

Chapter 7

Cocreation, validation and feedback: innovation in the e-book *Women in coffee in Brazil*¹

Alexandre Abrantes Cotta de Mello

Cristina Arzabe

Wyviane Carlos Lima Vidal

Paula Cristina Rodrigues Franco

Valéria Sucena Hammes

Helena Maria Ramos Alves

Introduction

This chapter presents actions of Embrapa that contribute especially to two targets: “5.1 End all forms of discrimination against all women and girls everywhere [...] 5.B) Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women” (United Nations, 2020).

During the *International Conference of Coffea Canephora*, in June 2012, in the municipality of Vitória, in the state of Espírito Santo, members of the International Women’s Coffee Alliance (IWCA Brazil) and researchers from Embrapa met to discuss the availability of information on women in coffee in Brazil. Historically, women have always been present in all different sectors of the country’s coffee agroindustrial system, but there was little information about their participation and this contribution was usually invisible.

In 2014, Embrapa Coffee and IWCA Brazil signed a letter of intent to work in partnership, and in April 2016, the first face-to-face meeting was held in Brasília, DF, involving other partner institutions, to begin the collaborative construction of a digital publication, with the aim of taking the first step in the characterization of the reality of women in the agroindustrial system of coffee in Brazil. The following institutions, in addition to the IWCA Brazil and Embrapa, attended the meeting: Instituto Agronômico de Campinas (Agronomic Institute of Campinas – IAC),

¹ We thank Dr. Paulo Sérgio Vilches Fresneda for the important support offered to reach the results through the project Identification, Elaboration and Validation of Instruments to Support the Creation, Sharing and Use of Knowledge in Innovation Networks (I3CRI/CNPq).

Federal University of Viçosa (UFV), Instituto Federal Sudeste de Minas (Southeast Federal Institute of Minas Gerais), Solidaridad Network and Coffee Museum (through videoconference). Other face-to-face and virtual meetings followed, involving at last 21 institutions, which resulted in the collective work *Women in coffee in Brazil* (Arzabe et al., 2017, 2018).

Internally, a partnership was made between Embrapa Coffee and Embrapa Technological Information, taking advantage of the joint efforts of the group that was part of the project Identificação, Elaboração e Validação de Instrumentos de Apoio à Criação, Compartilhamento e Uso de Conhecimentos em Redes de Inovação (Identification, Elaboration and Validation of Instruments to Support the Creation, Sharing and Use of Knowledge in Innovation Networks) (I3CRI/CNPq). The project started in 2014 and had as some of its specific goals: identify, obtain and analyze instruments to support the creation processes, knowledge sharing and use to generate network innovation.

Cooperative e-book

An e-book is an electronic book, a digital media, which can be presented in various formats such as: PDF, Mobi or TXT, among others, but whose standard format adopted by the worldwide publishing market is ePub. ePub is an open format that has as main characteristic the flexibility in the layout, facilitating the reading in different screen sizes, from big monitors to small smartphones. It is the most recent Information and Communication Technology (ICT) used in the Embrapa Publishing House, which started in 2011 to adapt the existing publishing process used to produce printed works to launch this new electronic product. However, as a new product, the editorial process needed a better understanding of what this new technology was and how to use it.

Initially all Embrapa e-books were produced only after the publication of printed material. In 2014, Embrapa began publishing some works only in the ePub electronic format, among them foreign language titles and some collections. With the publication of the digital e-books of the Coleção 500 Perguntas 500 Respostas (500 Questions 500 Answers Collection), in 2014, the first test of interaction with readers was performed. A space was inserted at the end of the e-book for interaction with the readers. In this space the readers could communicate if there were still any doubts about the subject, through Embrapa Citizen Service's (SAC) link (Figure 1).

Any other questions?

If you have any further questions, please contact the Citizen Service at: www.embrapa.br/fale-conosco/sac/

Figure 1. Link in the e-books of Embrapa's 500 Questions 500 Answers Collection.

Thus, the first step was taken to foster the interaction between readers and Embrapa, in the expectation that from this feedback the Company could make future improvements in the products to be launched.

