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ERASMUS+ VET PROGRAMME

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DigiMarkt:

Towards Digital Marketing in Technical and Vocational Education and Training in Ghana

WP Leader: CCTU

Deliverable 2.1	Field data Analysis

Work Package (WP)	WP2: Social Digital Entrepreneurship and Needs Analysis
Task	2.2: Project Questionnaire Analysis and Definition
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Executive Summary

This document reports the findings of the need analysis for the Erasmus+ DigiMarkt Project. The **DigiMarkt** project seeks to equip Technical and Vocational Education and Training (TVET) students in Ghana with essential digital marketing skills to enhance their employability and entrepreneurial potential. This needs analysis assesses students' access to digital tools, their proficiency in digital marketing, their perception of its relevance, and the key barriers they face in acquiring these skills. The study surveyed **587 TVET students** from secondary and tertiary institutions, using a **5-point Likert scale** to measure their digital competencies, technology access, and attitudes toward digital marketing. Qualitative feedback was also gathered to understand students' challenges in learning digital marketing.

Findings reveal that while most students possess smartphones, fewer have access to laptops, which are critical for advanced digital marketing tasks such as website management and content creation. Internet connectivity remains a significant challenge, with many students relying on expensive and unstable mobile data. Furthermore, urban students generally have better access to digital resources than their rural counterparts, creating a digital divide. In terms of digital proficiency, many students are familiar with social media platforms like Facebook, WhatsApp, and Instagram but lack knowledge of advanced digital marketing techniques such as search engine optimization (SEO), social media analytics, email marketing, and paid advertising. A lack of hands-on experience further limits their ability to apply theoretical knowledge effectively.

Despite these challenges, most students recognize the growing importance of digital marketing for career growth and business success. However, their confidence in executing digital marketing strategies remains low, signalling the need for structured training programs. Major barriers to learning include limited access to specialized digital marketing courses in TVET institutions, financial constraints that make it difficult to afford devices and software, and a lack of instructor expertise in advanced digital marketing tools. Addressing these gaps is crucial to ensuring that students can fully benefit from digital marketing opportunities.

To bridge this gap, the report recommends integrating structured digital marketing courses within TVET programs, with a focus on content creation, analytics, SEO, and e-commerce. Project-based learning should be emphasized to give students practical experience with real-world campaigns. Improving access to digital tools through affordable devices, data packages, and digital resource centers will also enhance learning. Collaboration with industry stakeholders, such as digital marketing firms, can provide students with valuable internships, mentorship, and exposure to best practices. Additionally, training TVET instructors in digital marketing methodologies will help improve the quality of instruction and ensure that students receive up-to-date knowledge.

The findings of this needs analysis highlight a significant gap between students' interest in digital marketing and their ability to apply it effectively due to resource constraints and limited formal training. By addressing these challenges through curriculum development, improved access to technology, and industry partnerships, the **DigiMarkt** initiative can significantly enhance the employability and entrepreneurial potential of TVET graduates in Ghana.

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Introduction

The DigiMarkt project aims to strengthen digital marketing competencies among TVET students in Ghana by identifying their access to technology, digital skills, perceptions of digital marketing, and barriers to learning. This needs analysis is based on survey responses from 587 TVET students (secondary and tertiary level), using a 5-point Likert scale **(1 = Strongly Disagree, 5 = Strongly Agree)**.

Table 1: Respondents' Background

Variables	Frequencies	Percentages (%)
Level of Education	***587***	***100.0***
Secondary	501	85.3
Diploma	36	6.1
Degree	50	8.6
Year in School	***587***	***100.0***
1st year	106	18.1
2nd year	192	32.7
3rd year	268	45.7
4th year	21	3.6
Gender of Student	***587***	***100.0***
Male	364	62.0
Female	223	38.0
Age of Student	***587***	***100.0***
13-17 years	237	40.4
18-21 years	285	48.6
Above 21 years	65	11.0

Respondents' Background

Table 1 provides statistical information on students' level of education, year in school, gender, and age distribution among a sample of 587 students.

From the information in the table, the majority of the students (85.3%) are at the TVET secondary school level, 8.6% of the students have a degree, and a smaller portion of 6.1% of students hold a diploma. This suggests that most students in the dataset are still in secondary school, with fewer pursuing higher education qualifications.

