SUPPORT FOR DATA-BASED DECISION-MAKING IN THE MEDIA LABOUR MARKET: ENHANCING MEDIA PROFESSIONALS' DIGITAL COMPETENCES

RESEARCH REPORT

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I INTRODUCTION

This research, conducted as part of the project 'Support for data-based decision-making in the media labour market: enhancing media professionals' digital competences', aimed **primarily at assessing demand for digital skills and expertise of media professionals in the media market**. The study also seeks to inform data-based decision-making by all relevant media stakeholders and help with implementation of the Media Strategy (covering the period to 2025) and the Digital Skills Strategy (set to expire in 2024). **The study polled various groups of media professionals[1] (decision-makers/senior media officers, academia, and media associations) in Serbia and involved a combination of quantitative methods (survey) and qualitative ones (in-depth interviews and focus group discussions).**

In addition to this study being highly valuable for the information in produced, the research team sought to position it as a tool to inform future media policies and improvements to media professionals' digital skills and competences. As such, the final section includes a set of recommended strategic interventions and specific measures that ought to benefit all stakeholders, in particular government institutions, media outlets, and donors.

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[1] The expression 'media professionals' is used here to describe the following categories of respondents: media outlets' editors, owners, and managers; the expert community/civil society organisations; and media associations. Some editors, owners, and managers were at the same time reporters, but they were surveyed in their role as decision-makers. This permitted the study to assess the needs of the market for digital skills and competences as perceived by experts, media associations, and decision-makers, whilst journalists' self-assessment of their own digital skills was the subject of separate research.

2 RESEARCH METHODOLOGY

The methodology involved three distinct approaches.[2] Firstly, the core of the study was a **survey** of media professionals (decision-makers in media outlets), which also formed the basis for development of the qualitative research instrument. Secondly, **in-depth interviews** were conducted with media officers (senior managers), academics, and journalists' and media associations. These in-depth interviews aimed at assessing in detail the demand for digital skills and competences and ensure the study captured the opinions of these experts and knowledgeable observers who were not themselves active in the media market. The last stage of the research project involved four **focus group discussions** where the moderators spoke with outlets' editors, owners, and managers about issues specific to their media category – television, radio, print, and web – starting from the premise that different types of media would have different needs in the future.

The final report also includes findings, suggestions, and recommendations made after an internal participatory session (held on 7 October 2021) with government officials, the civil sector, journalists' and media associations, and experts.

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[2] The methodology is described in greater detail in the appropriate sections below.

3 BACKGROUND

Recent decades have seen dramatic changes to the news industry throughout the globe, making the media environment more complex, driving growth of new communications platforms and technologies, and requiring more learning and adaptation. The latest **Reuters Institute Digital News Report reveals that online and social media consumption has increased in most countries** (especially during the ongoing global pandemic). The Reuters Institute also found that the coronavirus outbreak has accelerated the introduction of new tools, with many people joining online groups and taking part in video conferences, which was set to accelerate rather than hinder the shift to digital platforms. The switch to digital has also given rise to new (or partially new) trends in the news media market, including but not limited to: (1) sources of news are questionable for their reliability and often contested; (2) misinformation is rife, including the appearance of channels used to spread fake and/or misleading information; (3) political advertising in the digital news market is unregulated or poorly regulated; (4) business models are changing rapidly whilst paid content is on the increase; (5) media consumers are adopting new behaviours focused on digital platforms; and (6) media professionals lack the skills to respond and adapt to these changes.

All of these concerns, accelerated by the Covid-19 crisis, **must inevitably lead media professionals to embrace new technologies and tools, including remote working, production and distribution of innovative, accurate, and professional content, and other digital skills required to manage the new media field**. There exist several classifications of the digital skills that need improving, with some recognising the following abilities: (1) communication skills (copywriting, social networks, storytelling, fact-checking, etc.), (2) content management skills (content management systems, content programming, image management, big data management, etc.); (3) marketing skills (B2B and B2C relationships, demographics, digital production, and digital strategy); (4) technical computer skills (Adobe suite, Microsoft Office, HTML, Java, Photoshop, WordPress, Canva, etc.); (5) web and graphic design skills (front-end web design, animation, interactive media, photography, data visualisation, etc.); and (6) web analytics skills (Google analytics, metrics, etc.).

These competences are increasingly important for various groups of media workers seeking to better respond to new technologies. However, given the complexity and variety of these skills and the narrow specialisation involved in each of them, it is becoming crucial to: (1) map existing digital skills available in the media labour market; (2) assess media outlets' needs for journalists and other media professionals with particular sets of digital skills and competences; and, only then, (3) develop recommendations and guidelines for supporting media professionals in acquiring the skills that are needed.

Serbian politics is polarised and leading political actors have next to no trust in one another. The Freedom House Freedom in the World 2020 report characterised Serbia as 'partly free', adding that in recent years the ruling party had steadily eroded political rights and civil liberties, putting pressure on independent media, the political opposition, and civil society organisations.

Studies that mostly looked at conditions for local media found that one in five reporters scored 'freedom' with 1 out of 10, indicating a total absence of media freedoms in Serbia. Research suggests that poor financial status and weak social protection were the key challenges hindering reporters from taking on their social roles. These investigations also revealed Serbian journalists continued to be occupied with seeking solutions for 20th century problems, rather than those emerging in the 21st century. The latest Reporters Without Borders (RSF) report ranks Serbia 93rd for media freedoms, a position unchanged from the organisation's previous publications. The RSF describes Serbia as a country with weak institutions where fake news is spread by government-backed sensational media, a country where journalists are subjected to almost daily attacks that increasingly come from the ruling elite and pro-government media. Independent media mostly covered sensitive issues such as political corruption and organised crime but were weakened by the ongoing coronavirus crisis and deprived of public funding which was reserved for pro-government outlets.

Even though **Serbia** one year ago adopted its **Strategy for Development of the Public Information System in the Republic of Serbia, 2020-2025** (the Media Strategy) and the **Digital Skills Development Strategy for the Republic of Serbia, 2020-2024** (the Digital Skills Strategy), **there is very little information about the need for particular digital skills in the media sector**. The Media Strategy recognises that digital change sets many new challenges before media professionals who have limited digital competences and are often unable to adapt to changing circumstances. However, it does not identify in any great detail the actual skills that need improving. The Strategy suggests some activities, such as designing and delivering continuous informal education programmes for media outlets and reporters; improving skills for reading and searching for digital image data; training for developing digital image archives; and designing free-of-charge webinars, databases, and mobile apps that would foster media and digital literacy. Similar schemes are proposed for the non-governmental sector. Even though detailed reports and research projects have analysed demand, such as the investigation of digital literacy in the general public by the New Literacy project (2019, 2020) and opinion polls assessing public perceptions of the media (2019-2023), the media environment and media market (2018), and media consumption habits of the Serbian population (2019) undertaken by CeSID and other organisations, none of these has directly assessed the supply of or demand for media professionals with specific digital skills in the Serbian market. The Digital Skills Strategy acknowledges the need to understand basic digital operations and underscores that most workers require some level of digital competence. The Media Strategy does highlight the lack of relevant data about the news media market, adding that independent research would help provide a better understanding of a variety of its aspects.

The Serbian Business Agency currently holds registration records for 2,508 media outlets. There are no exact figures for local media (what data there is varies depending on author and categorisation method), and their share of the media market is difficult to estimate, suggesting that the Media Services Register **database** may not be entirely clear or useful. Television plays a dominant role in Serbia, whilst online outlets have consistently been increasing their share of the market whilst print media have been declining. **According to the latest figures,** in January 2021 there were 6.89 million internet users in Serbia, and 4.6 million Serbians used social media.

The Serbian media scene reflects global media trends, including the need to develop new digital skills and improve existing ones. Research suggests an increase in the consumption of video content, in particular longer video formats, and points to the rise of influencer advertising, the growing role of social media, and the emergence of new platforms. With the pandemic causing online news outlets and social media to gain in importance, reporters and other media professionals will play an increasingly important role in relaying reliable and topical information.

Given all of the above, the aim of this study is to **identify, map, and assess the needs for digital competences and digital skills amongst journalists and other media professionals in the Serbian media market so as to inform decision-making based on specific and reliable data collected from all relevant stakeholders and assist with implementation of the Media Strategy and the Digital Skills Development Strategy**. As such, the primary beneficiaries of this research and the recommendations it suggests are representatives of the relevant government ministries and other authorities charged with implementing and monitoring the two strategies, as well as media professionals, in particular media managers.

4 KEY FINDINGS

Media professionals (media decision-makers, the expert community, and professional associations) generally rated their **satisfaction with digital skills and competences of the Serbian media sector as 'good' or 'moderate'**, whilst highlighting the evident progress made in recent years. The coronavirus pandemic was seen as having accelerated the previously sluggish adjustment to changes in the media environment. Media decision-makers were somewhat more positive about digital skills than either the expert community or professional associations. **The findings also suggest there is substantial room to improve digital skills, and media outlets are prepared to take part in these improvements.** The findings also raise the issue of how these improvements of digital skills ought to look in practice: the respondents preferred training to seminars or lectures (which they saw as 'ineffectual'); the gender gap had to be considered (in terms of overcoming resistance shown by older peers); and the objective differences between large media corporations and local or regional outlets needed to be respected. Media professionals were motivated to take part in training to enhance their digital skills, but external motivation (on the part of decision-makers) was not always a certainty, primarily due to tight finances and limited media budgets.

Serbian media outlets are increasingly using social media to help promote their content. All media professionals who took part in the survey said they used at least one social network to communicate their content to the public. As expected, **Facebook** was the primary social media outlet used for publishing media content, with 89 percent of all respondents claiming they made use of it for that purpose. Slightly more than one-third of all outlets used Instagram and Twitter, whilst fewer, about 25 percent, reported posting content on YouTube. As with the general public, **Viber was the messaging app most widely used by journalists for professional purposes, as reported by 79 percent of the media professionals polled.** Other messaging software proved much less popular.

Significant progress has been recorded with digital skills and competences in the media sector. No respondent claimed their digital skills were either 'poor' or 'very poor', with most (46 percent) assessing their competence in this area as 'good'. Two-fifths (40 percent) believed their digital skills were 'mediocre', whilst 14 percent saw them as 'excellent'. **The Covid-19 pandemic seems to have caused this tangible progress by forcing the media to adapt and learn more quickly** and start actually using tools, such as live broadcasts via online platforms, that were rarely deployed before the coronavirus outbreak, even though most of the digital framework had already been in place.

Regardless of their relatively favourable self-assessment of digital competences in the media sector, **the respondents were aware there was room for mprovement**. From the perspective of media decision-makers, training for media staff was the most urgently needed in: 1) search engine optimisation (SEO) skills; 2) privacy policies, the General Data Protection Directive (GDPR), and the new Serbian Personal Data Protection Law; 3) blogging, for instance using WordPress or Weebly. The quantitative survey revealed the stakeholders felt improvements would be the most welcome in 1) personal data protection, safeguards for vulnerable groups and brand safety, and cybersecurity; and 2) reporting and communication skills.

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The findings also suggest consistent action was needed as the rapid pace of development confronted media professionals with technologies that were not entirely clear to them (as many as three-quarters of those surveyed reported this view). The respondents felt media professionals needed training in how to use complex software and applications designed for processing large-scale data sets, such as SQL, Python, and SPSS. The survey also revealed training was required for data visualisation programmes, including Flourish, Python, and Datawrapper.

The media professionals felt there was a link between digital literacy and the ability to do a better job in the media. In a sign of just how significant the respondents felt digital literacy was, **nearly three-quarters (74 percent) of those polled felt digital literacy could 'greatly' increase a media outlet's performance**. This view was reported particularly frequently by local and regional outlets.

The survey used a battery of statements to gauge media professionals' perceptions of the technical and IT skills of their staff. Most respondents (37 percent) believed their employees could already **use a video or stills camera** competently and no additional training was required. More than one-half (56 percent) claimed training was needed for media staff to improve their skills in this regard, and 4 percent felt basic training was required. A total of 70 percent of those polled recognised the need for more education in **editing raw video footage into a television feature or other format for publication on a digital platform**, with 59 percent claiming staff needed intermediate training and 11 percent believing their employees needed to master the fundamentals. Training in the **operation of specific equipment** (radio and TV broadcasting equipment, or other devices at print media and web sites) was seen as necessary by 61 percent of those polled, 52 percent of which felt they needed courses to improve their skills whilst 9 percent claimed they were completely ignorant of how to operate this equipment. The need for training in how to use **content and traffic exchange platforms** (such as Midas, Adria Content Exchange, Taboola and Outbrain, Sox, and the like) was perceived by the greatest proportion of respondents. One-half of those polled believed staff needed courses here to improve their know-how, with one-third (33 percent) claiming their employees did not possess these skills at all.

The media professionals were also asked a battery of questions about how they perceived the skills of their staff in public relations (PR), marketing, software use, and design. As many as 58 percent of those polled believed staff needed additional training in **producing and using newsletters and e-mail as marketing tools to promote content to existing users**, whereas 13 percent felt basic courses were necessary in this area. Another 37 percent saw their employees as competent in **managing social media profiles**, as opposed to no more than 1 percent who believed their staff lacked this skill. **Creating and designing digital media strategies and plans** was seen by 83 percent of those polled as a field in which their employees needed professional development, of which 66 percent felt intermediate training was required and 17 percent believed basic education was necessary. A total of 59 percent felt **brand and partner safety** skills could benefit from development courses. All respondents believed media outlet staff needed skills in **using readily available audience measurement systems**: here, no more than 16 percent believed no education was needed as employees already had these skills, whilst the remaining 84 percent felt training was required. The need for developing skills in the **use of advanced technology platforms (such as ad serving and programmatic ad-**

vertising) to improve digital advertising sales was recognised by 84 percent of all respondents. **Using readily available design software and creative tools (such as Corel, Canva, Adobe Illustrator and InDesign, and the like) to package media content** was seen by 8 percent of those polled as a skill already shared by media staff. Another 14 percent believed this skill was not necessary, whereas 57 percent felt training was needed to improve this knowledge. No more than 8 percent of all respondents believed staff possessed skills needed to **design and develop web sites using readily available platforms or software**. As many as one-fifth claimed employees did not need these competences, and a final 47 percent felt training was needed to improve these skills.

