



empower

The European platform to Promote Wellbeing
and hEalth in the woRkplace

Impact Analysis

Work Package 4

D4.5



Grant Agreement No. 848180

Start date: 01/01/2020

Duration: 54 months

DOCUMENT INFORMATION

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Dissemination Level	Public
Nature	Report
Keywords	Impact analysis, implementation, planning, engagement, readiness, usefulness, dissemination, adoption, penetration
Due Date of Deliverable	31 March 2024
Actual Submission Date	22 March 2024
Version	1.0
Funding	Funded by the National Health and Medical Research Council (NHMRC) Australia #APP 1195937 Ethics approval: University of Canberra C HREC #11841

Disclaimer:

This document has been produced in the context of the EMPOWER Project. The EMPOWER Project has received funding from the European Union's H2020 Programme under grant agreement N° 848180. For the avoidance of all doubts, the opinions expressed in this document reflect only the author's view and reflects in no way the European Commission's opinions. The European Commission has no liability in respect to this document and is not responsible for any use that may be made of the information it contains.



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ACRONYMS, ABBREVIATIONS AND CLARIFICATIONS

EMPOWER	European platform to Promote Wellbeing and Health in the workplace
GIAF	Global Impact Analytics Framework
HREC	Human Research Ethics Committee
LSC	Local Stakeholder Consultation
RCT	Randomised Controlled Trial
UC	University of Canberra, Canberra Australia

EXECUTIVE SUMMARY

The **EMPOWER platform** is a digital health solution that EMPOWER involves an occupational e-mental health application (OeMH), publicly available website resources and back-end portal. Its purpose is to help employers and employees address common health issues, reduce presenteeism (when employees are at work but not fully productive) and absenteeism in the workplace.

Here's what you need to know about the impact assessment of the EMPOWER platform:

- **What was studied?** Researchers at UC evaluated the impact of the EMPOWER platform using various methods. They looked at eight different areas using the **Global Impact Analytics Framework (GIAF)**.
- **Data sources:** Information was collected from multiple sources, including project reports, publications, meeting notes, user data from the EMPOWER website and app, questionnaires, and interviews.
- **Key findings:**
 - During the initial phase, the EMPOWER platform performed well in the Planning and Pre-engagement domains.
 - There were gaps in the initiation phase (development and testing). Before releasing it to the open market, further revisions and development of the App are needed in the Pre-Readiness domain, particularly in relation to end user engagement and testing at a workplace.
 - The platform's dissemination efforts were effective. However there needed to be more strategies used at the workplace to facilitate the use.
 - While the EMPOWER platform was generally useful, there were challenges related to its effectiveness.
 - Implementation barriers existed in the workplace due to the platform's complexity, especially regarding the target audience, intervention components, and development stages.
- **Takeaways:**
 - The App needs further development, involving users to advise on the design changes. It should undergo further testing in a relevant environment (a workplace) and then if necessary more revisions made before re-releasing it into a wider context.
 - The impact analysis shows the tension between using a randomized control trial (RCT) design for evaluating digital tools in the real world (e.g. workplace). However, it provides valuable insights for organizations to consider in future projects.

This document provides an overview of the impact analysis, and a summary of the results and discussion. Higher level details of the results, organisational learning have been excluded at this point to allow for future publication in scientific journals.

1 INTRODUCTION

The EMPOWER consortium developed an eHealth platform and implemented it in four countries. Researchers from the University of Canberra (UC) conducted an impact analysis in three European countries (Finland, Poland, and Spain), while the United Kingdom (UK) team opted out due to resource constraints. The impact study aimed to investigate the platform's impact during the initiation and maturity implementation phases, also identify organizational learnings for future digital mental health projects.