The partnership with IWCA Brazil and several other institutions mobilized the team responsible for testing a new editorial proposal, involving interactions between authors and collaborators before (for co-creation) and after (for verification and feedback) the digital publication release. In the last phase readers were also involved. The process is described as follows.

Cocreation, verification and feedback

The fundamental principle of co-creation, which is to engage people together to create valuable experiences (Ramaswamy; Gouillart, 2010), was put into practice by the team responsible for different tools that were used alternately in face-to-face and virtual meetings involving authors, editorial staff, employees and potential funders.

Planning and Management from the Macro-education (PGMacro) (Hammes; Arzabe, 2016) was the tool used during the face-to-face meetings aimed at co-governing the entire process by the management group, which involved representatives of government agencies and civil society. The method prioritizes heuristic learning, facilitated by visual artifacts that inform systemically and immediately. Visual artifacts, images or prototypes built during in-person interaction processes, such as drawings, maps and diagrams, bridge the gap between people and their ideas and create materiality for joint analysis, one of the distinguishing features of PGMacro, allowing it to be used successfully when there is a large amount of information to be worked on by the team.

For the distance communication between the partners, an online tool was created using the Embrapa Portal infrastructure: Mulheres do Café Network.

Created in 2016 to centralize the exchange of information and files, Mulheres do Café Network offered a blog (for the communication of announcements), forum (for the dialogue between authors on the construction of the book), space for the storage of files (to centralize the exchange of files) and a knowledge base (instrument for the collective construction, proposed for writing the contents of the e-book).

Based on the decisions made in the face-to-face meetings, as well as the material made available in the Mulheres do Café Network, the collective construction of the work *Women in coffee in Brazil* (Arzabe et al., 2017) was carried out, consisting of 17 chapters written by 41 authors from 16 institutions, describing the reality of women involved in the coffee sector in the states of Paraná, Minas Gerais, Espírito Santo, Bahia and Rondônia (Figure 2).

The feedback system for e-books is an online tool that was created in 2017 at Embrapa to assist in the task of verification the e-book *Women in coffee in Brazil*. This verification is done via a link published at the end of the e-book that allows readers to respond to a questionnaire written by authors with questions whose answers can assist in the construction of the second and revised edition of the book.



Figure 2. Cover of the e-book *Women in coffee in Brazil*.

Source: Arzabe et al. (2017).

Thus, the three stages of the collaborative e-book elaboration process of *Women in coffee in Brazil* involved co-creation (with the participation of all partners in defining the content and structure of the book, in face-to-face workshops and participation in an on-line network), the editing of the work and its verification by readers, through an online feedback system (Figure 3).



Figure 3. Stages of the process of elaboration of the collaborative e-book *Women in coffee in Brazil*.

Extending the adoption of strategies for the development of crowd science or citizen science, to value and incorporate external knowledge about processes and phenomena analyzed and/or to validate results and products obtained by research projects, is a factor of importance defined in the document *Visão da Embrapa (Embrapa Vision)* (Embrapa, 2018).

In addition, users are an interesting source of innovation for products and services and can help companies gain competitive advantage by knowing what they are looking for and how products and/or services can be changed to deliver new values (Prahalad; Ramaswamy, 2000; Lee et al., 2012). Thus, the feedback system in the e-book becomes a connecting tool between readers, Embrapa and IWCA Brasil (Figure 4).

The information can be collected in workshops where the e-book is used or readers interested in collaborating can give it spontaneously. The production of a new edition that considers the contributions sent by readers, besides increasing the work, allows a return to those who were interested in participating, closing a virtuous circle. In addition to managing the questions, the system allows the management of users and generates a responsive page (which adapts to small screens) with the book questionnaire.

