

Katarzyna Minor, Sheena Carlisle, Louise Dixey
Cardiff Metropolitan University

Rethinking digital foci - what are the real digital needs of Welsh tourism organisations?

The use of digital technologies is becoming more evident within the tourism industry, however it is characterised by different levels of usage between rural, small and medium organisations versus large, urban ones. This paper reports on findings of quantitative and qualitative research focussing on the mapping of the current digital proficiencies and future digital skills of tourism-related organisations in Wales. The results show that whilst the highest projected digital skills gaps in 2030 relate to emerging technologies such as AI, AR and VR, more pressing digital needs relate to the use of social media and online marketing. The study identifies lack of need, time and/or budget as main reasons for lack of digital engagement and training.

Keywords: digital skills, skills gaps, training needs

Katarzyna Minor
Welsh Centre for Tourism Research
Cardiff Metropolitan University
Western Avenue, Llandaff
CF5 2SP, Cardiff, Wales UK
Email: kminor@cardiffmet.ac.uk

Sheena Carlisle
Next Tourism Generation Alliance
Cardiff Metropolitan University
Western Avenue, Llandaff
CF5 2SP, Cardiff, Wales UK
Email: scarlisle@cardiffmet.ac.uk

Louise Dixey
Next Tourism Generation Alliance
Cardiff Metropolitan University
Western Avenue, Llandaff
CF5 2SP, Cardiff, Wales UK
Email: ldixey@cardiffmet.ac.uk

Introduction and background to the research

With technologies becoming more important in the everyday life of people and many travellers taking digital technology for granted (Intel, 2018); it is no surprise that the tourism and hospitality industries are increasingly adopting digital technologies (World Economic Forum (WEF), 2018). Intel (2018) lists technologies such as artificial intelligence (AI), augmented and virtual reality (AR and VR) and robotics as some of the most influential within tourism these days. WEF (2018) notes that by 2022 within aviation, tourism and hospitality world-wide usage of these technologies will rise by 79%, 68% and 37% respectively, with the biggest rise in the use of the Internet of Things (95%) and Big Data (89%).

At the same time, however, skills gaps in local labour markets (89%) and a shortage of capital investments (39%) are cited as major obstacles to the adoption of technologies world-wide (WEF, 2018). This is particularly evident within rural communities, such as Wales in the UK, where there is still a great divide in terms of access to the internet, which compromises digital engagement. 77% of medium and 81% of small enterprises in Wales have access to super-fast broadband (Ofcom, 2017; Digital Maturity Survey 2018) which represents a 42% and 39% increase respectively in access between 2014 and 2017 (Ofcom, 2017). However, there is a sharp contrast in rural areas, where only approximately 9% of businesses have internet access (National Assembly for Wales, 2013; Welsh Government, 2014).

Despite the increased availability of the internet, in 2011, 21% of people in Wales had not accessed the worldwide web, with the main reason stated being lack of skills (GSR, 2011). This number decreases sharply when employment and socio-economic status is taken into consideration. It is highlighted that social disadvantages lead to a lack of digital engagement, which in turn often deepens the disadvantage via fewer employment and networking

opportunities (GSR, 2011, 2016). Digital exclusion is still most prominent in the areas that are socially excluded, rural and/or economically challenged; with Denbighshire, Conwy and Rhondda Cynon Taf having lowest digital inclusion rates. Skills shortages for vacancies include basic computer literacy skills and advanced IT or software skills and these skills were lacking in tourism (69%) and hospitality (67%) respectively. This is in sharp contrast with lower levels of these skills shortages in England that are 15% and 16 % respectively (GSR, 2011, 2015).

In terms of the outcome for businesses in Wales, this shortage of skills is reflected in the lack of use of digital technologies by small and medium enterprises (SMEs). For instance, around a third of SMEs do not have a website (Welsh Government, 2013) and 33% of SMEs do not engage with any social media (Business Wales, 2017). This is worrying as in Wales, like the UK as a whole, 99% of businesses are classed as micro, small and medium (House of Commons, 2018). Welsh Government research (GSR, 2015) highlights that within tourism and hospitality sectors, the level of digital skills differs amongst businesses and often businesses struggle to keep up with their customers' digital demands. One of the problems identified as contributing to the inability of small and rural tourism businesses to meet tourist expectations are lack of qualifications, training and high labour turnover (Haven-Tang & Jones, 2008).

