption starts with changing mindsets: How educators can embed responsible marketing and consumption into curricula, in Responsible Marketing for Well-being and Society A Research Companion

[37] Montano, S. and Manson, I.T. (2024) Spark Creativity in your students- and boost their creativity, Time Higher Education, 2nd September 2024. Spark creativity in your students – and boost their employability | THE Campus Learn, Share, Connect (timeshighereducation.com)

[38] https://intranet.birmingham.ac.uk/as/employability/careers/resources/my-attributes.aspx#:~:text=The%20Graduate%20Attributes%20are%20a%20set%20of%20skills%2C,with%20insights%20from%20students%2C%20graduates%2C%20employers%20and%20staff.