With regards to years in school, the highest proportion of students (45.7%) are in their 3rd year, followed by second years, accounting for 32.7%. The first-year students make up 18.1% of the sample, and 3.6% are in the 4th year. This indicates a gradual decrease in student numbers as they progress through school, possibly due to dropouts or fewer students reaching higher years.

In terms of gender distribution, there are more male students (62.0%) than female students (38.0%). This indicates a significant gender gap, with male students outnumbering their female counterparts.

In terms of age distribution, the largest age group is 18-21 (48.6%), 40.4% of students are between 13-17 years, and a smaller percentage (11.0%) are above 21 years. This distribution

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aligns with the typical age range for secondary and early tertiary education.

Table 2: Types of Devices

Which devices do you have access to?	**Frequencies**	**Percentages (%)**
Smartphone	448	76.3
Laptop	54	9.2
Desktop Computer	42	7.1
Tablet	26	4.5
Specialized Equipment	18	3.0
Total	***587***	***100.0***

Types of Devices

Table 2 provides insights into the types of devices students have access to, based on frequencies and percentages

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The majority of students (76.3%, 448 out of 587) have access to a **smartphone**, which is their **primary device for digital learning**. This suggests that **mobile-friendly learning platforms and applications** should be prioritized.

Concerning the access to laptop and desktop computers, only **54 students (9.2%)** have access to a **laptop**, and **42 students (7.1%)** have access to a **desktop computer**. This indicates a **potential barrier for tasks requiring more computing power**, such as software-based assignments.

In terms of tablets and specialized equipment, **tablets (4.5%)** and **specialized equipment (3.0%)** are the least accessible devices. This suggests that courses requiring specialized hardware or industry-specific tools may face **accessibility challenges**.

Therefore, it is important to emphasize Mobile-based learning solutions (e.g., smartphone-compatible platforms and mobile apps). Institutions may need to **provide more access to laptops, desktops, and specialized equipment** for students who require these tools for coursework.

Table 3: Access to Technology

Statements	**Mean**	**Std. Dev.**	**Ranking**
I feel comfortable using online learning platforms (e.g., Google Classroom).	3.550	1.266	*1st*
I own a smartphone that I use for learning and accessing digital platforms.	3.414	1.451	*2nd*
I can easily access the internet for educational purposes.	3.352	1.459	*3rd*
I often do collaborate online with classmates or instructors for practical projects or assignments	2.985	1.388	*4th*
I have regular access to a computer or laptop for learning purposes.	2.813	1.444	*5th*
I do participate in virtual workshops or online practical training sessions	2.810	1.393	*6th*

I have access to digital tools or software specific to my TVET program	2.783	1.410	*7th*
I have access to the necessary technology to participate in a digital marketing course.	2.695	1.325	*8th*
Our institution is equipped with the necessary tools and equipment to provide training to students on the use of digital media	2.604	1.412	*9th*
Total	*3.002*	*0.884*	

Access to Technology

Table 3 presents data on students' access to and comfort with technology, specifically concerning learning and digital tools. The analysis is based on mean scores and standard deviations, with rankings indicating the most accessible or frequently used technology-related aspects.

In terms of comfort with online learning platforms, the results indicate that students generally feel comfortable using platforms like Google Classroom, with a mean score of 3.550 and ranked 1st. With smartphone ownership for learning having a mean score of 3.414 and ranked 2nd, many students possess smartphones, which they use for accessing educational resources. This indicates that mobile technology plays a significant role in learning accessibility. For internet accessibility for education, which is ranked 3rd with a mean score of 3.352, it was revealed that internet access is relatively available but slightly lower than smartphone.

For online collaboration, the results revealed that students collaborate online but not as frequently as expected, with a mean score of 2.985 and ranked 4th. This could be due to platform limitations or a preference for in-person interactions.

Concerning computer/laptop access, the results show that many students do not have consistent access to a computer or laptop, with a mean score of 2.813 and ranked 5th. This may indicate reliance on shared or institutional resources.

Regarding virtual workshops and practical training, the results indicate that participants in virtual training are relatively low, with a mean score of 2.810 and ranked 6th. This suggests that either the availability of such training is limited or students prefer hands-on, in-person learning.

