1.1.   Background information

Digital Pulse performs a comprehensive analysis of the company's digitalization aptitude through an **online digital performance questionnaire, followed by an automated advisory feature**, in six different areas: digital communication and sale, digital customers and partners management, human resources and their digital skills, IT security awareness and practices, use of digital tools in business decision-making, use of digital technologies in manufacturing and/or service provisioning. The questionnaire can be taken by any employee knowledgeable of the company's key business processes and digital practices.

1.2.   Rationale

Business needs addressed

For companies looking to digitalize, knowing where to start begins with knowing where they are today. *Digital Pulse* is the tool that helps them **identify their current digital performance** and **provide some basic recommendations on the immediate steps to consider on their digital transformation journey**. It also helps the companies in Bosnia and Herzegovina to assess their digital potential and discover their digital skill gaps and the UNDP and its institutional partners gain insight in designing further programmatic measures to support acceleration of digital economy activities in the country. The tool addresses the business need to **utilise digital skills more effectively** as well as provides **basic help with implementing new digital technologies.** The **tool is useful for any company**, big or small, service or product oriented.

Objectives

The *Digital Pulse* solution have three major impacts:

1. **Raising awareness among the MSMEs in Bosnia and Herzegovina about the importance of digitalization for businesses** by introducing, through the questionnaire, different digitalization options and providing tips and explanations of less known digital concepts.
2. **Helping companies to assess their digital maturity and provide basic recommendations on how to be more digitally efficient.** The tool is **data-driven** since the way it assesses the company and formulates recommendations entirely depends on the answers provided by the users. This knowledge offers considerable benefits:
   a. It is often difficult to assess level of digitalization by yourself. Some believe they have exhausted the potential of digitization, others are aware they haven't done much, but need help in beginning to develop initial ideas. **Determining digital maturity level with Digital pulse gives company a neutral assessment of its current situation.**
   b. Knowing competition, which direction they are going, and analysing company market position against the competition is important. **Determining the company level of digital maturity helps in defining areas where competition is ahead**.
   c. Determining the level of digital maturity allows companies to identify weaknesses and thus recognize development potential. **Company future digitalization projects can be**

based on these identified potentials. And potentially supported by our institutional partners and the UNDP.

3. **Providing business intelligence to the UNDP and its institutional partners on main issues, impediments and needs of the companies, etc.** by providing specific reports and summary analysis, with data filtering as well as providing view into individual responses provided by the companies.

Key non-functional features

The *Digital Pulse* key non-functional features are its **flexibility, intuitive interface,** and **absence of fees**. The tool **assesses six different digital competency areas** and is easily **adjustable** because of its **modular** (one can choose only one, multiple or all above-mentioned assessment areas) **and scalable approach** (the tool administrator can add new assessment areas, e.g. women digital entrepreneurship, digitalization in agriculture sector etc.).

1.3. Digital Pulse characteristics and features

The questionary was developed in 2018 by the *Chambre des Métiers* (Chamber of Trades) of Luxembourg with the support of the national *Digital Luxembourg* project, which aims to digitise the country's economy. The assessment areas, questions, scoring mechanism and companies' digital profiles were translated, reviewed, and customized to the country specifics by the UNDP in Bosnia and Herzegovina. The UNDP developed the online platform www.digitalnaekonomija.ba which enables companies to make their digital performance self-assessment.

In the questionnaire users must answer a number of multiple-choice questions about their enterprise in the selected areas and, occasionally, provide reasoning for their choices. Some of them are followed-up by additional questions asking for clarifications (e.g. on why the company does not do some digital practice). Based on the answers provided, they will receive an **automatic evaluation of the company's digital profile** in the form of a radar chart with digitalisation percentages in respective areas and recommendations for immediate actions.

The tool is **data-driven** since the way it assesses the company and formulates recommendations entirely depends on the answers provided by the users. The **assessment questions were designed not only to guide companies down the path toward digitalisation, but to inspire new ideas and approaches**.

The Digital Pulse solution has the following main functions and features:
1. The company user register and selects business areas for assessment. The first page also provides basic information on the *Digital pulse*.
2. The questionnaire **starts with company demographics questions**: number of employees, company's economic activities based on the official statistical classification, **women-owned or youth-owned company**.
3. Questions format is **multiple-options multiple/single-choice or open-ended questions**. Questions for one assessment area are shown on one page.
4. Although the wording is simple and easy to understand, **the system provides users with**

abbreviations, acronyms and 'tech words' explained in a *on-click* tooltips. The question and options text could be linked to explanations of less known digital concepts, published through the typical CMS functionality.

5. Based on the answers provided (every option in a question has a weight/value in points which accumulates to the total result for the assessment area), **the company receives an automatic evaluation of the company's digital profile in the specific assessment areas, the digitalization percentages and recommendations, which are provided in separate textboxes**.

6. The recommendations are *general guidelines* and *awareness-raising* information. The **tool provides general recommendations** based on the number of points a company user receives during the test. Some exact answers will be used as a bases to fine-tune general recommendations associated with the digital profile.

7. At the end of evaluation, the user will receive an automatic evaluation of the company's digital profile in the form of a *radar chart*, with digitalization percentages in all respective areas as well as recommendations, in format of downloadable *.pdf* file which could be also delivered on the e-mail address used in the registration process.

8. Administrators can edit an initial version of the questionnaire (to correct typos, add tooltips, add links to newly added articles etc.) but are not able to change the number of answers options and are presented with notifications on the effects of changing of the narrative of the questions, if the answers are already provided by the companies.

9. Administrators can **add additional assessment areas with new questions, specific scoring system, digital performance profiles and recommendations** for each of the profiles added. When the assessment area is launched and first responses are collected, the editing limitations applies.

10. The solution includes and provide typical CMS functions and allow adding and managing digital content to provide different forms of information for the businesses and general public (e.g. for publishing insights received through the *Digital Pulse* solution, guides to digital transformation, good examples and practices, open grants schemes, training opportunities etc.). Administrators can easily add, modify, and delete existing content.

11. Administrators **can view and analyse results** at any time during the collection process and are provided with: **summary view of all data** collected with graph and table representation; **browsing individual responses**; using filters to compare (e.g. findings between the years) and analyse specific data views; view open-ended responses; easily download results in *.xls* formats.

Using the tool **does not require any special training for the employees** of the company taking the assessment. The tool is accessible from computers, tablets, and smartphones (the website has a responsive design i.e a mobile/tablet-friendly interface).

The tool is deployed digitally through **a website,** using a **SaaS** (software-as-a-service) model. It will not require any licensing or installation. **No fees** are required either.