This research forms part of a bigger European Commission funded project designed to map out and address digital and sustainability skills gaps in tourism-related businesses in Europe. The purpose of this paper is to report on early research findings relating to current and future digital skills needs of Welsh tourism and hospitality SMEs. This focus is particularly significant in the Welsh context, as part of an overall growth strategy the Welsh Government strives to promote Wales as a tourism destination. This relies on developing innovative tourism products

and activities, particularly within the rural communities, where tourism is a significant economic contributor (Haven-Tang and Jones, 2014). Yet, fragmentation and rurality pose a number of challenges in Wales including ‘marketing, product differentiation, destination branding, information and connectivity’ (Haven-Tang and Jones, 2014, p239). Such rural businesses may fail to recognise their own role in the overall destination development and tourism experience. Therefore, staff skills and training are not recognised as areas of priority and an integral part of the tourism product (Haven-Tang & Jones, 2008).

Next Tourism Generation Alliance

The Next Tourism Generation Alliance (NTG) is a European Commission funded project that aims to establish national and EU level Blueprint Action Plans for Sectoral Skills Development in Tourism. The primary aim is to strengthen the relationship between industry and education and respond to the digital and sustainability skills needs of the tourism sector using innovative solutions. The NTG Alliance is a unique partnership between tourism departments at six universities (Technology University Dublin, University of Sopron, Cardiff Metropolitan University, University of Alicante, Breda University of Applied Sciences, Varna University); seven tourism and hospitality trade organisations (Union Camere, Eurogites, Deutsches Seminar für Tourismus (DSFT) Berlin, Federturismo Confindustria, People 1st, VIMOS, CEHAT) and ATLAS Europe, a tourism student and lecturer network, in eight countries (Spain, Bulgaria, United Kingdom, Netherlands, Hungary, Italy, Germany, Ireland).

The European Commission and the NTG Alliance recognise that industry needs to provide a competitive, sustainable, contemporary and authentic visitor experience. Therefore, more emphasis is needed on the identification and categorisation of digital and sustainability skills in the tourism and hospitality industry and education institutions. Thus, the project focuses on

the development of effective responses to digital, green and social skills gaps in five sub sectors: visitor attractions, food and beverage, accommodation, destination management, travel agents and tour operators. The project will provide a strategy and scalable mechanism for the delivery of flexible learning and training methods of those skills within industry and education institutions, at a national and EU level. By the end of the project, integration of new units and modules into the European VET system will help provide a benchmark for skills in sustainable tourism management and relevant digital and technological innovation and application.

Methodology

A two-phased approach was applied to this research and the results are based on both qualitative and quantitative data gathered between January and March 2019. Within the first phase of the research, a 32-question survey, relating to sustainability, digital and social areas, was distributed across the eight NTG partner countries in Europe. The questionnaire was developed following a comprehensive secondary data analysis across the eight countries, which resulted in the identification and categorisation of the necessary future skills needed in the fast-changing hospitality and tourism industry and potential gaps in knowledge. The survey and used open-ended questions and a bipolar 5 Likert scale to assess the perceived current level of skills proficiency and level of skills proficiency required in 2030 to identify skills gaps. The purpose of the questionnaire was to analyse the relationship between sectors, company size, current and future proficiency of digital and sustainability skills, current training provided and the range of skills gaps and levels of proficiency within businesses or organisations. This paper reports on the findings relating to digital competencies and gaps only.

Prior to online distribution, the survey was evaluated by the Cardiff Metropolitan University Research Ethics Committee to verify the quality of the questions and ascertain that no

ambiguous or irrelevant questions were asked. In total, 1,404 responses from across Europe were collected, including 142 fully completed valid surveys from Wales. Respondent profiles included tourism and hospitality trade associations, Destination Management Organisations (DMOs), local authorities and large, medium, small and micro tourism businesses across five sectors including visitor attractions, accommodation providers, food and beverage, tour operators and travel agents and DMOs.

One of the major obstacles to this phase of data collection was lack of industry engagement, survey fatigue and a lack of interest or understanding of broader, long-term benefits. To counteract this, in Wales, the survey was promoted through destination management partnerships, trade associations, Federation of Small Businesses (FSB) Cymru, regional skills partnerships, national parks, Business Wales, Visit Wales and an NTG database. Telephone and email were used to encourage participation, alongside distribution via social media using tourism business and destination networks and their websites. Response rates varied regionally with the highest number of responses from North Wales. More than 10 responses were received from the following areas: Gwynedd, Conwy, Denbighshire, Pembrokeshire and Cardiff. The highest number of responses came from accommodation providers and the least number of responses came from food and beverage businesses (Table 1).