To access digital tools for TVET programs, the results show that specialized digital tools for vocational training are not widely available, with a mean score of 2.783 and ranked 7th. Again, concerning technology for digital marketing courses, the results indicate that many students lack access to the necessary technology for digital marketing education, with a mean score of 2.695 and ranked 7th. Finally, institutional equipment for digital training was the lowest ranked factor, indicating that institutions may be fully equipped for digital education. This highlights a potential area for investment and improvement.

Table 4: Digital Skills and Usage

Statements	**Mean**	**Std. Dev.**	**Ranking**
Online Research (e.g., Google, Technical Databases)	3.799	1.380	*1st*
Email and Communication Tools	3.491	1.385	*2nd*
Spreadsheets (e.g., MS Excel, Google Sheets)	3.352	1.353	*3rd*

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Online Learning Platforms (e.g., Moodle, Blackboard)	3.309	1.444	*4th*
Video Conferencing (e.g., Zoom, Microsoft Teams)	3.196	1.445	*5th*
Word Processing (e.g., MS Word, Google Docs)	3.178	1.483	*6th*
Specialized Software (e.g., AutoCAD, SolidWorks)	2.851	1.425	*7th*
Digital Design Tools (e.g., Adobe Creative Suite)	2.850	1.450	*8th*
Troubleshooting technical issues with software/equipment	2.795	1.450	*9th*
Total	*3.200*	*0.950*	

Digital Skills and Usage

Table 4 provides an overview of students' digital skills and usage, ranked by mean scores, with standard deviations indicating variability in responses.

In terms of online research, this skill is the highest-rated, indicating that students frequently use online resources like Google and technical databases, with a mean score of 3.799, ranking it 1st. This suggests a strong familiarity with digital research tools.

Regarding email and communication tools, students have a mean score of 3.491, ranking it 2nd. This reflects a well-developed skill set, showing that students effectively use email for academic and professional communication.

For spreadsheets, the results indicate a mean score of 3.352, ranking it 3rd. This suggests moderate proficiency in spreadsheet tools like MS Excel and Google Sheets, indicating basic to intermediate usage, possibly for academic tasks or data management.

In terms of online learning platforms, the results indicate that students are familiar with platforms like Moodle and Blackboard but may not use them extensively, with a mean score of 3.309, ranking it 4th.

For video conferencing, the usage of tools like Zoom and Microsoft Teams is common but not as highly rated as research or email, with a mean score of 3.196, ranking it 5th.

Regarding word processing, the results indicate a mean score of 3.178, ranking it 6th. This suggests that students have a fair understanding of MS Word or Google Docs for document creation.

In terms of specialized software, students have a mean score of 2.851, ranking it 7th. This indicates limited experience with industry-specific tools like AutoCAD and SolidWorks.

For digital design tools, the mean score is 2.850, ranking it 8th. Skills in Adobe Creative Suite or similar tools are underdeveloped, suggesting a gap in design-related digital proficiency.

Finally, troubleshooting technical issues has a mean score of 2.795, ranking it 9th. This is the lowest-rated skill, suggesting that students struggle with resolving software and hardware problems.

Table 5: Knowledge of Digital Marketing

Statements	Mean	Std. Dev.	Ranking
I know how to use social media platforms for marketing purposes.	2.973	1.385	*1st*
Students are adequately resourced with knowledge and skills to use digital media to promote their business.	2.952	1.436	*2nd*
I understand the basics of search engine optimization (SEO).	2.884	1.377	*3rd*
I have experience creating content for websites or blogs.	2.747	1.328	*4th*
I am familiar with paid online advertising (e.g., Google Ads, Facebook Ads).	2.722	1.380	*5th*
I have experience with email marketing.	2.699	1.304	*6th*
I am familiar with the concept of digital marketing	2.615	1.356	*7th*
I have taken online courses or tutorials related to digital marketing.	2.591	1.326	*8th*
I am familiar with data analytics tools used in digital marketing (e.g., Google Analytics).	2.589	1.302	*9th*
Total	*2.752*	*0.928*	

Knowledge of Digital Marketing

Table 5 evaluates students' knowledge and experience with Digital Marketing, ranked based on mean scores. The insights highlight areas of strength and gaps in Digital Marketing education.