Three-quarters of those polled were ready to have their staff undergo paid training to improve their digital skills and competences. As many as 55 percent claimed they were ready to do so and that improving digital skills and competences was a key training topic. By contrast, when asked whether they themselves would offer training in digital skills and competences or cover its cost, 27 percent reported in the affirmative adding this was a key training topic, whilst another 16 percent claimed they would do so even though other issues were more pressing.

By contrast, the **focus groups agreed that today's media scene featured new challenges on an almost daily basis and there was always room for improvement; none of the participants said they would decline digital skills training**. Staff of radio stations and online and print media self-assessed their skills as 'very good' (4 on a scale from 1 to 5), whilst TV station employees felt their competences were 'good' (3 out of 5).

The focus groups were divided in their perception of the digital skills and competences of their fellow Serbian media professionals. That said, **most respondents agreed that Serbian media workers were ready and open to learning new skills** (this primarily applied to younger staff, whereas older workers tended to be seen as lacking motivation and desire to learn), but that there was insufficient external motivation, mostly in terms of acknowledgment and support from superiors, and little management readiness to innovate. **There was disagreement around whether today's digital media require strict division of duties or if it was better for all staff to have digital skills, basic ones at a minimum**.

Television stations were happy with their staff's digital skills and competences but believed there was room for improvement. Respondents who came from large, national TV outlets felt mandatory procedures (such as procurement) were an obstacle to acquiring digital skills and modernising. Local and privately-owned channels faced a lack of finance and human resources. Data protection and cybersecurity; videography, photography, and editing; audience research; research tools; use of data sets; and re-packaging TV content to fit other media and platforms were all seen as key areas where competences needed improving.

Radio stations emphasised the need for training in digital skills and competences, as they felt that these were a major requirement if they were to survive in competition with TV and online media. Audience research; research tools; use of data sets; use of social media and messaging apps; marketing; advertising; and PR were identified as major fields for improvement.

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Print media, both daily newspapers and weekly magazines, agreed that their newsrooms were increasingly shifting emphasis towards online editions. As such, print media were developing strategies for raising their visibility online and offering their readers online content that would attract them to the outlets' physical editions. Reporting and communication skills (re-packaging content to suit different platforms); marketing, PR, and design skills (layout); web development; videography, photography, and editing; audience research; research tools; and use of data sets were perceived as the primary requirements for print media staff.

Even though **online media** were generally satisfied with their staff's digital competences, they felt there was much room for improvement when they compared their outlets with leading global news web sites, in particular in terms of web site design and layout and ability to fully use all opportunities offered by social media. Data protection and cybersecurity; content re-packaging; design, layout, and video production; marketing, advertising, and PR; and software development and web design were seen as areas with the most pressing needs for skills improvement.

All participants in in-depth interviews agreed that the training should primarily **be short, practical in-house sessions.** The respondents added that anything lasting more than two or three consecutive days was highly exhausting for employees, as well as that it was very difficult to take days off, especially for those involved in news production. Seminars and lectures were not desirable and have proven to be inadequate, in addition to not being able to capture participants' attention. Many of those polled felt it would be useful to visit global outlets that have long been making practical use of digital competences (such as the *New York Times*, *The Guardian*, the BBC, and the like) to gain first-hand experience of these practices in an environment where they have an extensive and successful history.

The in-depth interviews suggest that there is huge need for improvement of digital skills in the Serbian media sector. **Resistance to change was reported as the main reason for the slow progress to date, with financial challenges ranked second.** There were huge differences between large and small outlets, with the latter finding it hard even to access, let alone use, a variety of software and platforms. All respondents were more than willing to engage in training, which they saw as sorely needed and very welcome. Investments were needed in technology and professional development, but media outlets were generally unable to afford these. Training would gradually help change mindsets, perceived as the key issue and primary cause of the generation gap in the media.

5 SURVEY OF MEDIA PROFESSIONALS

5.1. Methodology and description of the sample

This section presents an outline of the quantitative survey methodology and the sample it was carried out on.

Table 5.1.1. Outline of the methodology used

Survey performed by	**Centre for Free Elections and Democracy, with support from the OSCE Mission to Serbia**
Fieldwork	**18 June to 19 July 2021**
Sample type and size	**95 Serbian media professionals drawn from a variety of media outlets and geographical regions (using data from the Serbian Business Registers Agency)**
Survey method	**Computer-Assisted Web Interviewing (CAWI)**
Survey instrument	**48-item questionnaire**

This research, entitled 'Support for data-based decision-making in the media labour market: enhancing media professionals' digital competences', was conducted by the Centre for Free Elections and Democracy with the co-operation and support of the OSCE Mission to Serbia between 18 June and 19 July 2021 on a sample of 95 media professionals serving as senior managers or decision-makers at media outlets.

The objective of the research was to obtain information about which specific digital skills and competences were in demand in the Serbian media market, which digital skills and knowledge were considered important and which were not, and what the attitudes of media employers were towards the place, role, and importance of digital competences in Serbian media outlets. The survey instrument used was a *48-item questionnaire* developed in collaboration with the OSCE Mission to Serbia.

The media professionals were interviewed using the Computer-Assisted Web Interviewing (CAWI) method.

Based on the research methodology, the survey involved respondents representing the following groups of outlets:

Outlet type: television station, 15 percent; radio station, 3 percent; daily newspaper, 3 percent; weekly/monthly magazine, 17 percent; web site, 60 percent; news agency, 2 percent

Outlet size: small (up to 25 staff), 55 percent; medium-sized (25 to 50 staff), 24 percent; large (over 50 staff), 21 percent

Outlet location: Belgrade, 41 percent; Vojvodina, 16 percent; Western Serbia and Šumadija, 15 percent; Southern and Eastern Serbia, 25 percent

Outlet coverage: Western Balkans, 10 percent; national, 37%; regional (in Serbia, one statistical region or multiple municipalities/cities), 25 percent; local, 28 percent

Respondents' average years of media experience: 21 years

Respondent education: four-year secondary education, 15 percent; post-secondary education, 11 percent; graduate degree, 56 percent; master's degree, 18 percent

Outlet broadcasts/produces programming or content in an ethnic minority language: no, 71 percent; yes, 29 percent

Chart 5.1.1. Respondent role
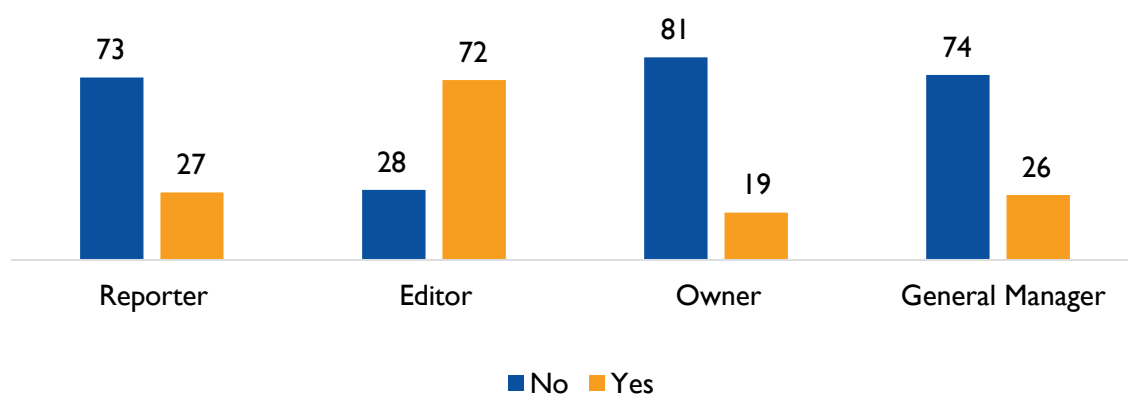
5.2 Use of social media and messaging apps

The survey found media outlets relied greatly on social media in their daily work. The importance of social media for news outlets is best seen in the fact that no respondent claimed their outlet used no social media for professional purposes. This result suggests that the Serbian media market exhibits a symbiotic relationship of sorts between news and social media, which is most commonly reflected in the outlets publishing and promoting content on social networks.

Chart 5.2.1. Which social media/digital platform does your outlet most commonly use to promote its content? (Multiple answers possible, %)

	Facebook	Twitter	Instagram	Youtube	LinkedIn
Uses	89	38	35	25	2
Does not use	11	62	65	75	98
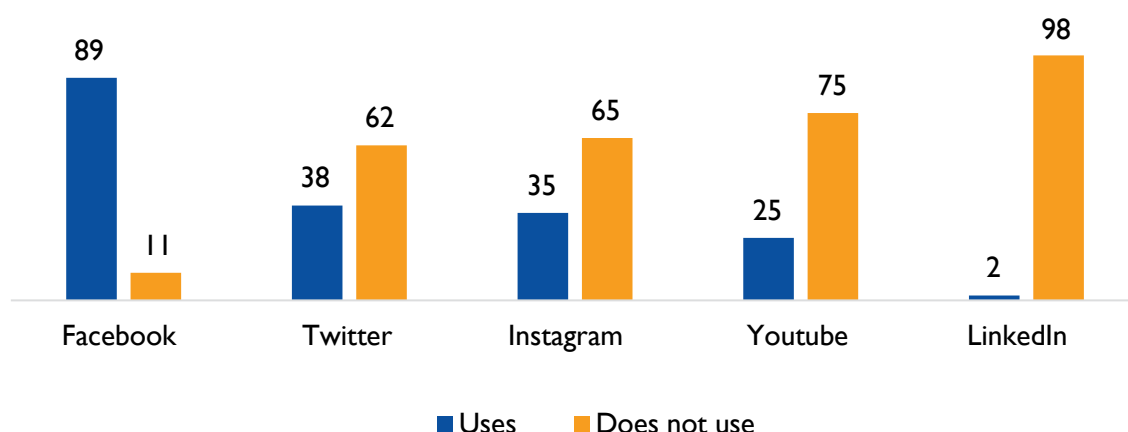
Most media (89 percent) used **Facebook** to communicate their content to the public. In Serbia, the original social network was far ahead of other social media such as **Twitter** (at 38 percent) and **Instagram** (35 percent). One in four Serbian media outlets used YouTube to publish content, with no more than 2 percent using LinkedIn for that purpose.

Chart 5.2.2. Which messaging apps do you most commonly use in your reporting or other media engagement? (Multiple answers possible, %)

	Viber	FB Messenger	WhatsApp	Signal	Telegram
Uses	79	34	27	23	10
Does not use	21	66	73	77	90
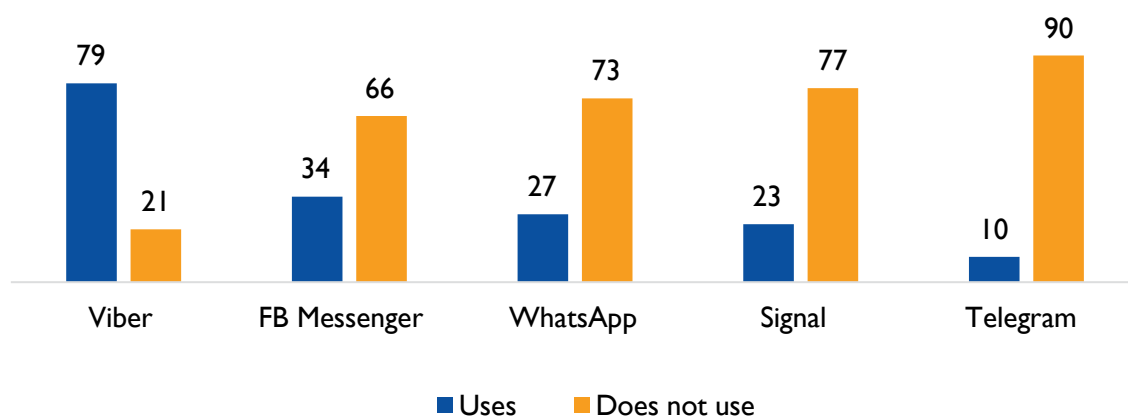
Facebook tended to be used by online outlets, whereas Instagram was generally chosen by radio stations and daily newspapers to promote their content that often remains hidden from the eyes of the public. Instagram was more likely to be used by outlets based in Belgrade. By contrast, both Facebook and Instagram were less likely to be utilised by television stations, which may be due to their belief that they are inherently visual media and that no additional promotion was necessary.

Twitter was used equally by all outlets without major differences, but YouTube was the social platform of choice for local and regional media outlets, as well as for those based in Southern and Eastern Serbia.

As with social media, outlets seem to have made tangible progress in embracing messaging apps. **More than 10 percent of the outlets polled reported using at least one of the apps, with Viber leading the field with a 79 percent penetration rate amongst respondents.** The remaining apps were less commonly cited, with one-third (34 percent) using Facebook Messenger, about one-fifth each opting for WhatsApp (27 percent) and Signal (23 percent), and one in ten (10 percent) using Telegram.

Statistically significant differences were found for both WhatsApp and Facebook Messenger. WhatsApp was more likely to be used at large outlets, television stations, and weekly magazines, and less so by staff of Serbian online outlets.

Facebook Messenger tended to be used more by local outlets based in Vojvodina and Southern and Eastern Serbia.

5.3 Reporting and communication skills

Media outlets have made great strides in enhancing digital skills and competences in recent years. The respondents were asked to rate the level of digital skills and competences at their outlet on a scale from 1 ('Very poor') to 5 ('Outstanding'). It was found that none of the 95 respondents felt their outlet deserved a score of 1 ('Very poor') or 2 ('Poor').