Table 1. NTG skills survey response rate in Wales, by sector

Sector	Number of Responses	Percentage
Accommodation	54	38%
Visitor Attractions	36	25%
Travel Agents and Tour Operators	23	16%
Destination Management Organisations	17	12%
Food & Beverage	12	8%
	142	

The survey data was analysed using SPSS and Qualtrics data analysis tools to assess the overall results across the eight countries as well as specific country data. For the purposes of the project an EU definition of SMEs was utilised, i.e. micro - less than 10 persons employed; small – 10 to 49 employees; medium- 50 to 249 employees; and large 250 or more people employed. The response from both small and large businesses was important to assess the breadth of skill needs. The results presented in this paper relate only to digital skills gaps and future needs.

To support the survey data and to construct an in-depth understanding, a second phase of research was undertaken with the use of semi-structured interviews with industry stakeholders. Across Europe in total, 264 interviews were conducted with senior managers, human resource managers, company owners, entrepreneurs, heads of department and other relevant respondents in all five tourism sectors under investigation. 25 of those interviews were conducted in Wales, with respondent rates outlined in Table 2. Similar to phase one, the interview research was approved by the Cardiff Metropolitan University Research Ethics Committee prior to commencement. All data was thematically analysed.

Table 2. NTG interview response rate in Wales, by sector

Sector	Number of Responses
Accommodation	5
Visitor Attractions	7
Travel Agents and Tour Operators	2
Destination Management Organisations	6
Food & Beverage	5
	25

Results and discussion

Current proficiency

The results of the survey (Figure 1) suggest that the current level of digital proficiencies in Wales relates to the basic operation of computers such as the general ‘use of operating system’ and ‘Microsoft package’. Whilst none of the organisations reported these types of skills to be missing, only 15 % of the organisations reported to have these skills at an expert level; this may suggest a relatively low level of confidence in these skills within the organisations. The mean in relation to these skills was 3.83 and 3.81 respectively, placing the level of skills firmly on the moderate level (Table 3).

Figure 1. Current levels of digital proficiencies in tourism and hospitality organisations in Wales