In terms of using social media for marketing, the results indicate that students have the most familiarity with leveraging social media platforms, reflected by a mean score of 2.973, ranking it 1st. This familiarity is likely due to frequent personal use of platforms like Facebook, Instagram, and TikTok.

Regarding general knowledge and skills in digital media for business, students feel somewhat prepared to use digital media for business promotion but may need further training, as shown by a mean score of 2.952, ranking it 2nd.

For a basic understanding of SEO, the results indicate a mean score of 2.884, ranking it 3rd. This suggests moderate familiarity with search engine optimization (SEO), which is a crucial skill for digital marketing.

In terms of content creation for websites and blogs, students indicate some experience with digital content creation, though it is not widespread, with a mean score of 2.747, ranking it 4th.

For familiarity with paid online advertising, the results indicate a mean score of 2.722, ranking it 5th. Students show some awareness of platforms like Google Ads and Facebook Ads, but deeper expertise is lacking.

Concerning email marketing experience, students have a mean score of 2.699, ranking it 6th. This indicates limited exposure to email marketing strategies and tools like Mailchimp.

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In terms of general awareness of digital marketing, many students only have a basic understanding of digital marketing concepts, with a mean score of 2.615, ranking it 7th.

Participation in online courses and tutorials indicates a lack of structured learning or self-directed study in digital marketing, with a mean score of 2.591, ranking it 8th.

Finally, familiarity with data analytics tools ranks as the lowest area, suggesting that students have minimal exposure to essential analytics tools like Google Analytics, with a mean score of 2.589, ranking it 9th.

Table 6: Attitudes Toward Digital Marketing

Statements	**Mean**	**Std. Dev.**	**Ranking**
I feel confident that I can learn digital marketing skills.	4.053	1.107	*1st*
I enjoy using social media for both personal and professional purposes.	3.930	1.102	*2nd*
I think it will be easy to apply digital marketing concepts in practical scenarios.	3.809	1.058	*3rd*
I believe digital marketing is an effective way to reach customers.	3.794	1.182	*4th*
I prefer online learning for courses related to digital marketing.	3.597	1.184	*5th*
I think digital marketing is more relevant than traditional marketing methods.	3.593	1.187	*6th*
I am comfortable learning digital tools and software on my own.	3.442	1.261	*7th*
Total	*3.745*	*0.756*	

Attitudes Toward Digital Marketing

Table 6 presents students' attitudes toward Digital Marketing based on their confidence, engagement, and perceived relevance of Digital Marketing strategies.

In terms of high confidence in learning digital marketing skills, students demonstrate strong motivation and belief in their ability to acquire digital marketing knowledge, as reflected by a mean score of 4.053, ranking it 1st. Institutions can build on this confidence by providing structured learning pathways.

Regarding enjoyment of social media for personal and professional use, students suggest that they already engage with digital platforms in ways that can be leveraged for marketing purposes. The results indicate a mean score of 3.930, ranking it 2nd. Practical exercises using social media marketing tools would be beneficial.

For the perceived ease of applying digital marketing concepts, students believe that Digital Marketing is practical and applicable. The results indicate a mean score of 3.809, ranking it 3rd. However, hands-on experiences and case studies could reinforce this perception.

Additionally, recognition of digital marketing's effectiveness shows that students understand the value of digital marketing in reaching customers. The results indicate a mean score of 3.794,

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ranking it 4th. This belief can be further strengthened through exposure to successful real-world campaigns.

Preference for online learning in digital marketing suggests that students are open to virtual learning opportunities, with a mean score of 3.597, ranking it 5th. Institutions should explore e-learning platforms, webinars, and self-paced courses.

Furthermore, the perceived relevance of digital versus traditional marketing indicates a preference for digital marketing, although traditional marketing may still be viewed as relevant. The results indicate a mean score of 3.593, ranking it 6th. A blended approach in curriculum design could be useful.

Finally, comfort with self-learning digital tools suggests that some students are comfortable with self-directed learning, while others may need more structured support. The results indicate a mean score of 3.442, ranking it 7th. Providing access to tutorials and mentorship programs could help bridge this gap.