Chart 5.3.1. On a scale from 1 to 5, where 1=Very poor and 5=Outstanding,
please rate the digital skills and competences at your media outlet. (%)

- Mediocre
- Good
- Outstanding

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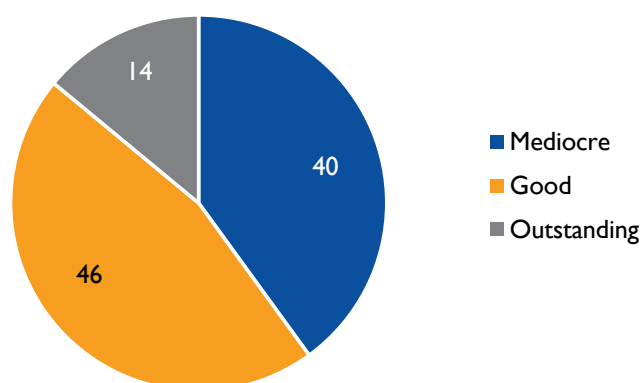
Nearly one-half of those polled (46 percent) believed the outlet's digital skills and competences were 'Good' (a score of 4), whereas two-fifths (40 percent) saw them as 'Mediocre' (3). A final 14 percent of media professionals felt the digital skills and competences of their outlet deserved a 5 ('Outstanding').

There were no major differences in how digital skills were perceived within any one media outlet, regardless of its size, type, or location.

Nevertheless, notwithstanding the generally positive perceptions of their digital competences, **the media professionals were aware that media staff needed extra training to improve some skills**.

Improvement was seen as being needed the most for 1) SEO; 2) privacy policies, the GDPR, and the new Serbian Personal Data Protection Law; and 3) blogging, such as in WordPress and Weebly.

Chart 5.3.2. Do media staff need training in the following skills? (%)

- ■ Yes, they need training because they do not possess these skills
- ■ Yes, they need training to improve their skills
- ■ No, they already possess these skills
- ■ There is no need for these skills
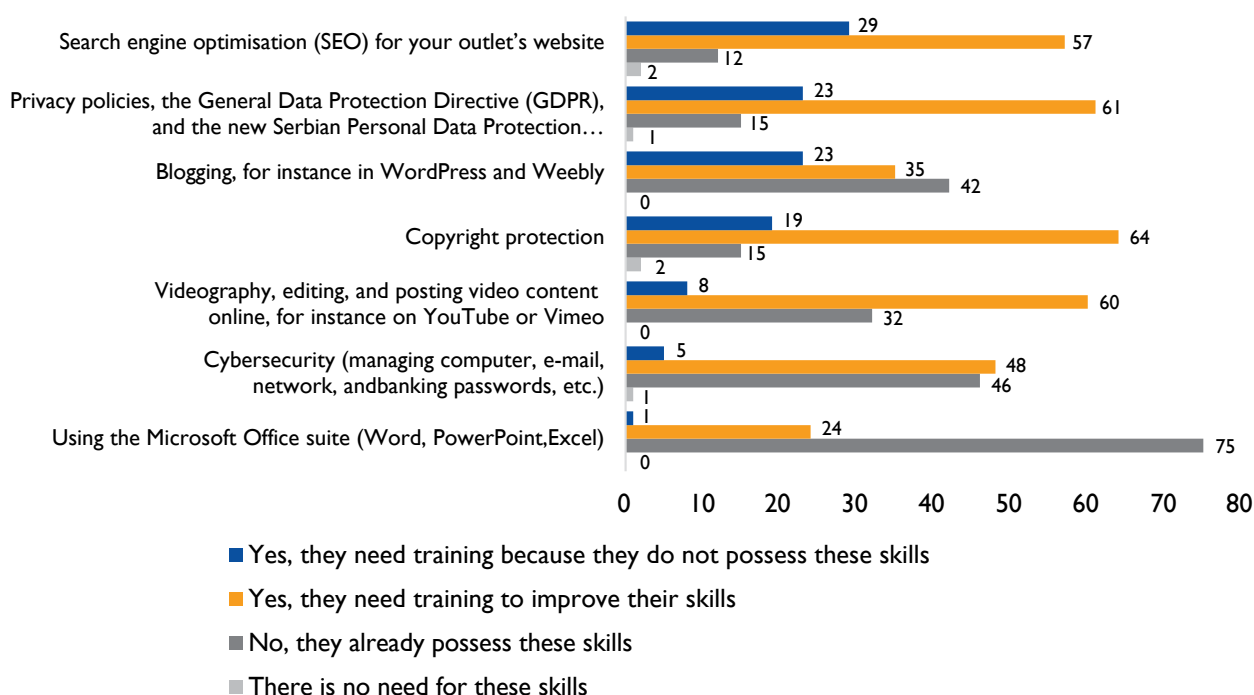
On average, about one-quarter of those polled felt media staff did not have these skills, with one in two media professionals believing that additional training for all of these digital competences would be welcome. The respondents felt training for the Microsoft Office suite was needed the least. Daily newspapers and radio stations cited a need for cybersecurity skills (managing computer, e-mail, network, and banking passwords, etc.). Search engine optimisation skills were prioritised by online outlets and local media.

There were no discrepancies between media outlets by type, size, or region when it came to their reported needs for other digital skills.

The continuing advancement of digital technologies used in the media has meant media professionals were increasingly encountering tools whose purposes and functions were not entirely clear to them.

Chart 5.3.3. In your media work, do you encounter digital technologies whose functions are not entirely clear? (%)

Legend:
- No, everything is clear
- There are some things that are not entirely clear
- There are many things that are not entirely clear
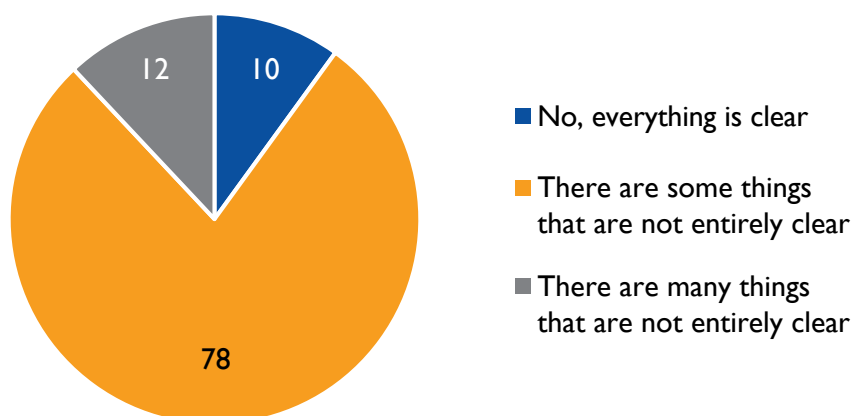
One in ten respondents (10 percent) claimed all technologies they used professionally were entirely clear. More than three-quarters (78 percent) had some doubts, whilst 12 percent found many of the new digital technologies unclear.

New developments were first embraced by large outlets, the television stations and monthly/weekly magazines that covered the entire Western Balkans. As such, it was these media that contained the largest number of respondents who felt many digital tools were unclear and that their staff could benefit from additional training.

The respondents believed media employees needed training in skills required to operate complex software and applications for processing large data sets, such as SQL, Python, and SPSS, as well as data visualisation tools, including Flourish, Python, and Datawrapper. More than two-fifths of the media professionals polled felt staff needed training for these software packages as they lacked experience with them.

Nearly one-half of those polled claimed their staff needed training to improve all of the skills shown in Chart 5.3.4 below and not just in the use of emerging software.

One skill the media staff were said to possess in sufficient measure was their ability to use conferencing apps such as Zoom, Microsoft Teams, and Google Meet, where no training was said to be necessary.

Chart 5.3.4. Do media staff need any of the following reporting and communication skills? (%)

Skill	Yes, they need training because they do not possess these skills	Yes, they need training to improve their skills	No, they already possess these skills	There is no need for these skills
Use of large and complex database software (SQL Server, MySQL, Oracle,etc.) and data processing software…	47	29	1	23
Use of advanced data visualisation software (Flourish, Datawrapper, R,Python, etc.)	42	41	2	15
Use of advanced image processing software (including Adobe Photoshop)	14	59	23	4
Revising content for publication ondifferent platforms (such as turning a TV feature or print article into an online post)	11	65	20	4
Fact-checking, either independently orusing dedicated tools	11	67	22	0
Use of basic image processing and data visualisation software (including Microsoft Paint and Canva)	10	57	24	9
Use of analytics tools such as Google Analytics	10	59	29	2
Use of the basic Adobe suite (including Adobe Acrobat / PDF)	5	47	45	3
Use of online collaboration, communication, and content presentation platforms such as Zoom or Microsoft…	4	37	57	2
Protection and coverage of vulnerable groups (such as children, survivors of violence, and the like)	3	53	40	4
Checking news sources and filtering out fake news	2	65	32	1

- ■ Yes, they need training because they do not possess these skills
- ■ Yes, they need training to improve their skills
- ■ No, they already possess these skills
- ■ There is no need for these skills

Fact-checking skills tended to be reported by small and medium-sized outlets whose staff had previously not had experience in this area. **Analytics tools were more likely to be necessary for television stations, which also lacked knowledge of data analysis and visualisation software.**
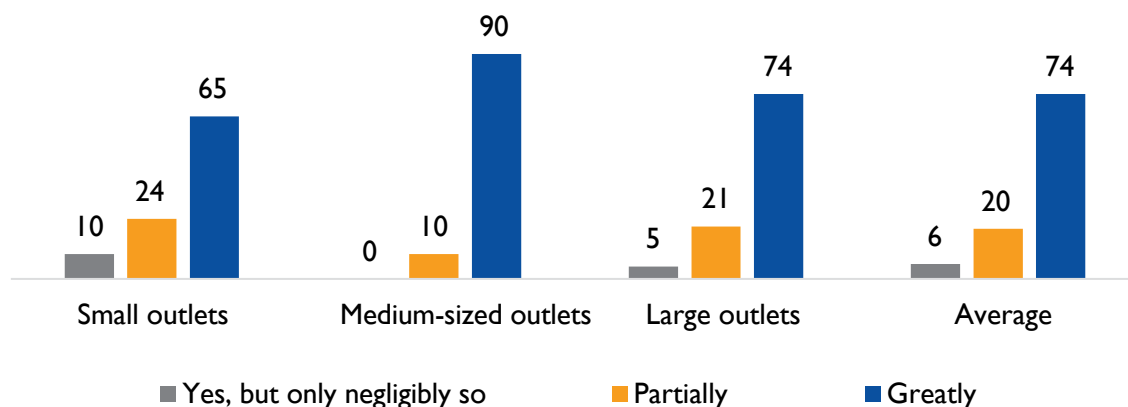
5.4 Technical and IT skills

The following battery of questions focused on technical and IT skills. The respondents were asked whether they felt outlets' performance could be improved by enhancing the digital literacy of their staff. The importance of digital literacy seems to be well recognised, as suggested by the finding that **nearly three-quarters of those polled (74 percent) felt it could 'greatly' improve performance**. One-fifth (20 percent) claimed greater literacy could promote performance 'partially', whilst as few as 6 percent believed it was likely to impact performance 'negligibly'. It is worth noting that no respondent felt enhancing digital literacy would not affect media performance at all.

Chart 5.4.1. Do you feel that enhancing the digital literacy of your fellow media workers could improve the performance of media outlets in general? (%)

- Yes, but only negligibly so
- Partially
- Greatly
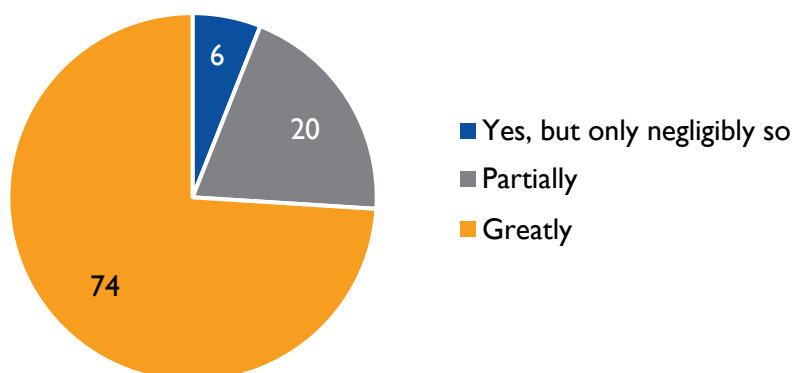
Respondents with between six and eight years of professional experience in the media industry were the likeliest to believe digital literacy could 'greatly' improve performance. **Interestingly, respondents from print outlets** (daily newspapers and weekly and monthly magazines) **were more likely to claim digital literacy was particularly important.** Interviewees working for medium-sized outlets (those employing 25 to 50 staff) also tended to recognise the benefits of digital literacy to a greater extent, as were respondents based in Western Serbia and Šumadija. Local and regional outlets were also likelier to acknowledge the importance of digital literacy, with 80 percent of professionals working for local media and 82 percent of those coming from regional ones claiming digital literacy could 'greatly' improve performance, as opposed to 56 percent of respondents with outlets covering the Western Balkans.

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*Chart 5.4.2. Do you feel that enhancing the digital literacy of your fellow media workers
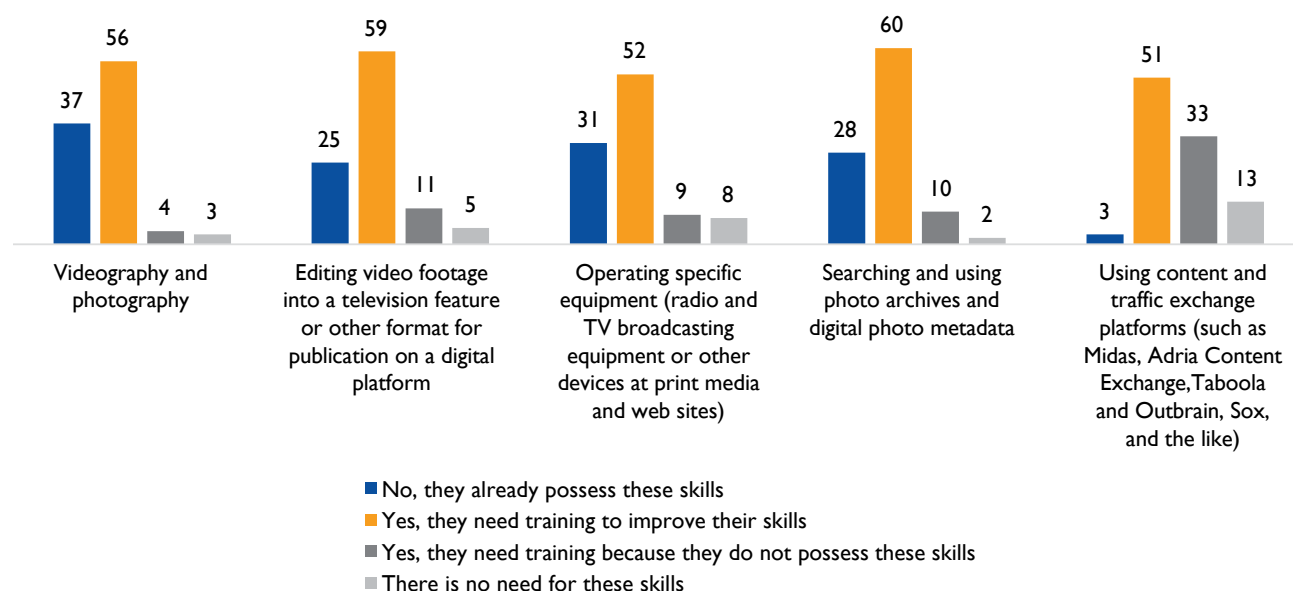could improve the performance of media outlets in general? (By outlet size, %)*

The following questions sought to investigate media professionals' perceptions of the technical and IT skills of media staff. The largest proportion of those polled (37 percent) felt **videography** and **photography** skills needed no improvement.