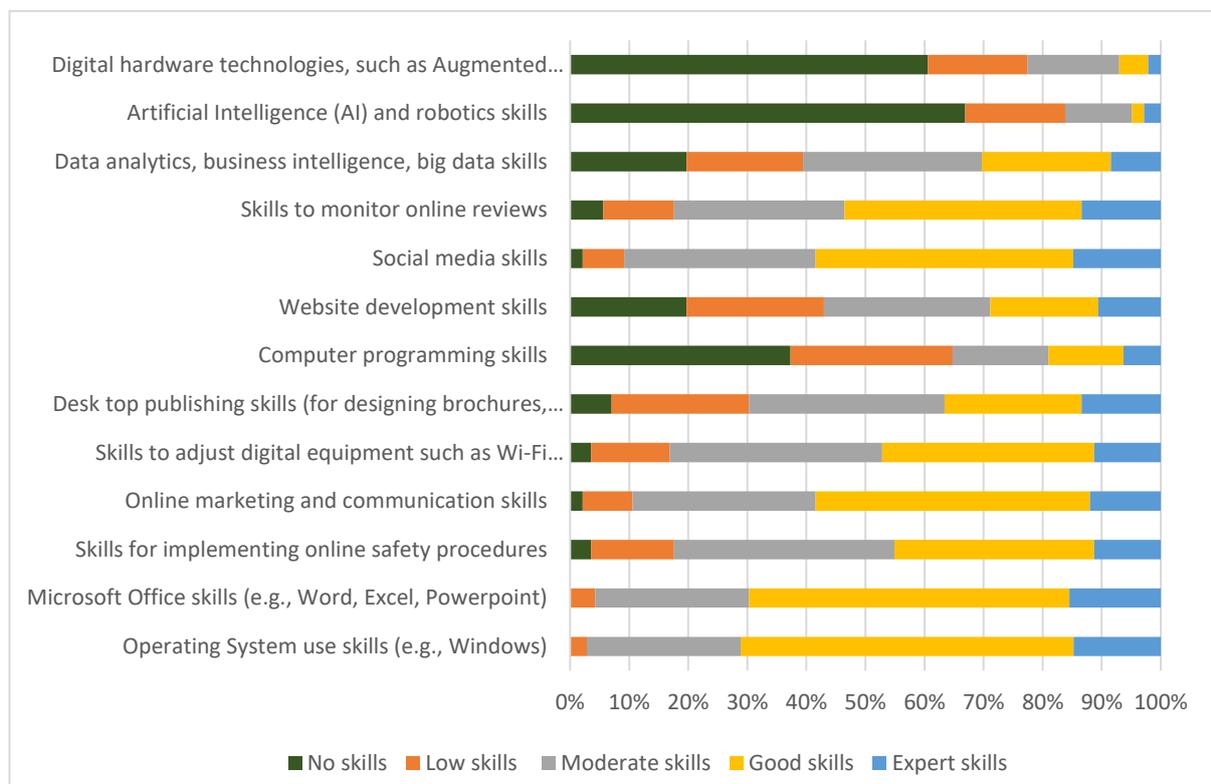


Table 3. Current, future and gap levels of digital proficiencies in tourism and hospitality organisations in Wales, mean values

SKILLS TYPE	Current	Future	GAP
Skills related to applying digital hardware technologies, such as Augmented and Virtual Reality	1,71	2,88	1,17
Artificial Intelligence (AI) and robotics skills	1,57	2,66	1,09
Website development skills	2,77	3,77	1,00
Data analytics, business intelligence, big data skills	2,80	3,75	0,95
Skills to monitor online reviews	3,44	4,30	0,86
Skills for implementing online safety procedures	3,35	4,16	0,81
Online marketing and communication skills	3,58	4,37	0,79
Social media skills	3,62	4,38	0,76
Desk top publishing skills (for designing brochures, catalogues, etc.)	3,13	3,82	0,69
Skills to adjust digital equipment such as Wi-Fi connectivity, sound systems and video projectors	3,38	4,01	0,63
Computer programming skills	2,23	2,82	0,59
Operating System use skills (e.g., Windows)	3,83	4,07	0,24
Microsoft Office skills (e.g., Word, Excel, PowerPoint)	3,81	4,14	0,33

In contrast, the skills most reported to be absent in the organisations were as follows: ‘data analytics, business intelligence big data skills’ and ‘website development skills’ (19.72%); ‘computer programming skills’ (37.32%); skills relating to ‘digital hardware, Augmented Reality (AR) and Virtual Reality (VR)’ (60.56%); and ‘Artificial Intelligence (AI) and robotics’ (66.90%). This could be due to two reasons suggested in the interviews (a) some organisations have relatively low engagement with these types of technologies or (b) the implementation and maintenance of digital technologies is outsourced and therefore dealt with by external companies, so only skills related to customer-assistance are embedded within organisations.

The interview participants revealed that they recognise that ‘online marketing and communication’, ‘social media’ and ‘skills to monitor online reviews’ are important to their organisations; and the proficiency within these areas recorded a mean of 3.58, 3.62 and 3.44, respectively. Whilst this places the mean of these skills in ‘moderate’ proficiencies, it is

interesting to note that some organisations have no skills related to these areas. For example, one participant noted:

I signed up for a 'Dynamic Social Media Workshop' only to find out that several attendees didn't know how to set up a Facebook page let alone be dynamic with it.

Further evidence from the interviews revealed that whilst the social media and online marketing skills are in general thought of as being on a good level, the shortage of these skills predominantly was seen as related to older workers who did not 'grow up with computers'. This is problematic as the interviews revealed that the sector tends to recruit people with lengthy industry experience or with the 'right attitude' who by default would be either older or with higher level of customer service skills. This means that these individuals could be lacking basic computer skills, therefore compromising the way that the company operates and engages with digital technologies. Furthermore, this creates a paradox whereby recruiting people with low digital competencies the organisations simply do not realise the potential value the technology can bring to their businesses.

Future needs

The survey yielded two-fold results relating to digital skills: current gaps and future priority needs. Whilst both perspectives could be interpreted as similar, the authors believe that they should be considered separately, due to potential future implications in relation to the EU and national policy advice given at the end of the NTG project.