Table 7: Barriers to Learning Digital Marketing

Statements	**Mean**	**Std. Dev.**	**Ranking**
I believe I will need additional support (e.g., tutoring, mentorship) to learn digital marketing.	4.096	1.047	*1st*
I think I will need more hands-on training to fully grasp digital marketing concepts.	3.887	1.195	*2nd*
My institution does not provide enough resources to help me learn digital marketing.	3.726	1.276	*3rd*
I expect to encounter difficulties understanding some digital marketing tools (e.g., analytics).	3.461	1.173	*4th*
I have concerns about the cost of accessing the necessary technology for digital marketing studies.	3.450	1.246	*5th*
I expect to face challenges when learning digital marketing concepts.	3.351	1.262	*6th*
Balancing digital marketing studies with other responsibilities may be difficult for me.	3.161	1.231	*7th*
I do not have the technical skills required to succeed in a digital marketing course.	3.103	1.284	*8th*
I am not confident in my ability to keep up with changes and trends in digital marketing.	3.009	1.290	*9th*
I do not feel prepared to apply what I learn in a real-world digital marketing context.	2.917	1.276	*10th*
I do not expect the institution's digital marketing course to prepare me for job opportunities.	2.864	1.422	*11th*
I do not have enough time to dedicate to learning digital marketing.	2.861	1.270	*12th*
Total	*3.324*	*0.614*	

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Barriers to Learning Digital Marketing

Table 7 provides insights into the challenges students face when learning digital marketing based on mean scores and standard deviations.

In terms of the need for additional support, the results indicate that the highest-ranking barrier is that most students believe they require extra tutoring or mentorship to succeed in digital marketing, with a mean score of 4.096 and ranked 1st. This highlights a need for more structured guidance in the curriculum.

In terms of hands-on training, the results indicate a mean score of 3.887, ranking it 2nd. Students believe they cannot effectively learn digital marketing without practical experience. Therefore, institutions should incorporate real-world projects, internships, and workshops to meet this need.

Due to a lack of institutional resources, many students feel that their institutions do not provide sufficient resources (e.g., software, learning materials, lab access), as evidenced by a mean score of 3.726, which ranks 3rd. This suggests a gap in the available learning tools and technology.

Additionally, the difficulty with digital marketing tools has a mean score of 3.461 and is ranked 4th. Students anticipate challenges in understanding analytics and marketing software. Training programs should include step-by-step tool demonstrations and beginner-friendly tutorials to assist students.

Furthermore, regarding cost concerns, the results indicate a mean score of 3.450, ranking it 5th. The affordability of technology, software, and internet access is a notable barrier. Institutions might explore subsidized software licenses or partnerships with tech companies to alleviate this issue.

In terms of confidence and time constraints, some students lack confidence in learning digital marketing, keeping up with trends, or applying concepts. The results indicate a mean score ranging from 2.861 to 3.351, ranking it 6th to 12th. Balancing studies with other responsibilities is also a concern for many students.

In conclusion, the need for mentorship, practical training, and better institutional support are the biggest barriers to digital marketing education. Addressing these issues through mentorship programs, hands-on workshops, and accessible resources could significantly enhance student success.

Conclusion

The DigiMarkt project has a strong foundation to equip TVET students with digital marketing skills, but critical gaps exist in infrastructure, digital literacy, and hands-on experience. Addressing these challenges through technology access, mentorship, and practical training will ensure the success of the program. The project must, therefore, proceed with the following

- Develop course modules and training programs.
- Pilot test digital marketing workshops with students.
- Strengthen partnerships with industry stakeholders.

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Key Recommendations

1. Enhance Access to Technology & Infrastructure

- Equip TVET institutions with digital tools, including laptops, software, and internet access.
- Provide affordable access to digital marketing tools and software licenses for students.

2. Develop Structured Digital Marketing Training

- Foundational courses on SEO, paid advertising, and analytics should be introduced.
- Practical workshops and real-world projects should be integrated into learning.
- Blended learning (online & hands-on) will cater to students' moderate preference for digital courses.

3. Strengthen Mentorship & Practical Exposure

- Establish mentorship programs pairing students with industry experts.
- Include internships with digital marketing agencies for practical learning.

4. Improve Institutional Support

- TVET institutions should invest in digital marketing labs.
- Partnerships with private companies can provide funding or resource-sharing opportunities.

5. Address Financial & Time Constraints

- Consider subsidized programs for students from low-income backgrounds.
- Flexible learning schedules should be implemented to balance studies and digital marketing training.

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