More than one-half of all respondents, 56 percent, believed there was need for intermediate training to ensure staff improved their skills, whilst 4 percent claimed basic training was required. Small outlets (those with fewer than 25 staff) were more likely to report their staff already possessed these skills so no training was necessary, whilst respondents from medium-sized outlets tended to call for intermediate training, as did media professionals based in Belgrade and working for national-level outlets.

One-quarter of those polled claimed media staff were able to **edit video footage into a television feature or other format for publication on a digital platform**. Entirely as expected, this answer came from 62 percent of TV professionals, and was also over-represented amongst respondents based in Vojvodina and those working for an ethnic minority language outlet. A total of 70 percent of those polled recognised the need for continuing development in this area, with 59 percent reporting intermediate training was needed and 11 percent stating that basic skills would have to be acquired first. Lastly, 5 percent of those polled believed these skills were completely unnecessary (these tended to be print media and those based in Western Serbia and Šumadija).

Chart 5.4.3. Do media staff need any of the following technical and IT skills? (%)

Legend:
- ■ No, they already possess these skills
- ■ Yes, they need training to improve their skills
- ■ Yes, they need training because they do not possess these skills
- ■ There is no need for these skills

Chart data:

Category	No, they already possess these skills	Yes, they need training to improve their skills	Yes, they need training because they do not possess these skills	There is no need for these skills
Videography and photography	37	56	4	3
Editing video footage into a television feature or other format for publication on a digital platform	25	59	11	5
Operating specific equipment (radio and TV broadcasting equipment or other devices at print media and web sites)	31	52	9	8
Searching and using photo archives and digital photo metadata	28	60	10	2
Using content and traffic exchange platforms (such as Midas, Adria Content Exchange, Taboola and Outbrain, Sox, and the like)	3	51	33	13

The need for training in how to **operate specific equipment** (radio and TV broadcasting equipment or other devices at print media and web sites) was recognised by 61 percent of those polled, of which 52 percent believed the training ought to focus on improving skills, whilst 9 percent felt the staff lacked any competences in this area and would benefit from basic training. A final 8 percent did not acknowledge the need for these skills at all, and this answer was more likely to be shared by respondents working for weekly magazines and media professionals based in Western Serbia and Šumadija. By contrast, interviewees coming from ethnic minority language media, those based in Southern and Eastern Serbia, and outlets covering the Serbian local or regional level tended to believe their staff were already familiar with operating equipment used by the outlet. Training tended to be seen as particularly important by respondents working for large, national, and Western Balkans outlets based in Belgrade.

A total of 28 percent of those polled reported staff of their outlets already had the requisite skills in **searching and using photo archives and digital photo metadata**. Three-fifths of those polled claimed training was nevertheless important so that media employees could improve their skills, with an additional one-tenth claiming basic training would be required first. Respondents working for TV stations and print media were more likely to recognise the significance of improving these skills. By contrast, interviewees based in Southern and Eastern Serbia tended to believe their outlets' staff already possessed these competences (as reported by 41 percent).
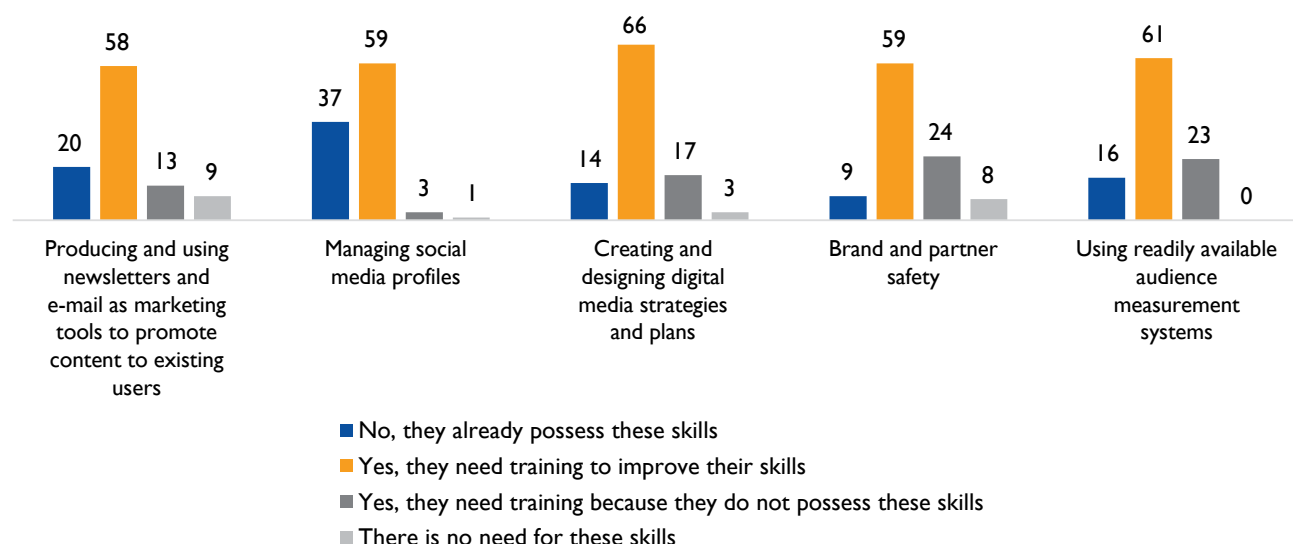
Lastly, most respondents believed staff needed training to **use content and traffic exchange platforms** (such as Midas, Adria Content Exchange, Taboola and Outbrain, Sox, and the like). One-half of those polled felt media staff required additional development in this area, whereas one-third (33 percent) thought media workers lacked the skills altogether. **No more than 3 percent of those polled felt that staff already had the requisite skills in this area**, and 13 percent were of the opinion that these competences were not even required. The importance of training in this field tended to be recognised more by professionals working for online outlets and those employed by news agencies. Interviewees based in Belgrade and Western Serbia and Šumadija were more likely to respond that the skills were not needed, whereas those coming from Southern and Eastern Serbia tended to believe additional training was required for using content exchange platforms.

> **Improvement of technical and IT skills tended to be recognised to a greater extent by large outlets focusing on the national or Western Balkans level based in Belgrade. Conversely, local media, particularly those based in Southern and Eastern Serbia, were more likely to share positive perceptions of their employees' skills.**

5.5 Public relations, marketing, software, and design skills

The respondents were asked a series of questions designed to gauge their perceptions of skills that media staff have in the domains of PR, marketing, software, and design. One-fifth of those polled reported media workers were already familiar with **producing and using newsletters and e-mail as marketing tools to promote content to existing users**. An additional 58 percent felt training was needed to improve these skills, whilst 13 percent claimed staff required training because they completely lacked these competences. Finally, close to one in ten respondents were of the opinion that these skills were not needed. Respondents coming from online outlets were more likely to believe training was needed, whereas TV stations tended to report staff already had these skills. Those based in Vojvodina and employees of smaller and local and ethnic minority language outlets were also more likely to acknowledge the need for training. A total of 37 percent of those polled felt media staff had sufficient skills to **manage social media profiles**, whilst, conversely, no more than 1 percent believed these skills were unnecessary. Interestingly, 59 percent of all respondents claimed that training was necessary to improve skills, with as few as 3 percent believing that media workers needed training because they completely lacked the competences involved. The need for training in this area was more likely to be recognised by television stations, large outlets covering the Western Balkans, and respondents based in Western Serbia and Šumadija.

Chart 5.5.1. Do media staff need any of the following public relations, marketing, software, and design skills? (%) 1/2

Producing and using newsletters and e-mail as marketing tools to promote content to existing users	20 / 58 / 13 / 9	
Managing social media profiles	37 / 59 / 3 / 1	
Creating and designing digital media strategies and plans	14 / 66 / 17 / 3	
Brand and partner safety	9 / 59 / 24 / 8	
Using readily available audience measurement systems	16 / 61 / 23 / 0	

■ No, they already possess these skills
■ Yes, they need training to improve their skills
■ Yes, they need training because they do not possess these skills
■ There is no need for these skills

No more than 14 percent of those polled felt media staff had skills in **creating and designing digital media strategies and plans**, whereas another 3 percent believed these skills were unnecessary in the media market. As many as 83 percent, however, recognised the need for training in this domain, of which 66 percent thought professional development was needed and 17 percent felt basic training would be more appropriate. Large outlets were the likeliest to acknowledge the need for training in digital strategising (as many as 90 percent of these felt training was required here), as were those based in Vojvodina (100 percent of outlets based in this region shared this view), local media (all of which, again, responded training was needed to develop or build skills), and respondents with secondary education.

One-quarter (24 percent) of the media professionals felt staff needed training to build their **brand and partner safety** skills, whilst 59 percent believed media workers required development in this area. Fewer than one in ten respondents shared the view that outlets' staff already possessed skills in this domain. Smaller outlets, those based in Vojvodina, and media primarily covering local communities were more likely to report brand and partner safety skills needed development.

None of those polled felt **being able to use readily available audience measurement systems** was not a skill media workers needed. As few as 16 percent felt that no development was required since media staff already had these skills, whereas the remaining 84 percent thought training was in fact necessary. Of these, 61 percent believed media staff needed to develop their skills, whilst 23 per-

cent felt they had to build these competences from scratch. The need for development in this area was more likely to be recognised by respondents based in Vojvodina and Western Serbia and Šumadija, as well as by local outlets.

The need for skills in **using advanced technology platforms (such as ad serving and pro-grammatic advertising) to improve digital advertising sales** was recognised by 84 percent of all respondents. Of these, 47 percent felt these skills needed development, whilst 37 percent believed media staff lacked these competences and had to undergo basic training. No more than 3 percent of all respondents thought no training was needed since media workers already possessed these skills (as reported by respondents from one TV station and one news agency), and 13 percent of the media professionals believed media staff had no need for these skills. Respondents employed with online outlets and small and medium-sized and local media, as well as those based in Vojvodina and Western Serbia and Šumadija, were somewhat more likely to acknowledge the importance of training in this field.
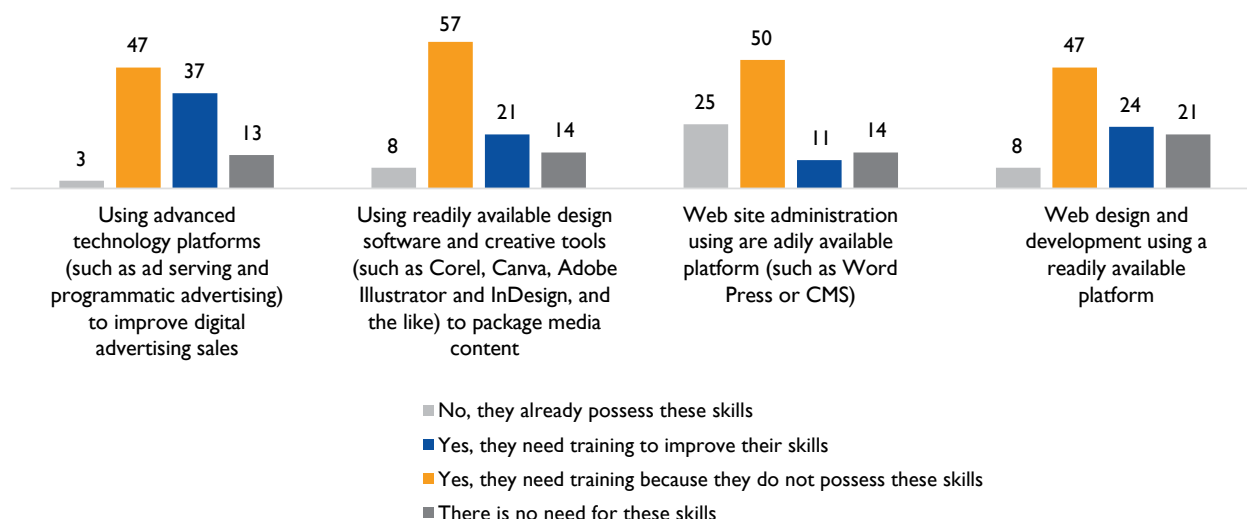
According to 8 percent of those polled, media staff already had skills required to **use readily available design software and creative tools (such as Corel, Canva, Adobe Illustrator and InDesign, and the like) to package media content**. Another 14 percent felt these skills were not necessary. Lastly, 57 percent claimed training was needed to develop skills, and one-fifth felt these competences had to be created from scratch as staff did not currently have them.

One-quarter of the media professionals believed staff of their outlets already possessed the skills needed for **web site administration using a readily available platform (such as WordPress or CMS)**. One in two respondents claimed training was needed for staff to develop their skills, whereas 21 percent felt no media workers possessed these competences. Finally, 14 percent of those polled believed their outlets had no need for these skills.

Finally, as few as 8 percent of the media professionals surveyed believed media workers had skills needed to **design and develop web sites using readily available platforms or software**. As many as one-fifth felt these competencies were unnecessary in the media, whereas 47 percent were of the opinion that training was actually needed as a means of developing these skills. A final one-quarter of all respondents reported outlets needed training to build web design and development skills, which they currently did not have.