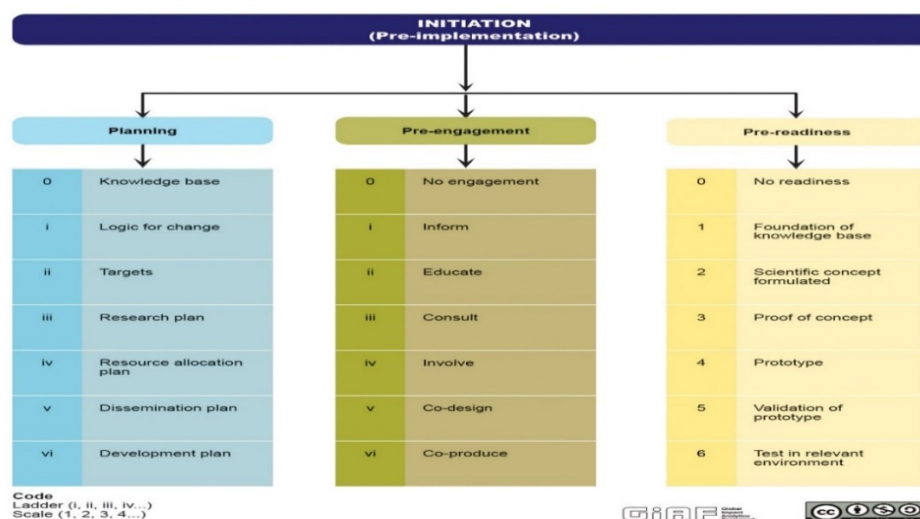
2 METHOD

Researchers used a combination of qualitative and quantitative analysis methods, following the **Global Impact Analytics Framework (GIAF)** methodology (<https://www.canberra.edu.au/research/centres/hri/research-projects/giaf>). The impact analysis of the **EMPOWER platform** acknowledges the complexity of real-world implementation. The analysis also considered the contextual barriers and enablers in each of the three countries.

2.1 Global Impact Analytics Framework (GIAF) framework and toolkit

The GIAF implementation phases relevant to EMPOWER (Initiation and Maturity) and associated measurement tools (ladders) were used for the impact analysis. The different domains and the ladders are shown in Figure 1 below. There are checklists and a GIAF glossary that are used to take qualitative information and rate this against the different levels of the ladder to identify a score for that domains.

Initiation



A) Maturity

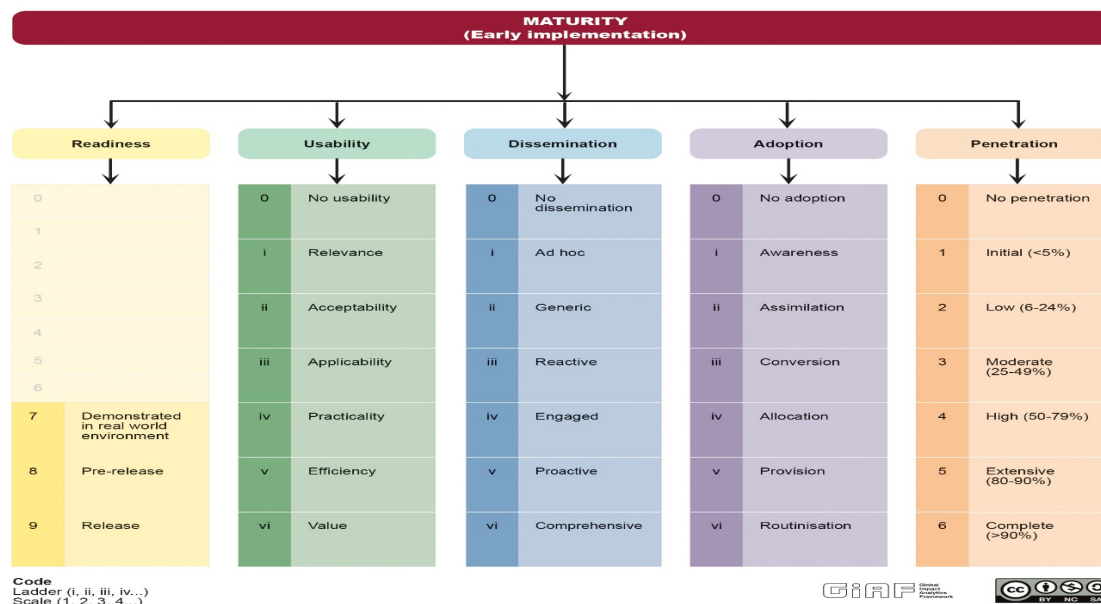


Figure 1 The two Phases and domains of the GIAP impact analysis methodology for the EMPOWER platform [the process of Initiation and Maturity (Early implementation)]

Measurement and GIAP Checklists

When we talk about the GIAP domains and checklists – for the planning, pre-engagement (co-design), dissemination, usability and adoption, we use a ranking system on a ladder. However, it's not a strict ladder where each step is clearly defined and sequential. Instead, it's more flexible. For example, some steps can be skipped or combined with others. This approach helps us understand the process of implementation and assigns meaning to complex concepts. The domains of pre-readiness/readiness and penetration we use a defined ordinal ranking.

In various domains, we use recommended rating techniques along with checklists. These checklists contain specific items directly related to each level within the domain. Many of the GIAP (Global Impact Analytics Framework) checklists are built upon existing standardized instruments. The planning checklist, for instance, is an adapted version of several planning templates.

2.2 Complexity and contextual factors indices

When you're putting an intervention into practice in the real world, things get complicated. There are lots of factors that affect how well it works. Some of these factors are built into the project itself, like how it's designed, the order of the implementation teams activities. Others come from the organizations involved, and some are external factors that researchers can't control.

