Methodological approach
of the DIGIT-FUR project survey
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LEAD PARTNER:

Furnishing Cluster and Innovation Hub

ASSOCIATED ORGANIZATIONS:

European Federation of
Building and Woodworkers

European Furniture
Manufacturers Federation

European Furniture
Manufacturers Federation

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Contents

1. Introduction

In this document we will present the methodological approach that the DIGIT-FUR project team adopted in the preparation and implementation process of the DIGIT-FUR project Forecasting Survey. The DIGIT-FUR project team received the key support of Mr. Hildebrand Salvat during the whole process to properly define the methodological approach to be adopted. Mr. Salvat is the technical director of CERES, company specialized, among other topics, in market and sociological research. It is settled in Reus in the Tarragona Province, Catalonia, Spain.

The support has been delivered through different meetings at the CERES office in Reus and in CENFIM's office in Barcelona and through videoconferences among the DIGIT-FUR team and Mr. Salvat.

1.1. Survey main objectives

This prospective forecasting survey is the first step of the DIGIT-FUR Forecasting Research and it is a key part of the DIGIT-FUR project.

The **DIGIT-FUR** project http://www.digit-fur.eu (Impacts of the digital transformation in the wood furniture industry) will focus on the changes caused by the **Industrial Digitization** on the **European wood furniture sector in 2025**. It is a two years project (2017-2019) funded by EU trough the call Support for Social Dialogue. The project main deliveries will provide a better understanding of the possible **scenario of the sector due to digitization in 2025** and the effect of this process on sector **jobs** in terms of changes in occupations, **health and safety risks** at work and new **skills** needed and thus support the social dialogue during next years.

The **partners** of the DIGIT-FUR project are: **CENFIM** - Furnishings Cluster and Innovation Hub (Lead Partner); **EFBWW** - European Federation of Building and Woodworkers; **UEA** - European Furniture Manufacturers Federation and **EFIC** - European Furniture Industries Confederation.

The **survey results** will provide a **ranked list of factors** that could affect the wood furniture sector in 2025, considering their probability of happening (success) and the relevance of their impact on the sector. In details, the **survey objectives** are:

- Identify **which factors / situations / impacts are more probable to happen in 2025** (which list was pre-identified by a previous industrial study, later on presented).
- Identify which of the **factors will have a more important impact** on the wood furniture sector.
- Create a **first draft list of drivers of change and factors** that are supposed to be the most relevant for the wood furniture sector.

Survey results will be later on **discussed in a Project Workshop**, second step of the forecasting research that will involve around twenty professionals from different European countries and specialized in different fields such as the Furniture Sector, Digitization, VET systems, H&S Risks at work and Economy.

This survey has **involved more than 50 professionals**, experts in different fields: furniture sector, industrial digitization, Health & Safety at work, VET systems and Economy. The survey is the first step of this Forecasting Research that will be followed by the project Workshop in Brussels on the 25th of October 2017. The Survey has taken place between the end of August and end of September and it has required to the experts a working commitment of some hours. They were provided with a new

specific report on the status of the EU furniture sector, which supported them to better understand the current situation. The report was specifically prepared by the DIGIT-FUR team with the support of some external experts.

2. The support received

2.1. Starting point

In order to identify the sector scenario in 2025, the DIGIT-FUR project proposal idea was to implement a research using the **Delphi research methodology**. This foresees the implementation of one or more "converging" surveys (depending on the knowledge availability in relation to the target issue), and one or more workshops where the surveys results are discussed and a set of possible scenarios are identified.

The DIGIT-FUR project team identified an **existing study** focusing on forecasting the European industrial sector in 2025 and its key drivers of change. This **foresight study** was published by the Joint Research Centre in 2014, with the title "**How will standards facilitate new production systems in the context of EU innovation and competitiveness in 2025?**" (**Authors**: Fabiana Scapolo, Peter Churchill, Vincent Viaud, Monika Antal, Hugo Córdova, Peter De Smedt). The team decided to adopt this research results as basis for the implementation of its forecasting research. Indeed, the questionnaire implemented by the DIGIT-FUR project is based on a selection of the factors / situations / impacts already identified by the JRC foresight study. They were selected according to the potential impact they could have on the wood furniture sector.

For all these reasons, we consider that the methodology, finally adopted by the DIGIT-FUR project, is an adaptation of the Delphi methodology to take advantage of the existing study. The principles of this methodology were adapted to the project needs with the support of the consultant.