In contrast to technical and IT skills, where training needs tended to be more commonly recognised by larger outlets, those with national or Western Balkans coverage, and media based in Belgrade, with PR, marketing, and software and design skills it was noted that respondents based in Vojvodina and Western Serbia and Šumadija were quicker to acknowledge the need for development, as were those working for online media and small and medium-sized and local ones.
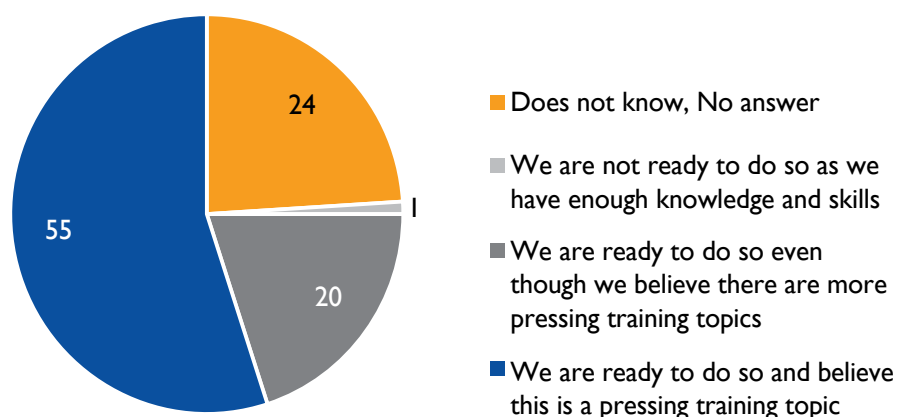
Chart 5.5.2. Do media staff need any of the following public relations, marketing, software, and design skills? (%) 2/2

	Using advanced technology platforms (such as ad serving and programmatic advertising) to improve digital advertising sales	Using readily available design software and creative tools (such as Corel, Canva, Adobe Illustrator and InDesign, and the like) to package media content	Web site administration using are adily available platform (such as Word Press or CMS)	Web design and development using a readily available platform
No, they already possess these skills	3	8	25	8
Yes, they need training because they do not possess these skills	47	57	50	47
Yes, they need training to improve their skills	37	21	11	24
There is no need for these skills	13	14	14	21

- No, they already possess these skills
- Yes, they need training to improve their skills
- Yes, they need training because they do not possess these skills
- There is no need for these skills

5.6 Readiness of media outlets to engage in skills development

Three-quarters of those polled were ready to have their staff undergo paid training to improve their digital skills and competences.

Chart 5.6.1. Would your outlet be ready to have your staff undergo paid training to develop their digital skills and competences? (%)

- Does not know, No answer
- We are not ready to do so as we have enough knowledge and skills
- We are ready to do so even though we believe there are more pressing training topics
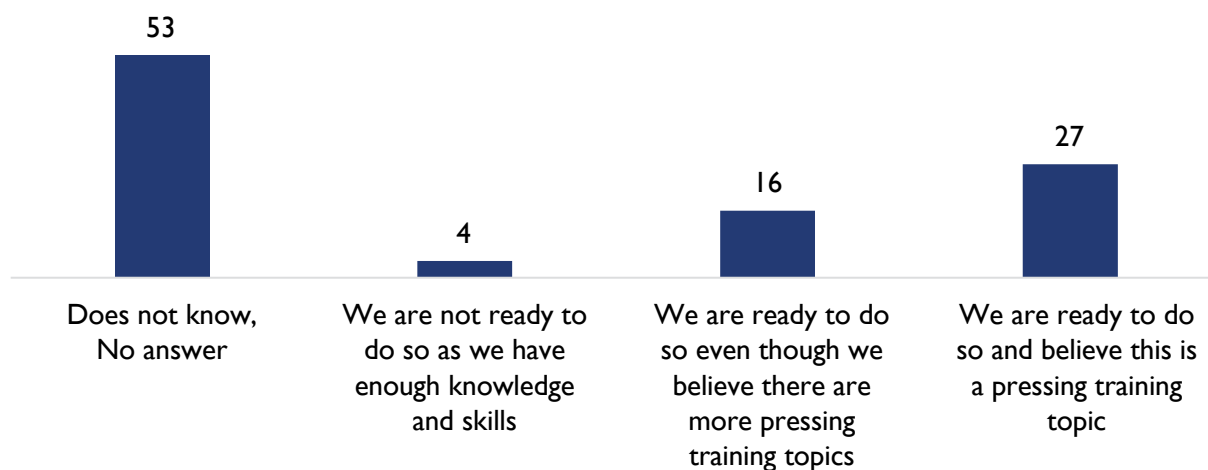- We are ready to do so and believe this is a pressing training topic

As many as 55 percent claimed they were ready to do so and that improving digital skills and competences was a key training topic. An additional one-fifth of those polled felt they would be willing to have their staff trained in these issues even though there were more pressing issues to attend to.

No more than 1 percent were unprepared to have their staff trained, whilst one in four media professionals who took part in the survey could not say whether they would be ready to have their staff undergo paid training.

Asked whether their outlet would be ready to organise or pay for in-house training for their staff to develop their digital skills and competences, 27 percent of those polled reported they were indeed prepared to do so and that this was a highly topical issue, with another 16 percent claiming they would be ready to offer this training even though they believed other topics were more urgent. The largest proportion of those polled, more than one-half (53 percent), could not answer this question, whilst 4 percent denied they would be prepared to offer such training. Respondents working for large outlets, those based in Western Serbia and Šumadija, and better-educated media professionals were all more likely to report they would be ready to offer this training and that the topic was an important one.

Chart 5.6.2. Would your outlet be ready to organise (pay for) in-house training for your staff to develop their digital skills and competences? (%)

53	4	16	27
Does not know, No answer	We are not ready to do so as we have enough knowledge and skills	We are ready to do so even though we believe there are more pressing training topics	We are ready to do so and believe this is a pressing training topic

6 FOCUS GROUP DISCUSSIONS INVOLVING MEDIA PROFESSIONALS

6.1 Methodology and description of the sample

Focus group discussions are a qualitative data collection method able to offer detailed insight into a topic. The focus groups for this study were organised between 5 and 11 August 2021 and, given the primary purpose of the research – to learn about which digital skills and competences were in demand in the Serbian media market – the groups were populated with individuals drawn from both traditional (television, radio, and print) and new media (online outlets).

The four focus group discussions involved 19 respondents who were all media professionals with television and radio stations, print media, and online outlets. The research instrument used was a discussion guide developed in collaboration with the donor that gave the moderator guidance for steering the discussion. The key criterion for respondent selection was the type of media outlet they worked with (television and radio stations and print and online outlets); in addition, care was taken to ensure the groups reflected a balanced sociodemographic sample and outlets with both national and local coverage.

Due to the ongoing Covid-19 pandemic, the focus group discussions were held via Zoom. Each discussion lasted 75 minutes on average. Anonymity was guaranteed and this was clearly indicated at the beginning of each discussion. Participants' professional experience in the media ranged from three years (least) to over 30 years (most). The average respondent had 19 years of media experience. The outlets represented by the participants were based throughout Serbia (in Vojvodina, Belgrade, Western Serbia, and Southern and South-Eastern Serbia). As noted above, media with both national and local coverage were included (which meant the participants were drawn from both the largest and the smallest outlets operating in the country). From the print segment the groups comprised staff of dailies with national circulation, local papers, weekly magazines, and one minority language weekly.

6.2 Attitudes towards digital skills in the media

The issue the researchers initially wished to examine was how focus group participants assessed their own digital skills and competences. For that reason, the respondents were asked to self-assess their proficiency in this area on a scale from 1 to 5, with 1 being 'Very poor' and 5 being 'Outstanding'. The information would serve as the baseline, given the forward-looking objective of this needs assessment.

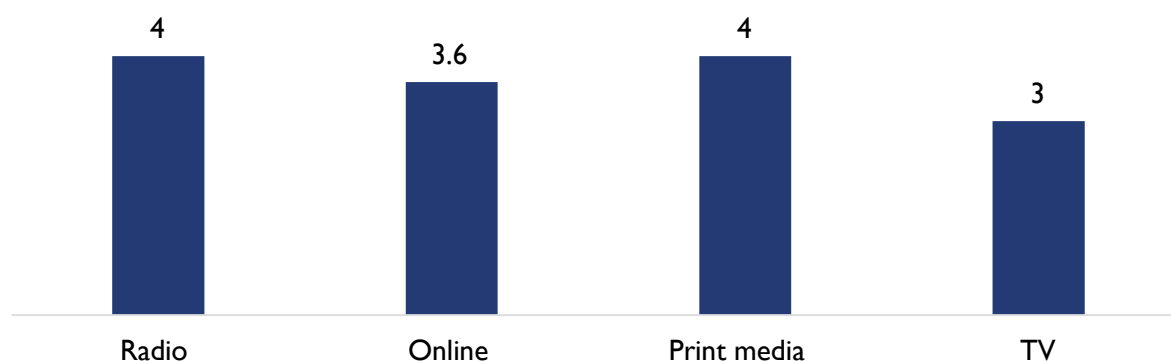*Chart 6.2.1. Self-assessment of digital skills and competences, by outlet type (on a scale from 1 to 5)*

Chart 6.2.1 reveals that **staff of radio stations and print media felt more confident about their digital competences**, awarding them a score of 4, or 'Very good'. These were followed by online media (3.6), whereas **TV station employees were the most critical** with a score of 3, or 'Good'.[3]

Regardless of their self-reported scores, the respondents agreed that **today's media business involved new challenges on an almost daily basis and that there was always room for improvement**. Higher scores were driven mainly by longer years of service and the ability to adapt to new needs, embrace innovation, and change working patterns, whilst poorer assessments suggested awareness of the pace of digital change, limited organisational capacity and budgets, and size (with small and local outlets tending to choose lower scores).

Radio[4]

'I'd say a 5 because that's my job description, from social media to web site administration to computer maintenance, I think I'm the only person doing that in-house.'

'A 5, I introduced digital radio 20 years ago where you could choose what you wanted to listen to. Nowadays we've got 30 digital radio stations, we've built a national network, I follow all developments at advanced radio stations and I think we've kept up with the world.'

'A 4, given what I'm doing now and what I see other people doing, mainly storytelling, but capacity and resources are an issue.'

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[3] One caveat about the findings of this self-assessment has to do with a methodological limitation of focus group discussions, namely that the respondent who answers first will influence other responses to closely follow their assessment. The moderator felt this was particularly noticeable in the television group, where all participants repeated the first respondent's score of 3.

'A 3, because I think there's a lot of room for improvement, but we've had a web site for a really long time, 14 years ago it wasn't usual for a radio station to have a web site. I can also do a lot with social media. In our town we've been the pioneers, we've had an official web site for longest… There's a lot of room to improve our knowledge, here it's like the dark ages, no ideas we suggest to the local community end up put into practice because there's no interest.'

Online media

'A 3, I can do research and reporting well, but using online tools, posting text and images, editing… That's an environment I find it harder to navigate because I just learnt how to do my job, anything else is more complicated.'

'A 4 for effort. I got into digital in 2015 and back then I knew very little about online reporting, in the meantime I've had to learn a lot. Trouble is, new things keep cropping up and you've got to learn how to do them and improve yourself, so I feel that as soon as I've mastered one thing I've fallen behind somewhere else.'

'A 3. Things keep changing every day, the four of us started on this online platform back in 2014 when we were young, but things keep changing. We did link the platform to social media and all that but that's so yesterday, now we're trying to build an online TV channel, but you have neither the people nor the resources and that's a constraint for keeping up with the new, and we can't go on any longer with what we've got.'

'A 4, I'm pretty well versed in online tools and that's what the work calls for – it's all about doing research in the digital world, and on the other hand communication and security are also important. I wouldn't give myself a 5 because there's still a lot of room to improve, and also I'm familiar with people who know much more than I do. Simply put, the field is wide and you can always learn more.'

Print media

'I'd give myself a 5 for all aspects of newspaper production.'

'A 4, because we've still got the convenience of using news designers, photographers, and proof-readers, so there's dedicated people doing these things, but sometimes there's a need to do something quickly and we're all trained in taking and processing photos. That's how our newsroom operates, we all know this and we've gone this extra mile, even though we're a newspaper, we record events and edit the footage ourselves and then I post these short features on our web site or social media profiles.'

'A 3, I have a degree in journalism from the Faculty of Political Science but I can't really say that school was good for gaining digital skills. We've got a large workforce at our daily, but the web site is different, the writing style and headlines are different, so it's a large change to move from the web site into print. I haven't really been forced to develop my digital competences but I'm also not happy with what I know, there's got to be a lot that I don't know.'

Television

'A 3, there's a lot I can't do, but I can't find the time for it. There's various reporting tools and apps, I'm familiar with digital editing for my work and for the web site, but every day new things come up that you've got to get to grips with.'

'Ten years ago, I'd have said a 4, now it's a 3, I think technology advances at such a rapid pace that it's tough to keep up with it. When I first started using digital tech in reporting, it was very crude from today's perspective, but back then if you knew what little there was to know you'd have been on top. Analytics is a huge challenge for me, I'd like to learn how to read analytics and find cause and effect relationships, why people choose particular content, and when and how they do. I think everyone ought to be able to do a job front to back, there's no need to deny that, it's simply not acceptable to not use technology, it's like wanting to be a journalist and not using a computer.'

Respondents' **best rated digital competences** were *reporting and communication skills; technical and IT skills* (especially at smaller outlets where there's no clear division of labour); and *managing social media profiles*, whilst **more or less room for improvement** was reported in *copyright protection and cybersecurity; marketing, PR, and design skills; design and visualisation; and research tools.*

'There is room for improving intellectual property and copyright protection in the digital domain, here we've got some information we share with our peers, but we're not sure what rights we have to use photos for instance, how to protect our interests in the digital space, because our stories often appear under other by-lines and our photographs pop up even on official government web sites. We've also got to build our business, get our e-platforms and sales channels going to offer souvenir and property rental, also e-payment options, that's currently a pressing need.'

