A framework to the digital book design process

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Introduction
**Context**

The book undergoes a transformation (Cordón-García and Arévalo 2015), being one of the last frontiers in the digitalization of the media (Procópio 2013).

In this sense, digital books have brought important changes, altering conception, production and distribution processes, as well as the culture associated with the book (Cordón-García 2016, Cardoso 2015, Kroes 2011, Pwc 2010).
Context

For example, the digital book enables interoperability between devices and different levels of content modularity (Dubini, 2013).

Meanwhile technological players (such as Google, Amazon, Facebook and Apple) became part of the publishing chain, which resulted in a change in the balance of power among the traditional players (De Voldere et al., 2017, Dubini 2013).

Therefore, the changes that affect the editorial context make this environment more like a system, a network (Mendonça 2015).
Context

So, given the current dynamics and complexities, it is necessary to rethink how these contexts of change for digital books are perceived (Wischenbart 2018).

The way to deal with the editorial problem must be different (Silva and Borges 2016).

• In the design context, it is fundamental to perceive the world in a broader way (Moraes 2010).

• To change the perspective from objects to relationships, considering the parts, but also the whole (Capra and Luisi 2014).
Purpose

Based on these arguments, this research aimed to propose a framework for the digital book design process, from a systemic perspective.

• A framework can be understood as a visual representation of a system that shows its elements and evidences their relationships (Ideo 2015).

• This may help designers to take into account the specificities of digital books and the current complexity of the editorial scenario.
Design & Methodology
Phases of the research

Of applied nature, this research adopted a qualitative approach and is structured in five main phases:

• Literature review;
• Interviews with professionals;
• First framework elaboration;
• Framework validity check;
• Framework finalization;
Phase 1 Literature review

A literature review about the **digital book and the editorial context** was carried out.


Based on the sources found, largely in the light of book publishing, the implications of the findings for the design process were not fully explicit, which justified interviews with professionals that work in the digital book segment.
Phase 2 *Interviews with professionals*

Nine semi-structured interviews were conducted with professionals that work in the digital books segment.

- 3 traditional large publishing houses;
- 6 small/medium sized technology companies and/or independent publishing houses;
- 2 produce “book apps”;
- 1 develops web language digital books;
- 6 produce books of fluid and/or fixed layout (ePUB);
- 7 Brazilian companies;
- 2 American companies;
Phase 2  **Interviews with professionals**

The core of the interviews allowed the identification of which **elements and relationships influence the digital book design process** in the conjuncture of the professional practices of the participants, also seeking to deepen the previous literature review.

- The **content analysis method** proposed by Bardin (2016) was used for the qualitative data processing.
- To assist it the qualitative data analysis software **ATLAS.ti** was used along with the **categorical analysis technique** (Bardin 2016)
Phase 2 *Interviews with professionals*

The participants’ answers were coded and these codes were related to the topics of the questions. From the proximity/similarity between codes, it was possible to categorize them in thematic families.

**ANSWERS (SAMPLES):**

[...], then you pick up the features of that platform and take that into account in the book (PARTICIPANT 01, translated, emphasis added).

So we made a list of all of the features that the phone could do, and then we tried to say which ones would be interesting to use as an integral part on the narrative (PARTICIPANT 09, emphasis added).

**CODE:**

POSSIBILITIES AND LIMITATIONS OF THE DEVICES, FORMATS AND PLATFORMS

**FAMILY:**

TECHNOLOGY
Phase 2 *Interviews with professionals*

This allowed the identification of the main influence factors in the design process at different levels, according to their degree of recurrence.
Phase 3 **First framework elaboration**

Based on the inference of the data obtained in the literature review and in the interviews with professionals, premises were formulated to guide the drawing of the first version of the framework.

In short:

- The framework would have entities (factors) connected by lines that represented qualitatively the intensity of their relationships.
- On the other hand, the regions would demarcate the relevance of the graphs for the digital book design process.
Phase 4  **Framework validity check**

To check the **external validity** of the first version of the framework, a focus group was held in a single session with **5 Brazilian designers** that research the digital book or with experience in the editorial or digital fields of Design.