2.2. Tasks implemented by the external expert

The following ones are the tasks implemented by Mr. Salvat to support the project team to define the survey methodology, content and questions:

- Mr. Salvat evaluated if the JRC study could be used as basis for the DIGIT-FUR project survey.
- He helped the team to define what and how to ask to the survey respondents. The final decision was to ask, for each of the factors / situations / impacts identified as relevant for the Wood Furniture sector scenario, two closed questions (with a relevance scale) and one open question to give the possibility to the respondents to comment the previous closed answers. Moreover, he suggested adding a couple of questions at the end of the survey to allow the respondents to deliver a global evaluation for the 2025 scenario.
- The project team made a selection of the whole list of the JRC study factors / situations / impacts that were considered relevant for the Wood Furniture Sector. The selection was done for each expert category involved in the survey: Furniture Sector, Industrial Digitization, Health & Safety at work, VET system and Economy.
- Mr. Salvat evaluated, checked and modified the list and the content of each question in order they fitted the research needs. Later on, the list was sent for an additional revision to the four

external experts subcontracted by the project. All of them and according to their field of expertise, helped to decide which questions were appropriate for each expert category.

- He highlighted as well the importance of supporting the survey respondents sending them the Furniture sector report produced by the project.
- At the end of this process, he suggested to insert some *tricky* questions in order to stimulate the respondents to look at the issues from different perspectives and to allow the project team to evaluate attention and coherence of the respondents while answering the survey.
- He helped to validate the selection of experts invited to participate to the survey.
- He suggested the web tool to be used for the survey implementation: Survey Monkey.

2.2. Survey description

2.2.1 Structure of the questionnaire and questions description

The questionnaires are organized in different sections depending on the expertise of the respondents: the experts are asked to answer to different questions according to their field of expertise, because of this, for the implementation of the study, five different surveys were released through the on-line web service Survey Monkey.

You can find the different list of sections, subsections and questions at these links.

FURNITURE EXPERTS – 76 QUESTIONS	http://digit-fur.eu/download/260/
VET EXPERTS – 55 QUESTIONS	http://digit-fur.eu/download/245/
DIGITIZATION EXPERTS – 53 QUESTIONS	http://digit-fur.eu/download/240/
ECONOMY EXPERTS – 42 QUESTIONS	http://digit-fur.eu/download/257/
H&S at WORK EXPERTS – 37 QUESTIONS	http://digit-fur.eu/download/248/

For each factor / situation / impact, the approach is the same, with two closed questions where respondents are required to rank their probability to happen and their impact on the sector and a third open questions for respondents' comments. In details:

- The concept: A future potential situation, based on the results of the JRC foresight research, is exposed in a summarized way.
- 1st Question: a question about the probability that a specific event / situation / impact will occur, using a probability scale:

How probable do you consider this is going to happen? (scenario 2025 in the furniture sector in Europe)

Where the scale goes from "0 - Not at All probable" to "100 - Completely probable"

- 2nd question: importance of the impact on the furniture sector if the success will occur, using a numeric scale from "not at all" to "extremely strong"

How strong do you consider the impact of this on the furniture sector production in 2025?

Where the scale goes from "0 - Not at All" to "10 - Extremely strong"

- 3rd question: open question for comments:

If you consider it relevant, please, explain shortly the reasons (max. 500 characters with spaces)

Moreover, as said before, some tricky questions were included to encourage the respondents to analyse the issues from different perspectives and to weigh the attention and coherence of the

respondents' answers. These questions re-ask an opinion on a previous factor / situation / impact, but from an opposite perspective.

Finally, we asked to the respondents:

- How they considered the EU furniture sector would evolve in relation to competitiveness and economical sustainability for 2025.
- To look at the survey subsections list and rank the first three subsections for relevance of their impact within the Furniture Sector and its Occupations (jobs) in the 2025 Scenario.

2.2.2 Participants selection and description

The respondents' sample of this prospective survey is made up of experts in different fields related with the goals of the research. The fields are: Furniture Sector, Industrial Digitization, Health & Safety at Work, VET Systems and Economy.

The project team have used different and complementary sources to identify and select the respondent experts:

- The project four external experts and some of their colleagues from the same entities
- Experts proposed by the partners in the project (CENFIM, EFBWW, UEA and EFIC)
- Experts that participated to the project call for tenders

The total number of experts invited to respond to the survey is 125, among these 56 have answered to all survey questions.