'I could learn all these tools that could allow me to put things up online quicker and more easily. I generally think that's fringe work for a journalist and it takes up too much of my time, sometimes it seems that this technical work detracts from the quality of our reporting, which ought to be front and centre.'

'I'm best at recognising innovations, and that's the cutting edge, there's always room for improvement there, I'd like to be better at adapting and that's also what I'm best at.'

'Open data is my forte, searching online registers. Anyone can put things up online. Where I'm weakest is cybersecurity, not because I'm not familiar with it but because it's wearisome and takes up too much of my time.'

'I'm not good at news design, I can't do news design on my own, but I'm OK with all the other skills. I can't make charts on my own, but I'm better when it comes to the web site, I can do anything there.'

'What I'm good at and familiar with is network administration, especially as we've switched to digital broadcasting. I can make remote networks, edit, use social media, record videos, I laid each and every cable myself. So, technology is where I'm good at, others have dedicated staff to do that but I started off alone so I had to learn.'

'I'm the best and fastest at our newsroom where all the information comes in, I've got wire services up on one screen and our programming on another, and I know the least about research tools, because I haven't got the time to learn. This is something I've just scratched the surface of, I know it's there but I couldn't find the time to learn more.'

The focus groups were divided in their assessment of the digital skills and competences of their fellow media professionals in Serbia. Some respondents felt few Serbian media staff were digitally literate and possessed appropriate competences, whilst others believed that the knowledge was satisfactory but there was room for improvement. Most participants did agree, however, that **Serbian media professionals were open to learning new skills and ready to do so** (this was true primarily of younger staff, with older peers criticised for their lack of motivation and desire to learn), **but there was limited external motivation, mostly in terms of acknowledgment and support from superiors, and little management readiness to innovate**. As such, technological progress remained the only external motivating factor, with global digital developments ultimately compelling everyone to follow worldwide trends. The participants also **disagreed about whether today's digital media scene required a strict division of labour or if it was better for all media staff to possess digital skills (at least a basic set)**. Opinions included that it was better for duties to be strictly delimited and there was no need for a reporter to have the skills needed of a news designer, editor, or other specialist, but also that the modern digital arena required staff to have fundamental digital skills and competences if an outlet wished to produce modern, high-quality news quickly and efficiently. Lastly, a female participant who was a recent journalism graduate of the Faculty of Political Science felt curricula ought to change more quickly in line with the needs of the media market to ensure new graduates were properly trained and could quickly fit in with any newsroom.

'The people I've worked with, they've got the knowledge and are completely capable of online journalism, but there are people who don't know and aren't interested, they've got this old school approach… Some colleagues are refusing to learn, but on the other hand the younger people coming in are generally well-trained in digital tech, especially video editing and social media, but they lack reporting skills. So, it's an art, linking the two together and getting results.'

'They all know the fundamentals, but when they come into the newsroom they adapt. If a paper doesn't have the practice of following some standards, they'll adapt to fit in.'

'I've visited many newsrooms and I think a good deal of people have been able to keep up with the times and follow trends, but they're a tiny minority. Most people are lagging behind, unwilling to put in the effort. I expect many people in mainstream media are content to wait for retirement rather than starting to learn new knowledge and skills. So, yes, we're lagging behind modern Europe by a lot.'

'It seems to me that older people find it more difficult, but it all varies from one person to another. We've got much older reporters and editors who've been able to navigate this digital world perfectly, and on the other hand a journalist with decades of experience doesn't know we can't just run any old picture off the internet, and that happens a lot.'

'I could say the score was, say, a 2, but that's not because I underestimate my peers, on the contrary, I think most of them think a higher score, but at the expense of more effort, was completely useless. So, I generally think they feel it's enough to know as much as they need to do their job, and anything over and above that may not be received well and may not make sense. Now on the one hand the technology calls for us to learn more things and improve, but the question is, whether it's just us trying to keep our heads above water or trying to become Olympic champions. I think we're still just barely treading water. Serbian journalists can easily achieve a score of 4, but I don't think there's motivation to strive for that, that there are only isolated examples of people trying to do better.'

6.3 Digital skills and the coronavirus pandemic

The Covid-19 pandemic has affected all areas of life and the labour market, with media facing fresh challenges. Coronavirus has changed the way the world works, revealing the limitations of many existing systems, and highlighting the need to rethink the role of information technology. In this context, **digital literacy has become more important than ever, both for recipients of media messaging and for media content creators**.

The focus group participants agreed without exception that the challenges of the pandemic had forced them to quickly find new solutions and adjust to the emerging reality. Some approaches have included moving studio equipment to reporters' homes to allow them to continue doing their work. **The respondents agreed that the pandemic had hugely benefited their profession in terms of digital skills and competences**, and that they had been forced to quickly embrace new digital knowledge. They claimed they had improved their skills for *internal communication, design, visualisation and infographics, use of social media (where more emphasis was placed on YouTube, Facebook, Instagram, and Twitter), and conferencing software (such as Zoom and the like).* Print media were especially challenged in reaching their readership during the lockdown, and many addressed this concern by investing more in social networks and setting up their own web sites. Television stations found they had to train interviewees in how to use online platforms (including how to set up cameras and provide cover shots), and also learnt there were differences in communicating with interviewees in face-to-face and online interviews. The respondents also emphasised that the pandemic had merely accelerated what would have happened in time anyway, forcing their more traditional peers to leave their comfort zones and try different, new approaches, learning in the process that these new ways of working could be equally effective and efficient as old ones. By contrast, **marketing and advertising** caused the most issues, as the outlets had had to find new advertisers.

'So, we go to our presenters' homes and set up three studios to have backups if anyone got sick or anything. And in the middle of all that one of the advertising agencies sends out a newsletter to its clients saying, right, there's a pandemic on, all the people are only watching TV and going online and radio's gone down the drain. This comes as a huge shock but we're not able to get out there and explain it's not like that, still the effects are visible straight away, on day one 25 percent pull ads, the next day the other 75 percent do, so all the ads get yanked and we realise we're going to have to do something. We knew the agency hadn't done any research but had ulterior motives so we couldn't reason with them. In the end we set up a Zoom webinar where we invited people from all over the world, some Italians were there, all people who had something to say about the issue

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and, believe me, that helped a lot. One presenter from Boston told us how he'd been to Russia when the crisis struck and how they were able to open up new advertising markets. Then we realised that if so-and-so pulled ads, we'd have to turn to other markets, such as delivery services, restaurants, and so on. Once we'd found these other clients and adjusted our programming it changed a lot, there was a lot of questions that needed answering, everything changed significantly, Covid hasn't been kind on the world but honestly it's been good for radio, it's taught us to be there for one another, thick or thin.'

'We wanted to use additional tools, especially for figures, because five days in it got boring to just show info-graphics, so we started running vox pops more often, then we followed up on that with features. Our challenge was that we didn't have much staff, but we're closer for being a small newsroom. One of our co-workers was hugely afraid of catching coronavirus so we installed a special studio in his home and he worked from there.'

'Zoom and other platforms are good solutions for staff meetings. That was something new for me in this digital domain. We definitely had to brush up on our IT skills at the time, we made a lot of infographics and tables to present numbers visually. We may have known about all of this even before Covid, but we simply didn't use it as much, there wasn't any need or time, so we've improved our communication skills.'

'I think that's a very good thing because the pandemic has accelerated something that would have happened in two, three, or four years. We've learnt to use tools and we've become more computer literate.'

'We were forced to work from home and it turned out that you could make a [weekly] magazine without physically being in the newsroom, we only had a skeleton staff at the office on the day we were putting the actual issue together. We communicated mainly by e-mail and that meant we had to improve these communication skills. We were also doubtful about how readers would even get the paper because of the lockdown and movement restrictions, so we focused on the web site and started using our Facebook page more, posting more photos and videos.'

'I don't think any of these technologies were invented after March 2020. All we're using was there before, but there was huge resistance to introducing it from our techs, they felt we couldn't do that. Skype interviews? Forget it, we could use it at a pinch, but not for 20 minutes at a time, the picture quality's no good. Other people felt the same way, I don't want to use that, it's not convenient. Simply, the resistance melted away, people started looking for alternative solutions, and it turned out the sky didn't fall on our heads because picture quality wasn't pixel perfect. In the meantime, we worked on increasing our internet speeds and improving our output to at least HD, and I feel we'll get to 4K in a couple of years and we won't have any of these problems. Twelve years ago, we did our first Skype interview, we put a man from Podgorica on and there were such huge problems with syncing sound and image that in the end we asked him to record audio on the phone and use Skype for video, but the frame rate was laughably low, it looked more like a GIF file than a proper broadcast. Nowadays we can have perfect video quality as long as the internet doesn't cut out, it's not a problem any-more. But what I'm trying to say is that all the technology was already there, the pandemic just meant it got accepted faster.'

'On the one hand we'd went through hell because our team numbers 20 people, we were decimated, and on the other we were happy because our YouTube channel went from a few subscribers to more than 35,000, that's a huge figure for a local outlet like us.'

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6.4. Attitudes towards digital skills: television

Focus group participants from television stations seemed **generally satisfied** with the digital skills and competences of their co-workers, but nevertheless **admitted there was room for improvement**. *Respondents working for large stations with national coverage* that have greater financial, human, technical, and organisational capacity felt their teams were comprised of experts who all knew how to do their job well, and therefore rated their outlets as highly digitally competent, admitting that this specialisation of labour made life easier for them. That being said, some concerns were voiced over lengthy procedures, which were seen as hindering adoption of digital skills and modernisation. The respondents were the most critical of public procurement requirements that took time to complete and made the system more sluggish in responding to new technologies, even if the management was receptive to innovation. By contrast, *smaller local and privately owned television stations* were free of these problems but had to contend with a lack of finance and human resources.

'I think all our staff are quite digitally literate, each in their particular area of expertise, but even though we're a small local TV outlet we were able to buy a pint-sized outside broadcast vehicle to allow us to cover live events via satellite. That also takes knowledge, technology, and equipment.'

'In my opinion public service broadcasters face a different problem. If a private station decides they need a camera, and has the money to buy one, they simply go out and buy it. For that I myself need 3 to 6 months and I'm not sure I'm going to get the one I wanted. In the digital domain, this means we're lagging behind our private-sector competitors by a minimum of 3 to 6 months because of these public procurement restrictions and suchlike, which can really drag you down if you want to improve and keep up with new tech, because this tech is promoted by the outlet's best people and resisted by the majority; now, when that majority finds allies in the procurement department, that takes things to a whole new level. Now that is a serious issue with digitalisation in state-owned media, and much less so in the private sector. We're good in that we can ultimately achieve what we want, but the bad thing is that what we do achieve is, say, at least two orders of magnitude poorer than what we could do if we all did our best and if there weren't any of these limitations.'

'I'd like to add the role organisational arrangements play. Public service broadcasters are these unwieldy entities and individual newsrooms are not independent enough in practice. The good thing is that they show they're capable of doing everything to proper technical standards, including web sites, streaming, mojo, and so on, it all works if someone up above issues an order that it's got to work. I think I've said enough there.'

'Our staff are young and for people to work here they've got to be able to know a lot, including how to package their own feature. We'll soon be switching to a cutting-edge software suite so we'll have to learn again and we'll have a whole range of digital abilities, for instance the editor will be able to pull anything into a live broadcast, maybe a tweet that's being discussed in the studio, and we'll have to learn all that and get training for it. We'll be moving to a system that's even more advanced than what we've got now, which is completely integrated, so working here is quite different from anywhere else.'

The respondents were asked to **choose one area** in which they would like to receive training to develop their digital skills and competences. The most common responses were **research tools and use of data sets**, and **marketing**.

This was followed up by asking the respondents to pick areas from a list in which they felt training made the most sense given the needs of TV station staff. The nine domains were using the Microsoft Office suite; using an advanced software suite such as Adobe or Corel; data protection and cyber-security; videography, photography, and editing; design and visualisation; re-packaging content to suit different media or platforms; using social networks and messaging apps; audience research and using research tools and data sets; and marketing, advertising, and public relations. The respondents high-lighted the following:

» **Data protection and cybersecurity** ('We all ought to know what we can and cannot do in this line of work'; 'I'd prioritise this because if you don't know what you can and cannot do you're liable to do a lot of damage to your outlet, this happens to people every once in a while, we get sued by people over pictures we published online ten years ago and back then nobody cared about this because there was no law at the time, so now we get sued over something we forgot we had on our web site. That's a really expensive way to learn.')

» **Videography, photography, and editing** ('That's really important for TV because we get new formats all the time.')

» **Audience research and using research tools and data sets** ('Editors ought to learn about this because they have to be able to gauge reactions to whatever it is they choose to broadcast, both immediately and in the long run.'; 'This is important because it has a knock-on effect on mar-keting, advertising, and PR.')

» **Re-packaging content to suit different media or platforms** ('There's a lot of room to learn here, especially for reporters, because formats are increasingly different, one event can be present-ed in five different ways, what social media platform something is suitable for, how long the content can comfortably be, minute and a half on Facebook, 3o seconds on Twitter, and so on.')

» **Using social media and messaging apps** ('Social media are a broadcasting channel, they're not just there for leisure, they're increasingly going to be the way to reach audiences. More and more people aren't watching on their TV sets, not even cable TV, they're watching on a screen that they control, so the way to reach them is through social media.')

» **Marketing, advertising, and public relations** ('It's done ad-hoc without reliance on actual needs and impacts, we need to make progress there, that's something we all lack, especially here at the local level.'; 'Reporters don't need this but the outlet as a whole does.')

6.5 Attitudes towards digital skills: radio

Radio stations emphasised the need for training in digital skills and competences particularly strongly, because they felt this was one way to ensure they could survive in competition with television and online outlets. Digitalisation, including moving to online and smartphone app-based radio, seemed to offer huge potential to the participants, and one they were working to develop in spite of being aware they needed more knowledge and skills.

'Platforms should be developed to make sure people are able to buy advertising space on the radio online, not just by talking to advertising and sales departments. That's key to radio becoming sustainable, I think that radio will be increasingly going digital, and that's where we have to fight to keep both FM radio going and to position digital radio appropriately. At one point people started doing podcasts, but in the end it turned into competition with TV when cameras started getting involved, but as it turns out listeners don't really like moving pictures on the radio because radio is something you listen to. Digitalisation is a huge opportunity and we ought to use it to appear on all platforms and make sure people are able to listen to the radio wherever they can.'