- External validity refers to the possibility of describing the results, understanding and extrapolating them to other situations (Ollaik and Ziller 2012).

The **contributions of the designers directed modifications** in the framework that led to its final version.
Phase 5 Framework finalization

In the last phase of the study, the framework was adjusted, refined and named “Framebook”.
Outcomes
Framebook

Framebook is an explanatory framework, whose objective is to aid in the perception of the complexity and planning of the digital book design process.

It is presented as a visual representation of the system of factors that influence the referred process.

The proposition is directed to designers, both in the context of teams in technology and publishing companies as well as in individual working in an independent scenario.
Framebook

The factors brought into the framework are grouped into three regions: primary, secondary and tertiary factors.
Framebook

The **primary** factors correspond to the **Content**, the **Technology** and the **Reader**.

- They are **essential** to the entire digital book design process, since the system of this artifact is conditioned by the way in which **each of these factors makes possible the relationship between the others**.
- They form the **core** of the framework, where the **conceptual conception** of the book arises.

<table>
<thead>
<tr>
<th>Primary Factors</th>
<th>Description of the primary factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content</td>
<td>It refers to the definition, organization and structuring of content, as well as delimitation of media and interactive resources. It covers issues related to the nature of the content, the media to be used and the narrative/plot of the digital book, as well as specific properties of the content such as its extension and its potential and quality in the digital environment.</td>
</tr>
<tr>
<td>Technology</td>
<td>It refers to definitions of formats, devices and publication features. It is related to possibilities and limitations of devices, formats and distribution platforms, to interoperability, as well as availability, complexity and technical viability of the technological options.</td>
</tr>
<tr>
<td>Reader</td>
<td>It refers to the understanding of the target audience, that is, the user of the publication and its relationship with the artifact. The factor concerns issues related to the habits and characteristics of the reader/user, the desired reading/use experience, the form of access to the publication, the reach of the digital book, as well as the accessibility requirements.</td>
</tr>
</tbody>
</table>
Framebook

The secondary factors are less relevant than primary factors. However, they have a considerable influence on design decisions regarding the essence of the digital book (content and technology).

The tertiary factors are on the edge of the system, but they still must be considered in the digital book design process.

<table>
<thead>
<tr>
<th>Secondary Factors</th>
<th>Tertiary Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author</td>
<td>Digital Rights</td>
</tr>
<tr>
<td>Other Agents</td>
<td>Similar Digital Books</td>
</tr>
<tr>
<td>Publisher</td>
<td>Technological Players</td>
</tr>
<tr>
<td>Business Management</td>
<td></td>
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<tr>
<td>Distributor</td>
<td></td>
</tr>
<tr>
<td>Library</td>
<td></td>
</tr>
<tr>
<td>Printed Book</td>
<td></td>
</tr>
</tbody>
</table>

Description of the secondary and tertiary factors.

- **Author**: It refers to the individual or group responsible for the idealization of the digital book and/or production of the content, with regards to their opinions and decisions.
- **Other Agents**: It refers to other professionals involved in the process, such as designers, developers, proofreaders, translators, etc., with regards to their opinions.
- **Publisher**: It refers to the individual or group responsible for the digital book publishing, with regards to their opinions and decisions.
- **Business Management**: It refers to the business’ strategies, company’s policies and limitations as well as issues related to the commercial feasibility of the project decisions.
- **Distributor**: It refers to distribution platforms, with regards to their impositions and limitations, as well as restrictions and commercial agreements related to the distribution of the digital book.
- **Library**: It refers to the role of libraries in the context of the digital book publishing.
- **Printed Book**: It refers to the printed equivalent of the digital book (if any), with regards to content, graphic design and/or concept fidelity between both.
- **Digital Rights**: It refers to the digital book’s and content’s permissions and restrictions (where applicable), as well as the content’s and user’s security.
- **Similar Digital Books**: It refers to other similar digital books, that is, the recurring solutions in the industry for the same type of digital book.
- **Technological Players**: It refers to digital platforms and device manufacturers, with regards to restraints and/or opportunities caused by the technological evolution, as well as the archiving and preservation of the digital book.
Framebook

Given the precept of systemic thinking that the properties of the parts can only be understood from the organization of the whole, the factors are connected to each other.