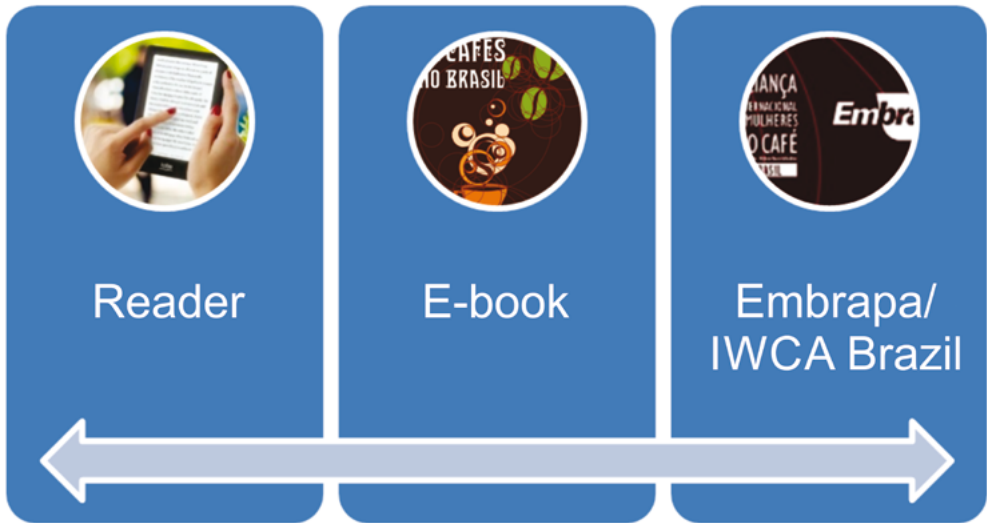


Figure 4. Interrelation between readers and partner institutions through feedback system accessed via e-books.

Final considerations

This experience of constructing a collaborative digital publication that deals with gender allowed involving a large number of women, representing different institutions in the initial phase of the work. The content of the book, which involves the experiences of women who plant, harvest and market coffee in different regions of Brazil, published in the e-book format, free and available on the Internet, increases women's access to information and knowledge, giving visibility to the work and demands of rural women, strengthening them and helping to end all forms of discrimination against women and girls (target 5.1). The feedback system at the end of the e-book opens up an online communication channel that allows readers to contribute new information that will not only improve future editions but can signal new projects that respond more effectively to the demands mentioned. This will increase the use of base technologies, in particular information and communication technologies, to promote the empowerment of women (target 5.B). It is imperative to encourage more and more the development of practices focused on the use of information and communication technology for greater interaction between the urban and the rural spheres, aiming at the strengthening of rural women and gender equality.

References

- ARZABE, C.; MACIEIRA, J. C.; MENEZES, R. S. S.; BALIZA, D. P.; MOURÃO, T. F. (Ed.). **Mulheres dos Cafés no Brasil**. Brasília, DF: Embrapa, 2017. E-book. Available at: <<http://ainfo.cnptia.embrapa.br/digital/bitstream/item/171617/1/mulheres-dos-caf-s-no-brasil.epub>>. Accessed on: Feb. 6, 2018.
- ARZABE, C.; MACIEIRA, J. C.; MENEZES, R. S. S.; BALIZA, D. P.; MOURÃO, T. F. (Ed.). **Mulheres dos Cafés no Brasil/Women in Coffee in Brazil**. Brasília, DF: Embrapa, 2018. 315 p.
- EMBRAPA. **Visão: o futuro da agricultura brasileira**. Brasília, DF: Embrapa, 2018. 220 p.
- HAMMES, V. S.; ARZABE, C. PGMacro for sustainability: a practice of planning and management and its visual artifacts. In: ORGANIZATIONS, ARTFACTS & PRACTICES, 6, 2016, Lisboa. **Materiality and institutions in management and organization studies: proceedings**. Portugal: Lisboa, 2016. p. 124-125.
- LEE, S. M.; OLSON, D. L.; TRIMI, S. Co-innovation: convergenomics, collaboration, and co-creation for organizational values. **Management Decision**, v. 50, n. 5, p. 817-831, 2012. DOI: [10.1108/00251741211227528](https://doi.org/10.1108/00251741211227528).
- PRAHALAD, C. K.; RAMASWAMY, V. Co-opting customer competence. **Harvard Business Review**, v. 78, n. 1, p. 79-90, 2000.
- RAMASWAMY, V.; GOUILLART, F. **The power of co-creation**. New York: The Free Press, 2010.
- UNITED NATIONS. **Sustainable development goal 5: Achieve gender equality and empower all women and girls: targets & indicators**. Available at: <<https://sustainabledevelopment.un.org/sdg5>>. Accessed on: Feb. 11, 2020.