'Going online has changed a lot, primarily interacting with listeners, and we can now feel what direction listeners want the radio to move in. We're having issues with funding locally, but digitalisation is our lifeboat.'

'The most difficult thing for me was how to get the knowledge, that was the greatest challenge. How did we learn? First, IREX helped greatly with their seminars, we begged them to let us join these BBC lectures they had for a group of radio stations they'd given grants and donated equipment to. We literally had to beg them to teach us, I found that difficult. Then I visited Juventus Radio in Hungary where I learnt the basics of some things. Now we're trying to get instructors together and spread this knowledge on our radio show, because it's knowledge that matters the most.'

When asked to **choose one area** in which they would like to receive training to develop their digital skills and competences, the respondents cited **using social media and messaging apps, navigating digital platforms and digital platform marketing, using research tools and data sets, and fact-checking**. One participant mentioned being able to use the **Poynter Institute's** digital tools newsletters for information and learning.

'I'd certainly volunteer for training, but let me just say the Poynter Institute offers these really good newsletters about digital tools. It's not all applicable in our setting, but you can always get something out of it. So, I adapted their suggestions to our outlet, first and foremost analytics, not just dry figures, we already collect those, but ways in which we can understand those figures better, how I can create content that hits the mark.'

This was followed up by asking the respondents to pick areas from a list in which they felt training made the most sense given the needs of TV station staff. The nine domains were using the Microsoft Office suite; using an advanced software suite such as Adobe or Corel; data protection and cybersecurity; videography, photography, and editing; design and visualisation; re-packaging content to suit different media or platforms; using social networks and messaging apps; audience research and using research tools and databases; and marketing, advertising, and public relations. The respondents highlighted the following:

» **Audience research and using research tools and data sets** ('This always comes in handy.')

» **Using social media and messaging apps**

» **Marketing, advertising, and public relations** ('I feel this is our future, everything points towards that, so we need to devote special attention to this.'; 'PR first, it's a very important but sadly neglected area.')

» **Re-packaging content to suit different media or platforms**

» **Data protection and cybersecurity** ('A lot's been said about this already, but that's also an issue.')

» **Videography, photography, and editing** ('Videography and photography to a lesser extent, but editing, yes.')

6.6 Attitudes towards digital skills: print media

Professionals who represented print media, whether daily newspapers or weekly magazines, agreed that **their newsrooms were increasingly shifting emphasis towards online editions**. The print media's struggle with online outlets for survival in the media market and efforts to achieve sustainable circulation figures has been going on for some time, but the coronavirus pandemic has only accelerated the adaptation of print to the digital environment. As such, print media were developing **strategies for raising their visibility online and offering their readers online content that would attract them to the outlets' physical editions**. This 'double sustainability' approach (print plus online/social media editions) has meant print staff have needed to receive training in new and existing digital skills and competences. According to participants in the focus group discussions, most print staff have successfully mastered the new digital knowledge (even though there remained much room for improvement), with only a handful of older workers continuing to resist change.

'Our weekly still has no web site, we're just a print magazine, and that hard-core attitude comes from me in a way, because in print we can charge for our intellectual work… but we're still trying to get our web site up and running and create profiles on social media that the newsroom finds important. The pandemic did that, freeing us from the constraints of our own conservatism and making us develop an online presence.'

'We're a print outlet and we've been thinking about how we've been shooting ourselves in the foot by having a web site and posting some content on there. Then for a while we'd wait until the print edition appeared and

then a day or two later we'd post some texts online, and then finally we decided to publish all current news in an abridged and adapted format online simply so we could keep in step with others, that's what we also do with our Facebook page, we publish straight away, we've got two younger people who know about this so, when older reporters go out into the field and they've got to write stories up for the web site and Facebook page, they tell these kids "Take dictation, you can put it together, I'll send you a photo, you fix it, I don't know how", and then these few people who're good at it are put on the spot.'

'For us print is no longer a priority, much more is being invested in the web site, video platforms, and other platforms such as Blic Premium, which is a subscription service aimed at the foreign market, but I feel much more care is taken with rules and fact-checking in print, because in online work speed is all that matters, and people there often don't check what the sources are, where the photos come from and whether we can run them, in general I believe there's much tighter control in print and the style is a lot different, but we're all aware we're no longer a priority for the company. I'd also agree that older staff tend to avoid web sites, they simply won't even try to post stories there. But, also, when I talk to interviewees, I feel like increasing numbers of them find it important to know if the piece will also be published online.'

When asked to **choose one area** in which they would like to receive training to develop their digital skills and competences, the respondents cited **reporting and communication skills (re-packaging content to suit different platforms), marketing, public relations, and design skills, and web development**.

'Being a print person, I'd rather not tangle with technologies, I'd prefer something like personal data protection rules or photography, I really know little about photography and how you choose a photo, let alone how to choose a photo to accompany a feature, it's no longer about what's in the photo, it also has to fit in with the overall layout. Also, PR writing, I'm not particularly knowledgeable there and also not very interested, but when you work in a large company where each department has its own staff you're not really forced to learn.'

'I've been thinking about the web site we're about to launch and I'm opposed to one newsroom doing both the paper and the web site. As for me, I'd like to learn more about web site development and move on to editing video features, that's the future and that distinguishes web sites from newspapers.'

'News design is a fascination of mine, laying out the page in the paper, that's perhaps even more creative then writing stories, that's something I'd like to learn. Our team's been to a lot of training events, we're sick and tired of them, but we did benefit from them, we'd never have learnt it all without the training. Some focused on how to make a profit from this one thing, others taught us other skills. If you want to survive in this work you need training, there's a new skill to master every day, especially today with the web sites, there's all sorts of tools to play with, have fun, put something new together, be better and more creative. But, definitely, give us training, even the most boring kind, it's always allowed us to make improvements.'

This was followed up by asking the respondents to pick areas from a list in which they felt training made the most sense given the needs of TV station staff. The nine domains were using the Microsoft Office suite; using an advanced software suite such as Adobe or Corel; data protection and cyber-security; videography, photography, and editing; design and visualisation; re-packaging content to suit different media or platforms; using social networks and messaging apps; audience research and using

research tools and data sets; and marketing, advertising, and public relations. The respondents highlighted the following:

» **Re-packaging content to suit different media or platforms** (This has been a thorn in our side in our print edition for some time now, how not to damage print, which is already hurting, and at the same time make the web site more interesting and a better source of news.'; 'I'd rather do it the other way around, because on the web site you've always got to be first and faster than both news agencies and broadcast and online media, and the magazine is published once every seven days. Then you need to re-package those stories and make them fit the print edition, it's not just copying and pasting, you need skills.')

» **Videography, photography, and editing**

» **News design, layout, visual appeal** ('For all that the content's important, visuals matter too. People want to see a good photo, a well-packaged headline.')

» **Audience research and using research tools and data sets** ('Our younger staff in particular are not really adept at interpreting research findings.'; 'If we want our stories to be credible and based on data and facts, this is what we need.')

» **Using social networks and messaging apps** ('We've got Facebook and Instagram profiles, even though we're not really active on them, but I find it important that we track follower and subscriber numbers and trying to reach people by making sure they click on links to our site on Facebook. That's how we're trying to broaden the reach of our web site, and the print edition will follow.')

» **Marketing, advertising, and public relations** ('There's nothing without money. We've got to see how we can charge for our work, we've been working on cutting costs of production.')

6.7 Attitudes towards digital skills: online outlets

Media professionals working with online outlets seemed to be satisfied with their own and their co-workers' media competences but **acknowledged there was room for improvement**. The participants felt that a lot could still be done to catch up with major global news web sites, especially in terms of *design and layout* and *ability to fully use all opportunities offered by social media*.

'Poor photography and video on web sites, the quality of our reporting can't cover for that.'

'We're lagging behind large global outlets, especially in terms of layout, where these major web sites follow the trend of making it as minimal as possible and using a lot of multimedia, infographics and so on, that's still not commonplace here. We do have it but not to the extent we could, and we also probably lack the skills to do it.'

'I'm not sure, especially as we're an outlet that does everything digitally and I think that's a good thing.'

'We've got this option where the public can report an issue, I think that's good, but social media is our major failing, I still don't think we're using all the options available there, it's still like it was five years ago.'

When asked to **choose one area** in which they would like to receive training to develop their digital skills and competences, the respondents cited **design and layout (multimedia) skills, web development, editing, improving visibility on social media, and promoting interaction with readers (avoiding a focus on clickability and keeping readers engaged with stories)**.

'Training's always needed in all areas, but multimedia perhaps would be important, same as editing perhaps.'

'I'd always accept training in anything where I think I could learn. I personally would like to learn how to make stories more engaging for readers, more interactive, to keep people's attention for as long as possible. I think we've made a terrible mistake in chasing clickability and we've shot ourselves in the foot because we can't earn anything. I'd like to know not just how to attract a reader but also to retain them, how to use tools to avoid clickability and promote retention and trust.'

'We need to improve our visibility on social media, that's not to say it's poor, but I think we could modernise more, recently we set up our Instagram profile and it's still early days, there's still more room there.'

This was followed up by asking the respondents to pick areas from a list in which they felt training made the most sense given the needs of TV station staff. The nine domains were using the Microsoft Office suite; using an advanced software suite such as Adobe or Corel; data protection and cybersecurity; videography, photography, and editing; design and visualisation; re-packaging content to suit different media or platforms; using social networks and messaging apps; audience research and using research tools and data sets; and marketing, advertising, and public relations. The respondents highlighted the following:

» **Data protection and cybersecurity**

» **Re-packaging content to suit different media or platforms**

» **Design, visualisation, and video content creation**

» **Videography, photography, and editing**

» **Marketing, advertising, and public relations** ('This is terribly important for the media.')

» **Software development, web design, and blogging**

» **Audience research and using research tools and data sets** ('Editors need Google Analytics and some other tools like that.')

» **Using an advanced software suite such as Adobe or Corel** ('Adobe's important for us because it makes it easy to make a good-looking cover quickly.')

» **Using social media and messaging apps**

7 IN-DEPTH INTERVIEWS WITH MEDIA PROFESSIONALS, JOURNALISTS' AND MEDIA ASSOCIATIONS, AND ACADEMIA

7.1 Methodology and description of the sample

During the in-depth, semi-structured interviews the researchers sought to both elicit broad and comprehensive responses and obtain as much specific information as possible. To achieve this goal, the interviews were divided into two sections, a general one which sought to capture a general overview of the Serbian media scene and a provide a snapshot of the state of digital competences and skills in the media, and a specific one, which discussed the concrete needs of the media market for particular skills. The interviewees were senior managers in the media, representatives of journalists' and media associations, government officials, and academics, chosen for their ability to provide a clear picture of current digital competences in Serbian media outlets and the needs for their development.

The interview comprised the following two sections:

Background. This part examined the overall state of digital skills in the Serbian media. The respondents were able to score the state of play in this field on a scale from 1 to 5 (with 1 being the lowest and 5 the highest score), both for the entire media scene (this question was open to all respondents) and the interviewee's own outlet (only for media professionals). The respondents were then asked to explain the reasoning behind the score to complement the quantitative part of the research with qualitative information. In this section of the interview the respondents were also asked two further questions designed to broaden the range of background information: what they felt the greatest issue was with digital skills of media staff (both overall and in the respondent's own outlet, for media professionals), and whether they believed digital skills had improved in recent years.

Specific issues. This section of the interview dealt with specific digital skills needed by the media market, and here the respondents reported how much they felt particular competences from a list offered by the interviewers were needed. The interviewees could also add skills not mentioned in the guide used by the interviewers. In addition, this part examined respondents' views on training for digital skills development by asking them whether they thought this training was desirable and necessary, whether they would take part in it, and to what extent their participation could be constrained by financial considerations.

The in-depth interviews were held in July 2021 with 15 respondents, of which eight were men and seven were women. The interviewees came from a variety of media outlets, associations, and universities.

7.2 Attitudes towards digital skills in the media

The general section of the interview, which sought to capture an overall snapshot of the digital competences of media staff and the digital skills used by these outlets, comprised four questions.

When asked 'On a scale from 1 to 5, *where 1=Very poor and 5=Outstanding*, how would you rate the current state of digital literacy and digital skills in the Serbian media sector?', most respondents awarded a score of 3. **The interviewees admitted digital skills had been improving for some time**, but added there was reluctance amongst older media workers, based perhaps on a fear of the unknown, the new, and the challenging, coupled with a lack of awareness overall of the importance of digital media, and, as such, digital skills as well. Justification for this mediocre score included the **huge discrepancy between digital competences at large media**, whose staff, the respondents suggested, had vastly better knowledge of the digital domain and much greater opportunities to deploy it, and at **small/local outlets**, which often face financial constraints that prevent them from either developing their digital proficiency or even embarking on digitalisation in the first place. Most respondents did not feel digital literacy was particularly high but felt media workers suffered from the adverse impact of an environment where outlets were excessively focused on fighting for their freedom, which was not conducive for professional development in any area. The media workforce possessed substantial theoretical knowledge but was slow to put in into practice.

The media professionals were also asked a follow-up question in which they had to assess their own outlet or category of media. In this self-assessment the scores were generally one higher than for the general question. All interviewees working with media outlets claimed digital skills were being developed continuously and their firms were striving to keep abreast of technology, which was not always successful as it was a demanding and time-consuming effort, and some advanced software was unavailable. As in the overall assessment, the interviewees highlighted the **difference between older and younger reporters and newsroom staff**. They felt that awareness of the importance of digital and online outlets and platforms and the digital skills they required was the main generational point of contention, and that mindsets were slow to change as the old guard believed traditional journalism was based on good quality content rather than what they felt was empty form. The interviewees all agreed that form should not carry the most weight, but this did not mean it was unimportant, since it was one of the ways for getting news out to audiences.

