ORIGINAL ARTICLE

A modular graphic identity proposal in rebranding an educational programme

Carolina Faria[1*], Marta Fernandes[2*]

[1]ESMAD, Polytechnic Institute of Porto, Rua Dr. Roberto Frias, 712 4200-465 Porto, Portugal
[2]ESMAD, Polytechnic Institute of Porto, uniMAD / ID+
*Corresponding authors: clfaria.2@gmail.com, msbpf@esmad.ipp.pt

ABSTRACT

Challenge Based Innovation (CBI) is a university programme where student teams create innovative design projects in collaboration with CERN. Each university participating in CBI creates its version of the program. Thus, this is not a closed program, but open to different curricula, periods and student backgrounds. Despite the impact on the participants and potential of the program, it is not as internationally recognised as it could be. This paper presents results of an experimental project that rebrands and redesigns the graphic identity of CBI in order to increase its recognition, better communicate its goals and project outcomes. The process involved an understanding of the problem, provided by interviews with the main stakeholders, along with the identity development attained through brainstorming, sketching, experimental prototyping and iterating. The result aims to be a distinct modular brand, that represents the openness of the programme and its connection with technology and society.

Keywords: design; brand; identity; education.

INTRODUCTION

Challenge Based Innovation (CBI) is a design programme, where multidisciplinary student teams are inspired by CERN technology and mentored by CERN employees to create projects that have a positive impact in society (Toivonen, H., Palomaki, S., 2018, November 20, Personal interview) (figure 1).
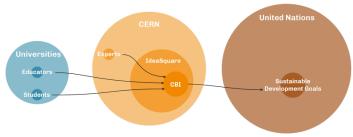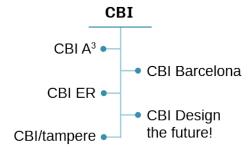

Fig. 1. CBI stakeholders.

As offers from other project-based programmes emerge in universities, there is an increasing need to communicate the programme clearly and in a way that helps it stand out from its peers and attract high-performance students, ready to take upon CBI challenging projects (Dosi, C., 2018, December 27, Personal interview). An effective communication is also needed to showcase the project outcomes globally, since the programme welcomes universities from all around the world to participate.

Challenge Based Innovation is a complex programme, as it does not have a fixed curriculum, time frame nor the same participating universities. This implies that each university participating in the programme decides, together with CBI's managing team at CERN, what methodologies to apply, the time frame (from a few weeks to a full semester) and with what other universities it will collaborate with. With this outline it becomes evident that there are several variants of CBI happening in parallel (figure 2). The common characteristic is that all of them collaborate with CERN and are inspired by CERN technology to develop projects with societal impact (Toivonen, H., Palomaki, S., 2018, November 20, Personal interview).

Fig. 2. CBI programmes that took place in 2018/2019.

The problems initially found in CBI's communication were mostly related to the poor use of communication channels and the gathering and showcasing of its results with all of the university communities involved.

Firstly, the CBI brand is little recognised (Toivonen, H., Palomaki, S., 2018, November 20, Personal

interview), inside and outside CERN, and in partner universities. Only the current participants recognise the programme and understand what it is about. Also, the communication channels in use do not demonstrate the objectives and value of the program to potential students, partner universities and other entities interested in getting involved with projects (Leveratto, L., 2019, January 9, Personal interview).

Lacking a strong umbrella brand, some CBI programmes created their own graphic identities (logos and websites, mostly). This leads to a loss of control of how the programme is communicated globally by the CBI organising team at CERN. Lastly, there is lack of initial alignment of how to capture project results (Toivonen, H., Palomaki, S., 2018, November 20, Personal interview). This leads to many projects not being archived or poorly recorded by students.

These problems led to the research question: How might we rebrand an ever-changing educational programme with a flexible graphic identity?

THEORETICAL BACKGROUND

In this project, a literary review of brand and graphic identity was essential to frame the characteristics and functions of a good brand. A focus on the study of modular and dynamic identities was relevant to explore possibilities on how to express and communicate an ever-changing brand – the case of CBI. Further developments included the analysis of three case studies, that framed the practicalities of modular identities. This pointed to what should be considered when designing a very international modular graphic identity.

Brand identity

A brand is a medium to identify and characterise a product, person or entity. It is also a message - the meaning that a particular product, person or entity has. (Ollins 1990).

A brand identity essentially answers these questions: *"Who are you? Who needs to know? Why should they care? How will they find out?"* (Wheeler 2009, s. 23). Brand identity is relevant today because it communicates the brand values and its heritage (Peter Doyle 2001). It helps a product, person or entity to stand out from its competition, by assisting consumers to choose it (Wheeler 2009). These definitions show that a brand is perceived not only by its visual properties but also by the strategic presence and positioning in various communication channels.