To help understand all this, we've created two indicators. These indicators measure how much these factors influence the impact of the intervention. They give us both numbers (quantitative data) and descriptions (qualitative data). This helps us make sense of other evaluation results and learn how to improve our organization. There is the **Project Complexity Indicator** (of the project itself) and the Contextual Factors Indicator (barriers and enablers).

2.3 Implementation sites and target audience

The EMPOWER platform was implemented in small-medium workplaces and public companies in three cities and regions in Europe: Barcelona (Catalonia, Spain), Turku (Finland), Lodz (Poland). Three groups of people have been considered: 1) the employees from the participating companies (primary target of the EMPOWER project) 2) the employers of these companies (secondary target) 3) members of the EMPOWER consortium including the local country coordinators. The employees from the workplaces meeting the criteria were invited to participate in the study. To participate in the study, individuals needed to meet specific criteria:

1. Be 18 years or older.
2. Have a mobile phone with internet access.
3. Possess sufficient knowledge of the local language.
4. Provide informed consent.

Once these criteria were satisfied, participants were invited to download and use the EMPOWER app. After obtaining consent, employees completed questionnaires and explored different modules within the app. All employee participants underwent three assessments via the EMPOWER app. This allowed for separate analyses at the country and company levels, as well as all workplaces across the study.

Our analysis was completed at different levels, one at the project level (across the three countries) for initiation phase ladders, but across the EMPOWER project (four countries), another level at the country level and penetration (in maturity phase) was at the workplace level. The Project Complexity Indicator was at the project level, but the Contextual Factors Indicator (barriers and enablers) was at the country level.

We held training sessions with the three Country Coordinators on data collection for the impact analysis (three from 2021-2022). The usability questions were sent to EMPOWER users by the central coordinating team in Spain. Representatives from the workplaces were asked in an interview by the Country Coordinator, similar questions for the usability ladder plus questions on the adoption ladder.

2.4 Ethical considerations

Ethical approval was obtained to conduct the impact analysis through University of Canberra in 2021 and also by Fundació Sant Joan de Déu (PSSJD) approved in 2022. Only

the coordination team at PSSJD contacted the participants with the usability questions. Ethical committee approval numbers are available on request.

2.5 Data collection methods

A range of methods were used to collect data from end users, employers, Country Coordinators and other consortium groups. This includes consortium documents, information collected throughout the project at meetings, progress reports and deliverables, standardised surveys (GIAF), data from the EMPOWER website and app. Ratings on some of the GIAF domain ladders were based on the consensus of four raters, whilst other domains were rated by two researchers (Project Complexity Indicator and Contextual Factors Indicator).

3. RESULTS

3.1 Global Impact Analytics Domains

The results for the EMPOWER impact analysis for each GIAF domain is summarised in Table 1. For each domain (unless otherwise specified) is on a ladder ranging from 0-6.

Table 1 The GIAF domains, the domain definition and EMPOWER ratings

GIAF domain	Definition (Ref: GIAF glossary)	EMPOWER rating
Planning	Planning is the process of thinking about the steps and activities required to achieve an explicit goal. It includes deciding on the tasks in advance to achieve the implementation of a project; what, when, where, why and how and who will do the activities.	6 Development plan
Pre-Engagement	Engagement is a two directional interaction and relationship between the sender and recipient for the development and implementation of EMPOWER. It should increase the understanding of EMPOWER by the recipient and advance its implementation in the real world.	4 Involve
Technology readiness level (implementation sciences)	Pre-readiness is defined as the level of preparedness of an application (EMPOWER platform), where the knowledge base is established, a scientific concept is formulated, there is proof of the concept, a prototype is developed, validated, and tested in a relevant environment.	7 Demonstrated in real world environment

D 4.5 Impact Analysis

	Readiness is the level of preparedness of an application of the emerging scientific knowledge to be used in the real world and for its' release, marketing, commercialisation, or open access.	
Usability (Usefulness)	Usefulness: Is the degree to which EMPOWER is found by the <i>target audience</i> to be beneficial, advantageous, practical, and worthwhile to be applied in a real world context. The components of usefulness are <i>relevance, acceptability, applicability, practicality, efficiency, and value</i> . (GIAF glossary).	4 Practicality at the end users level 3 Applicability at the employer level
Dissemination	Dissemination: The act of making EMPOWER 'known and making it used" to the target audience so that it reaches, is made known to, or available to facilitate the uptake and use	6 Comprehensive at the project level 5 Engaged-proactive at the Finland and Poland country level (Spain at level 4 Engaged)
Adoption	Adoption: The measurement of the degree to which the workplace/ organisation takes the application as its own	2 Assimilation

3.1 Project Complexity and Contextual Factors Indicators

The EMPOWER platform was rated on the Project Complexity Indicator seven domains with a total score of 50 (total score could range from 1-70). This is considered a high complexity rating. The domain with the highest score (10) was Dependencies. There were numerous development stages, and consultation required in the development and implementation of the EMPOWER platform and a high dependency on the work package group to design, develop and respond to technical issues. The next highest complexity related to the target audience (employees in workplaces) and the number of intervention components (multiple modules in the app which needed to interact with each other).