The following question was 'What do you see as the greatest issue with the digital skills of the media workforce?'. The answer could partly be gleaned from explanations the interviewees offered for their scores in the first question. **Changing the mindset was emphasised as a necessity, as was overcoming the generation gap.** All interviewees agreed **misunderstanding** was a major issue, whether it be misunderstanding of the importance of digital skills for working in the media sector, misunderstanding the need for these competences, misunderstanding the logic that underpins social media used for data collection, misunderstanding of technology and the closely related ignorance of cybersecurity, or misunderstanding of source protection and indiscriminate use of sources (especially social media). The respondents' overall opinion of the Serbian media sector is perhaps best summarised by the response of one interviewee:

'Reporters of the 21st century ought to have a skillset different from that used for the journalism of yesterday, and to achieve that the mindsets and attitudes of media workers need to change.'

In short, digital skills are not seen as a matter of general interest. Even where digital competences can be deployed, their use is often limited. Apart from the lack of awareness, finance is the other major constraint for skills: funds are often unavailable for training events and courses, as is equipment.

Staff of outlets whose representatives were interviewed shared most issues with the broader media industry, but finances were more of a problem than awareness.

The next question was 'What do you see as the best, most positive development with digital skills in recent years?', in response to which the respondents were not overly optimistic and cited fewer encouraging aspects than they did challenges. Positive developments included improvements to digital skills that had been greatly accelerated by the Covid-19 pandemic, and training in the use of a variety of platforms offered by some media outlets. **Another welcome aspect was that web site layouts were now much better than previously**: the interviewees claimed infographic production and data visualisation skills were crucial for digital media as they can quickly convey a large volume of information. It was claimed social media and digital platforms had made reporting easier by simplifying access to information and potential interviewees, facilitating publication, and making outlets more responsive. Data journalism (reporting based on large data sets) would also not be possible without digital involvement. Another positive aspect was that social media had made contacts with audiences less rigid and formal. The respondents felt outlets had shaken off their inertia and were more open to listening to their audiences because they had multiple channels to respond to queries (such as comments and reactions on social media and web sites). Several interviewees claimed podcasts had become the best and most convenient avenue for audiences to access information. Podcasts were well suited to online reporting and internet-based audiences, it was said, and had seen huge expansion in Serbia in recent years. The only issue with podcasting was that it was reserved primarily for digital stakeholders with large budgets, which excluded nearly all print media, many TV and radio stations, and the vast majority of local outlets.

7.3 Digital skills needed in the media market

The following section of the interview comprised a battery of specific questions for interviewees. **The aim was to identify the needs of the market in as great detail as possible and determine which skills today's Serbian media sector needed the most.** Firstly, the media professionals were asked to rank, in order of priority, four areas of digital skills in which their outlets' staff needed development, whereas representatives of media associations and academics were asked to do the same for the media industry in general. The highest ranking was 4 ('Highest priority') and the lowest was 1 ('Lowest priority').

The areas were:

» Reporting and communication skills (using the Microsoft Office package, advanced software such as the Adobe suite, or other data visualisation software; re-packaging content to suit other medial; fact- and source-checking; promoting content on social media, etc.);

» Personal data protection, protection of vulnerable groups, and brand safety; cybersecurity skills (device and e-mail encryption, etc.);

» Technical and IT skills (for camera operators, editors, software developers, etc.); and

» Marketing, public relations, and design skills (administering social media profiles, organising promotional events, selling advertising space, etc.).

Individual interviewees' scores were added together to arrive at the following overall ranking:

» **Personal data protection, protection of vulnerable groups, brand safety, and cybersecurity skills**

» **Reporting and communication skills**

The third place was shared between technical and IT skills and marketing, public relations, and design skills.

The chart below shows the average scores awarded to each area:

Reporting and communication skills	Personal data protection, protection of vulnerable groups, brand safety, and cyber security skills	Technical and IT skills	Marketing, public relations, and design skills
3	3.29	1.86	1.86
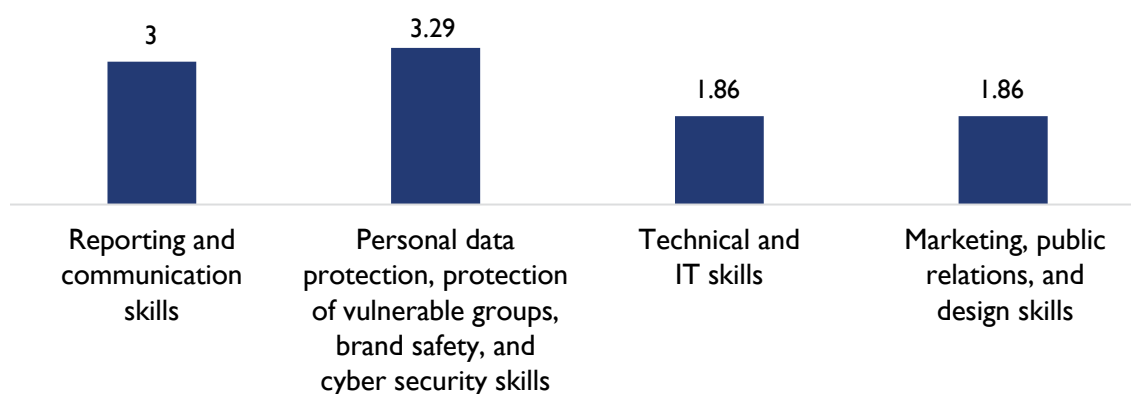
Most respondents claimed personal data protection, protection of vulnerable groups, and cybersecurity skills required the most improvement. Whilst reporters knew they had to protect their sources, the interviewees said, in the digital domain it was far more important to be able to protect web sites and communications from hacking attacks and safeguard their own integrity and that of their outlets. The majority of respondents did not believe there was enough awareness of what working online meant, so it was only logical for these skills to need development. Reporting and

communication skills were the next highest priority as these inherently lay the core of the journalistic profession. The respondents added reporters also needed to be better able to visualise data, produce infographics, and use a variety of software and platforms. The concept of lifelong learning received strong support from the interviewees. Finally, technical and IT skills and marketing, public relations, and design skills shared the last place in order of priority. Almost all respondents agreed that camera operators and editors had the requisite skills and needed no development in this area. By contrast, it was felt that journalists did not need skills in marketing, public relations, or design as outlets had dedicated staff for these duties. Reporters did nevertheless have to be able to distinguish between the two and to understand marketing to do their jobs properly, it was claimed.

The next question for media professionals was: 'In your media work, do you encounter digital technologies whose functions are not entirely clear? Does this affect day-to-day work in the media sector?'. Most respondents answered in the affirmative, with the exception of those from print media. What was the reason behind these responses? Seemingly, the interviewees did often encounter technology that was difficult to understand, but this was due to the rapid pace of technological development that also required being able to adapt quickly. Since the respondents generally believed they and their staff were indeed quick to adapt, the constant change did not greatly affect their performance, although some time had to be set aside for learning and adjustment.

The media professionals were also asked whether their outlets would be ready to take part in digital skills development training, whilst representatives of journalists' associations and academics were asked whether such training generally made sense. All respondents were invited to suggest how the training could look and/or who could deliver it. **All respondents unanimously reported being ready to take part in training designed to enhance digital skills and all felt it would be highly desirable, apart from making perfect sense.** The interviewees agreed the courses ought to be short but practical and offered in-house. **The respondents added that anything lasting more than two or three consecutive days was highly exhausting for employees**, as well as that it was very difficult to take days off, especially for those involved in news production. **Seminars and lectures were not desirable and have proven to be inadequate, in addition to not being able to capture participants' attention.** Many interviewees felt it would be useful to visit global outlets that have long been making practical use of digital competences (such as the *New York Times*, *The Guardian*, the BBC and the like) to gain first-hand experience of these practices in an environment where they have an extensive and successful history. When asked the follow-up question of whether media outlets would be readier to take part in this training if participation fees and other costs were waived, the respondents unanimously said this would induce them to participate.

Lastly, the respondents were invited to name at least one topic or area they believed was important for the development of media staff's digital skills. Most had nothing specifically to add to the list of priorities established during the interview. However, **some interviewees claimed reporters ought to learn the basics of editing and should be more involved in the creative process (that produces copy, video features, or stories).** The respondents also highlighted the already mentioned importance of cybersecurity and source verification.

To summarise, the interviews suggest there is much need for improving digital skills in the Serbian media sector. **Resistance to change was seen as the primary issue, with finance coming a close second.** There were huge differences between small and large outlets in their abilities to access, let alone use, software, platforms, and the like. All respondents were quite prepared to engage in training and felt it was absolutely necessary and highly desirable. Also required was investment in technology and courses, which the outlets generally lacked the funds for. It was claimed that professional development would gradually alter mindsets that were currently the key issue and the driver of the generational gap between media workers.

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8 STRATEGIC INTERVENTIONS AND RECOMMENDATIONS

8.1 Assumptions

This research identified a substantial demand for digital skills in the Serbian media market and a need to develop them further, notwithstanding the relatively high scores awarded for the current extent of digital competences. In a second key finding, media professionals showed interest in nearly all domains of digital skills, with the exception of the most basic areas such as Microsoft Office and online conferencing platforms (such as Zoom and Google Meet). Sophisticated software and tools were particularly in focus. Thirdly, any training ought to be offered continuously, as day-to-day duties were likely to result in staff quickly losing touch with rapidly evolving technologies. It was also unrealistic, unnecessary, and ineffective to develop a single training programme, and professional development would have to be adjusted to suit each type of media outlet (in other words, distinguish between TV and radio stations, print media, and online outlets), coverage (national, regional, or local), and size (with small, medium-sized, and large media each having different needs). Employee workload is a further area that warrants consideration, because many outlets, especially smaller ones, expect the same person to undertake multiple duties.

8.2 Approaches

Any initiatives should take into consideration the following:

1. Needs and expectations of media outlets of various categories, sizes, and locations;

2. Needs and expectations of individual outlets and the different age structures of their workforces, types of work, and years of service and experience;

3. Motivation of media professionals and their workload (due to staff shortages) and time available for development;

4. Available funding and readiness on the part of government authorities, media outlets, the civil society, and donors to take part in enhancing digital skills and competences; and

5. Overall context, including acknowledgement of innovative approaches instead of the currently prevalent lectures and seminars.

8.3 Strategic interventions

Strategic approaches ought to be defined that will inform practical recommendations. There are six of these key strategic approaches, namely:

1. Recommendations, programmes, and activities should be positioned within the strategic framework provided by two key documents, the 2020-2025 Media Strategy and the 2020-2024 Digital Skills Strategy. Since both documents cover the medium-term level, meaning they are set to remain in effect for another three and four years, respectively (at the time of writing), medium-term activities must also be planned.

2. All future activities and plans ought to be informed by research findings. In other words, all decisions should be based on data and evidence to avoid offering training poorly suited to the needs and expectations of key target groups.

3. Any activities should be co-ordinated with other stakeholders, since digital skills development is and will remain in the focus of the government, media outlets, civil society, donors, and businesses, albeit to a lower extent. This collaboration will create synergies and minimise unnecessary overlap.

4. Training events ought to be innovative and relatively short given the many limitations faced by media professionals, especially their lack of time and multitude of day-to-day duties.

5. There should be collaboration with educational institutions that train media professionals or are otherwise involved in this process. This effort should focus on introducing new training courses or adjusting new ones to better suit rapidly evolving market needs and to enhance the digital skills and competences of young people.

6. Media outlets and the broader media industry should be involved in regular initiatives where they would permit their staff to undergo training, at least once every year, and ensure they properly recognise this professional development.

7. Efforts should be invested to motivate local authorities to change their current practice of co-financing media projects. Instead of insisting mainly or exclusively on financing content production, the local governments ought to re-allocate some funds to programmes aiming at development of professional and ethical standards in the media (as already permitted by the Regulation on Co-Financing of Media Projects).

8. There ought to be collaboration with the Ministry of Culture and Information and other public authorities (such as the Education Improvement Institute) to implement similar digital skills programmes, co-ordinate activities and build synergies, ensure optimal use of resources, and potentially replicate training courses and exchange best practices.

8.4 Practical recommendations

The recommendations set out below are general and applicable equally to all types of media. They are designed to be implemented in the short and medium term and, provided resources and finances are secured, can be delivered fairly quickly and easily. The primary suggestions are:

» From the perspective of media decision-makers, training should be offered to allow the media workforce to acquire the following skills: a) search engine optimisation (SEO) for outlets' webs

sites; b) awareness of privacy policies, the General Data Protection Directive (GDPR), and the new Serbian Personal Data Protection Law; and c) blogging using a variety of software.

» From the perspective of reporters/news editors with long-standing experience, experts, and professional organisations, training should be offered to allow the media workforce to acquire the following skills: a) personal data protection, protection of vulnerable groups, and brand safety; b) cybersecurity; and c) reporting and communication skills in a broader sense (fact-checking, timely and accurate content promotion, etc.).

» Training should be offered to develop the media workforce's IT and technical skills including: a) use of software for processing large data sets (such as SQL, Python, and SPSS); b) use of data visualisation software (such Flourish, Python, Datawrapper, and the like); and c) use of content and traffic exchange platforms (including Midas, Adria Content Exchange, Taboola and Outbrain, Sox, and the like).

» A strategic approach should be adopted in offering training, especially for online outlets, in developing and instituting digital strategies (and plans) and using advanced technologies (such as ad serving and programmatic advertising) to improve digital advertising sales.

» Training should also be offered in packaging content to suit different media types and platforms (editing video footage into a television feature or other video content for a digital platform, packaging content for various social networks or podcasts, and the like).

» Training should be offered in using audience measurement systems and/or setting up autonomous audience measurement or research arrangements.

» Training should be offered in acquiring knowledge and skills in assistive technologies to make it easier for people with disabilities to access media content (such as text-to-speech functionality).

Below are some issues to consider by media type.

Television: investing in research tools and use of data sets, as well as marketing skills.

Radio: investing in use of social media and messaging apps to promote media content, digital marketing, research tools and data set software, and fact-checking.

Print: invest in communication skills, re-packaging content for digital platforms, marketing, public relations, and design skills, and web site development, primarily for regional and local outlets.

Online media: invest in design and layout (multimedia) skills, editing, better visibility on social media, and audience interaction.