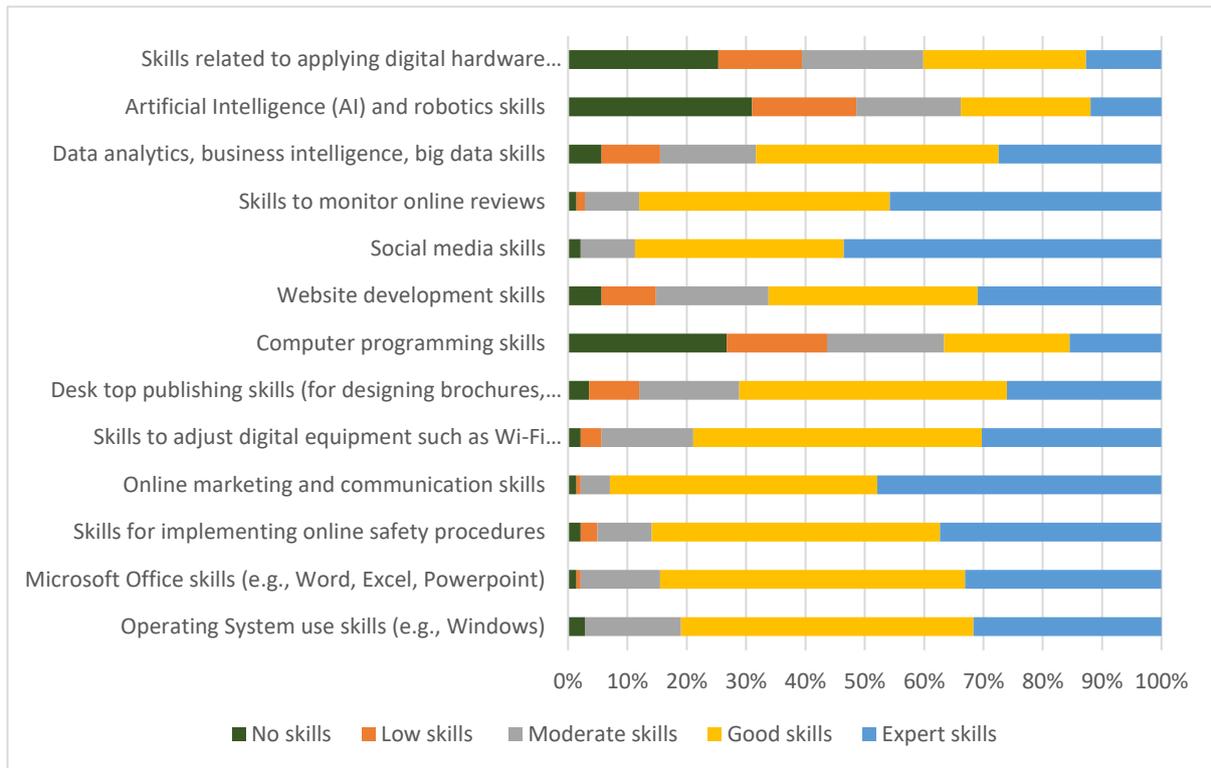
Skills related to 'applying digital hardware technologies such as AR and VR', 'AI and robotics', 'website development' and 'data analytics, business intelligence, big data skills' are

where the highest skills gaps currently exist when considering possible future needs. These gaps i.e. the difference in the mean value of the current and future proficiency were 1.17, 1.09, 1.00 and 0.95 respectively (Table 3). These results reflect global development trends and industry recognition of the future need for these skills to be present and embedded within organisations. The interviews confirmed that the industry, particularly visitor attractions, recognise these types of technologies as emerging and important for future trade.

Yet at the same time, the data suggests that the emphasis in relation to needs is not fully visible when considering skills gaps alone. The industry also identified that the top three digital skills needed by 2030 are ‘social media skills’, ‘online marketing and communication skills’ and ‘skills to monitor online reviews’ (Table 3), each achieving the needed level of proficiency of 4.38, 4.37 and 4.30, respectively. These skills were also identified as the most important by interview respondents, who all recognised that the level of social media activities will need to increase in line with the customer trends.

Furthermore, when considering individual data relating to future skills need (Figure 2), ‘applying digital hardware technologies, such as AR and VR’, ‘AI and robotics’ and ‘computer programming skills’ were identified as not needed by 25.35%, 30.99% and 27.6% of organisations respectively. This contrasts with expert skills needs in the areas of ‘social media skills’ (53.52%), ‘online marketing and communication skills’ (47.89%) and ‘skills to monitor online reviews’ (45.77%). This may also underline the importance of development of skills connected to social media over AI, AR and VR.