The EMPOWER platform was rated at the country level on the number and type of the barriers and enablers to implementation in the workplace. There were inner and outer barriers, inner and outer enablers. Inner refers to factors within the workplace (e.g. Communication by managers), outer refers to factors external to the workplace (eg. Government policy).

The barriers and enablers identified most frequently (> 3 times) by the country coordinators from their perceptions at the workplaces and country contexts include:

- Inner barriers: communication (e.g. EMPOWER contract negotiations with employers, leaders at the workplace), innovation design (e.g. amount of questionnaires end users had to complete)
- Outer barriers: critical incidents (e.g. COVID, War in Ukraine), local conditions (eg. workplace policies and community attitudes)
- Inner enablers: Leadership (e.g. management style)
- Outer enablers: Policies and laws (mental health work health and safety laws)

4.0 ORGANISATIONAL LEARNING AND DISCUSSION

The impact analysis provided opportunity for key organisational learnings. These are grouped and summarised below.

1. Target audience

Originally, the EMPOWER platform targeted employees and employers from Small to Medium Size Enterprises (SMEs) and public agencies in Spain, Finland, and Poland. Mid-term, the audience expanded to include large companies (>250 employees). However, the definition of the target audience focused on macro level and population level descriptors which was geography based, rather than a test 'sample' definition to target following the development of the EMPOWER platform.

2. Stakeholder consultation, testing and readiness of the EMPOWER platform

EMPOWER's readiness rating was level 7 (demonstration in a real-world environment). Overall, both end-users and employers saw significant potential in the EMPOWER platform but emphasized the need for further development and refinement. Design-related risks were not explicitly identified.

In the design phase, the stakeholder consultation involved professionals, managers, and supervisors, but not end-users. Thus, critical steps (end-user feedback and testing in a relevant workplace environment) were not undertaken before launching in the real world in the three countries. Consultation and co-design with end-users would have provided valuable feedback to identify design and technical issues prior to launching in workplaces. Also the workplace sites were not part of the co-design process. Testing in a relevant environment is crucial, especially for a digital app in

multiple real-world workplaces to be able to resolve issues that arise when operating in the workplace (e.g. logging onto the app whilst at work, help desk feature).

3. Usefulness and user's gender:

The consortium may wish to consider making EMPOWER a mobile app (rather than web-based) so that it is more useful outside the workplace. The users also provided feedback that they disliked lengthy and frequent assessment questionnaires. Most of the end users were female. There is a need to consider gender sensitive approaches, language and perhaps features such as gamification of modules in the app to appeal to more people.

4. Dissemination, plus recruitment of (and at) workplace activities:

The dissemination at the project level was extensive and provided by people skilled in multi-media. The awareness of the EMPOWER app at an international level (European in particular) appears to be quite high.

The risk rating for EMPOWER app recruitment was initially rated as low-medium. However, there was a lower level of recruitment than anticipated. The dissemination activities in the three countries, and recruitment for using the app in the workplace varied between countries because of the context. The activities, barriers and enablers to implementation are critical to the recruitment of users at the workplaces. Workplaces were mainly recruited through the country coordinators pre-existing networks and personal contacts. Trust and reputation played a role in engagement both at the country level and at the workplace level. Similarly, cultural barriers (e.g., mental health stigma) affected dissemination in some countries. The evaluators consider that EMPOWER's temporary availability limited organizational commitment to using the platform.

As far as we are aware, this is the first impact analysis of an international study to implement a digital tool to promote mental health at the workplace. The EMPOWER project faced inherent complexity, experienced inner and outer barriers but also enablers to implementation. EMPOWER was going to be temporarily available at the workplaces recruited. The validation through feedback of the EMPOWER app on applicability (employers) and practicality (end users) through feedback is positive. The EMPOWER app would benefit from undergoing a second phase of review of the app with feedback from end users and the workplaces, re-vision of the design and targeted recruitment to test in specific workplaces before release to the open market. Future implementation should consider using the Occupational e-Mental Health Intervention Implementation Checklist (developed within the EMPOWER consortium in the final stages of the project) to support future implementation efforts.