The distributions of expertise among the respondents was:

Digitization:	10
Economy:	8
Furniture sector:	18
Occupational Health & Safety	10
VET Systems	10

Twelve of these experts were women and the other 44 men.

The respondents came from 15 different countries across the EU:

Belgium, Czech Republic, Denmark, France, Germany, Greece, Hungary, Italy, the Nederland, Portugal, Romania, Slovenia, Spain, Sweden and United Kingdom.

2.2.2 Survey results and their analysis

We collected all respondents' answers, and then we grouped them according to the different experts' categories.

Following the collection of the data, we implemented the following actions:

a) We calculated for all 108 survey factors their:
   I.   Average
   II.   Standard deviation
   III. Probability multiplied for the impact

b) We analysed if each expert answers had high deviation averages in relation to the overall average

c) We identified and ranked the factors with highest probability, highest impact and the highest value resulting from probability multiplied for impact.

d) We calculated the average value of the respondents answers about the forecast of the EU furniture sector evolution in relation to competitiveness and economical sustainability for 2025.

e) We ranked the survey subsections list that the respondents ranked as the most relevant for their impact within the Furniture Sector and its Occupations (jobs) for the 2025 Scenario.

f) We have selected three groups of factors to be discussed at the DIGIT-FUR workshop
   I.   28 factors of the first quadrant: the ones with probability higher or equal than 70 and impact higher or equal than 6,5
   II.   4 factors of the third quadrant: high impact (> 6,5) and lower probability (<70)
   III. 5 factors with medium-high impact and high standard deviation for Impact values
During the workshop, held in Brussels on the 25th of October 2017, the participant experts discussed the possible reasons for their strong impact and tried to identify concrete actions to capitalise opportunities from each of these factor.
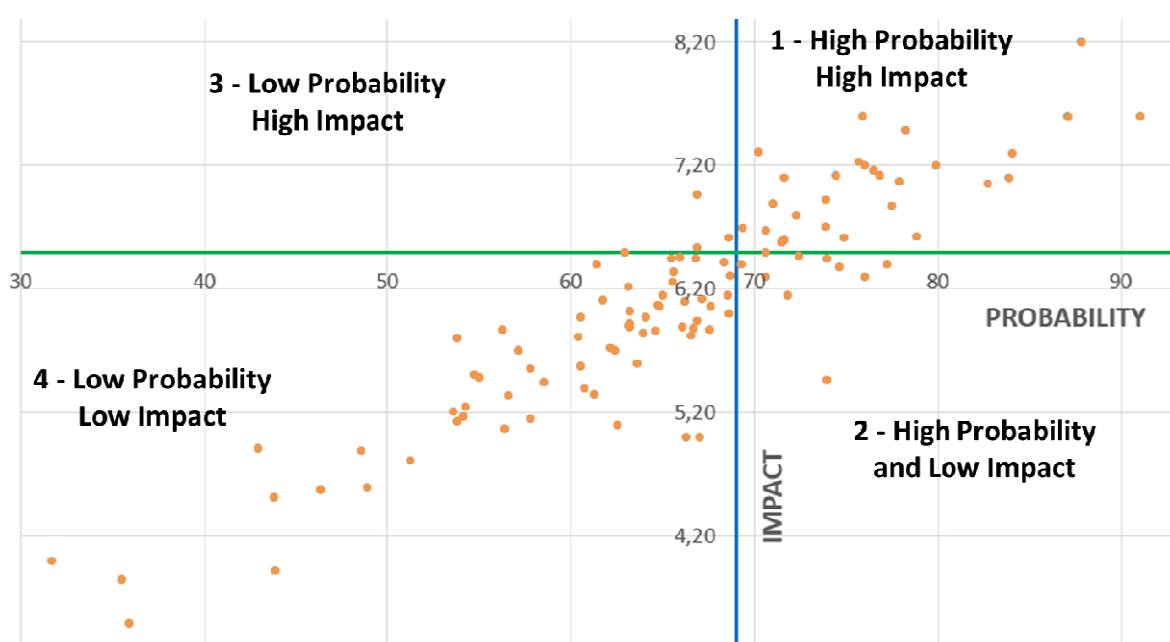
CLEAR HIGH CORRELATION BETWEEN IMPACT AND PROBABILITY