RELATIONSHIPS BETWEEN FACTORS

- INSEPARABLE RELATIONSHIP
- INTENSE RELATIONSHIP
- MODERATE RELATIONSHIP
- LIGHT RELATIONSHIP
Framebook

A FRAMEWORK TO THE DIGITAL BOOK DESIGN PROCESS
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Framebook

As can be seen, the relationships between the factors are circular, where they influence each other mutually,

Therefore, the complexity of the project decisions in the design process of the digital book is high and vary according to the project context.
Framebook

To complement the understanding of the framework and the relationships between the factors, the proposition contemplates subfactors.

- Each factor is summarized in one or more subfactors.
### Framebook

A FRAMEWORK TO THE DIGITAL BOOK DESIGN PROCESS

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#### OUTCOMES

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#### Framebook

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>SUBFACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTHOR</td>
<td>Opinions</td>
</tr>
<tr>
<td></td>
<td>Decisions</td>
</tr>
<tr>
<td>OTHER AGENTS</td>
<td>Opinions</td>
</tr>
<tr>
<td>PUBLISHER</td>
<td>Opinions</td>
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<tr>
<td></td>
<td>Editorial decisions</td>
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<tr>
<td>BUSINESS MANAGEMENT</td>
<td>Business strategies</td>
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<tr>
<td></td>
<td>Commercial viability</td>
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<tr>
<td></td>
<td>Business policies and limitations</td>
</tr>
<tr>
<td>DISTRIBUTOR</td>
<td>Platform impositions and limitations</td>
</tr>
<tr>
<td></td>
<td>Restrictions and contractual agreements</td>
</tr>
<tr>
<td>LIBRARY</td>
<td>Library as distributor or store/bookstore</td>
</tr>
</tbody>
</table>

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#### FACTORS

<table>
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<tr>
<td>Fidelity to content, graphic design and/or concept</td>
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<tr>
<td>DIGITAL RIGHTS</td>
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<tr>
<td>Restrictions and use permissions</td>
</tr>
<tr>
<td>Content and user safety</td>
</tr>
<tr>
<td>SIMILAR DIGITAL BOOKS</td>
</tr>
<tr>
<td>Recurring solutions</td>
</tr>
<tr>
<td>TECHNOLOGICAL PLAYERS</td>
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<tr>
<td>Technological evolution</td>
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<tr>
<td>Archiving and preservation</td>
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</tbody>
</table>

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Framebook

Because it portrays an open and dynamic system, Framebook also allows the addition or removal of factors according to the need of each project or evolution of the system.
Framebook

While not taking on an applied commitment, Framebook can be used in different instances during a digital book project, for example:

- In the context of briefing;
- In the listing of design requirements;
- In the generation of a project checklist tool.

By structuring a systemic view that demonstrates the breadth and complexity of digital book design, it can contribute to a more precise and coherent design process.
Conclusion
**Final considerations**

It is important to emphasize that the framework was conceived as a **conceptual instrument** and its usefulness is mainly in the **visualization and understanding of the complexity** and **planning of the digital book design process**.

The proposition is able to demonstrate the complexity of the digital book design process in a **systemic, comprehensive and flexible** way, comprising **multiple types of digital books**, from the simplest to the most sophisticated ones.
Final considerations

It should be noted that not all relationships between primary, secondary, and tertiary factors were made explicit.

In addition, it is relevant to emphasize that both elements and relationships were pointed out from the specific universe of this research. Therefore, such system is subject to change according to other perspectives of the same context.
CONCLUSION

References


Acknowledgements
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