Figure 2. Future levels of digital proficiencies in tourism and hospitality organisations in Wales



Training provided

The interviews clearly showed that there is a divide between organisations in terms of resources related to digital training. 49.30% of the organisations do not provide any digital training, and out of the ones that do 34.52% provide digital training ‘on the job’. This is surprising as due to the current lack of digital awareness and/or skills, the skills that are going to be needed in the future, are unlikely to be embedded within the organisations. The interviewees also noted that a good proportion of the companies outsource their digital needs, such as creation and maintenance of a website, as employing one person with a broad digital skill set would be too expensive. Further, this is likely to fuel the gaps present in the in-house digital skills set.

Furthermore, training provision in digital skills varied substantively across different sectors. Destination management organisations facilitate the highest level of training in this area (71%) followed by visitor attractions (64%), some of which will be using AR and VR. Nearly half of the accommodation respondents provide digital training (46%) slightly higher than travel agents and tour operators (39%). Food and beverage businesses identified digital skills as their highest skills gap (41%) yet provide the lowest level of training (25%).

Online courses, one day on-site and off-site external provider training are used by 18.45%, 12.5% and 13.69% of the organisations, respectively. The interviews revealed that access to training is often hindered by budgets, with larger organisations able to provide more comprehensive training, whilst smaller organisations lack time and resource so focus on day-to-day digital operations, such as online booking systems or property management systems.

The analysis of the survey open questions relating to the lack of provision of digital training revealed that some organisations saw no need for digital training. The most cited underlying reasons were as follows: being a sole trader, outsourcing digital needs, no digital involvement necessary as part of duties, and/or a good level of digital skills already present. These perceptions of a lack of need for digital upskilling were noted as problematic by destination managers and trade associations. For example:

The visitor accommodation sector is the most challenging to convince that digital marketing is crucial to their business.

Whilst outsourcing seems a good option for some companies, many digital and IT professionals lack specialized tourism and hospitality knowledge, which may result in a poorer service for the businesses online.

Other obstacles to digital training noted in the survey and confirmed by interview participants included budgetary and time constraints. Interviewees highlighted that in order to attend a training course, they would have to take a day off. Many staff and especially sole traders are not able to do this, particularly in high season, as shifts need to be covered or the business closed. Therefore, getting organisations to realise the long-term value in developing digital skills to move their businesses forward is a challenge. One sole trader commented:

People say that social media is great as it is free – it may be but it takes time and you need to develop skills such as photography, video production, copywriting, IT skills to name but a few. I have been on a variety of courses and always come away full of good intentions, putting those into practice however is hard. My list of things to do is always never ending.

General availability of courses was also noted to be sparse and the courses when provided, are too generic and not tourism specific, and/or characterised by difficult learning environments constrained by the spectrum of knowledge in the classroom i.e. absolute novices to knowledgeable business staff.

Conclusions

The paper has presented the first stage results of a larger NTG project designed to identify current and future digital skills necessary within tourism related organisations. The results paint a complex picture where the attainment of digital skills in SMEs in Wales is often hindered by multiple factors, including a lack of awareness of the benefits of varied digital engagement, a lack of time and budget, and a lack of tailored training opportunities to address skills gaps. Whilst it is easy to focus on the biggest digital skills gaps in terms of knowledge for the future, industry and educational providers need to be aware of the most pressing needs in terms of digital competencies today. Furthermore, NTG Wales recognises that only once the

real digital needs are recognised and existing barriers to the achievement of skills are addressed, the Government strategy for Wales as a successful tourism destination, would succeed.

Technologies such as AR, VR, AI and robotics are being adopted in Wales, particularly in museums. These are considered larger tourism destinations, often linked to Welsh heritage tourism, thus, likely to attract more capital and training funding. However, the extent to which such technologies will be needed and/or adopted by other sectors, maybe on a smaller scale, purely due to the fragmented, rural and small nature of these organisations. Therefore, it is vital for the policy-makers and training providers to realise that the real training and skills needs of SMEs in the coming years lie within social media and online marketing. This should be delivered on various levels of proficiency to maximise the perceived benefits to the organisations and the effectiveness of such a training. Varied delivery modes of training and support (e.g. online courses, easy to access information banks, train the trainer schemes) should offer training opportunities to organisations who previously struggled with access to training due to high cost or distance.

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