"Why is branding important? Because people often choose products based on their perceived value rather than their actual value" (Airey 2015, s. 25). This quote is also relevant not only for commercial brands, but also for all other sectors, such as education. A student picking

what courses to take, without previous experience, will choose a course based on the perceived value it might have. This perception is based not so much on facts, but, for example, on conversations she has with other people, the visual communication that she encounters or her interpretation of the information these entities provide in their communication channels.

Responsible brand

Considering that brands convey messages and that the public interpretation of the brand is separate from the message conveyed (Neumeier 2005), it is important to consider the impacts of the messages that brands try to convey and their possible misinterpretations.

Also, it is important to be aware that a design cannot be disconnected from the values and assumptions in which it is created (Pater 2016). *"At the root of miscommunication lies the assumption that people will understand us because we use 'universal' or 'objective' communication."* (Pater, 2016, s. 5). This is especially relevant for the project that this article works on, as CBI is a programme happening in several universities around the world.

Graphic identity

A graphic identity is made of logo, typography, colour, language, graphic elements and imagery (Nes 2014). Together these elements form a system for which the brand is recognised. Each element helps to shape the graphic identity. The better defined these elements are, the more identifiable a brand becomes (Wheeler 2009). It excludes other disciplines such as marketing, needed to develop the brand's communication plan. So, it focuses on the development of the visual representation of a brand and sets the rules that will be applied to all communication channels, in order to ensure a cohesive overall message.

Modular and Dynamic graphic identity

Modular identities separate and recombine some of the elements that make a graphic identity. They have fixed elements, giving several options of how to use them. These elements share the same language, but nothing new is added to the identity system (Bone 2017).

In dynamic identities, fixed elements help the audience recognize the brand, flexible elements allow for a livelier and more adaptable brand (Nes 2014). Flexible elements involve external input, which allows the brand to adapt their messages further and grow with their audiences. However, more flexibility implies more responsibility, being that dynamic identities require more attention to ensure they evolve in the desired direction.

An example of a modular identity is the one designed by Pentagram for Electronic Frontier Foundation (EFF). It is a nonprofit organization defending civil liberties in the digital world (figure 3), that has a flexible monogram

that adapts to different sizes and imagery used with it (Pentagram 2018).

Fig. 3. Examples of EFF's modular logo and its application.

An example of a dynamic identity is OCAD University, created by Bruce Mau Design in 2011 (figure 4). It allows students, professors and managers to contribute to the identity. The "empty" logo is a frame ready to be filled by intervenients (Butler 2011). For example, every year, graduating students design new elements that are added to the set of logos for that school year.

Fig. 4. Examples of logos and applications of the OCAD University identity.

METHOD AND DATA

The practical project is divided into two parts, 'Understanding the problem' and the 'Development of the graphic identity'. Alongside these two parts there was also the 'Theoretical research' part, which granted more secure and grounded reasons for the choosing of a modular identity.

'Understanding the problem' included desk research on CBI, IdeaSquare and CERN to better understand the context in which the programme is inserted. It also included field research by visiting IdeaSquare, where the programme happens, and conducting in-person and Skype qualitative interviews to CBI teaching team members, CERN mentors and the CBI organising team

at CERN. There was a total of twelve qualitative interviews, which were recorded and transcribed. The interview guides can be found in appendix A and B. These interviews were aimed at understanding how each stakeholder describes the programme, their experiences, their views on its communication and future.

Furthermore, the 'Understanding the problem' part involved surveys to current CBI students and alumni students. These had the purpose of understanding the students' perspective on CBI and their communication with other CBI programmes (Martin & Hanington 2012). The questions to alumni students were included in a survey conducted by IdeaSquare that aimed at gathering more information. The survey for current students was answered by nine people, while the survey to alumni was answered by fifty-seven students. The questionnaire can be found in appendix C.

After collecting the perspectives of these different groups of people, the analysis of results started. The interviews were analysed, by comparing them to each other in an interview matrix. It analysed what answers were given to the same questions in order to identify the most relevant themes to explore in the project. The surveys were analysed by comparing answers to find relevant themes, as well. This generated insights on the problems and opportunities for CBI's communication. Also, it generated insights on the description of the CBI brand.

Following the next part, in 'Developing the graphic identity', various methods were used, such as concept mapping, brainstorming and sketching (Lupton & Phillips 2014). Some parts of the development happened at the same time as testing and iterating the graphic identity, with the CBI organising team, the teaching teams and the students.

It should be emphasised that the progress made in 'Understanding the problem' and 'Development of the graphic identity' overlapped at times. It was necessary to experiment with dynamic and modular identities while interviewing. The decision on which was adequate for CBI was based on the identified problems revealed during interviews and also on the conclusions drawn from brainstorming, sketching and the 'Theoretical research'.

Also, the brand applications involved a large amount of experimentation on a graphic design level, to explore the different ways to communicate the goals of each brand piece.

Finally, at the end of the project, there was a last phase of testing, where the whole work was validated with the CBI managing team. Overall, there was an active project development, in which previously made decisions were changed as solutions were developed and tested, not blindly following a plan.
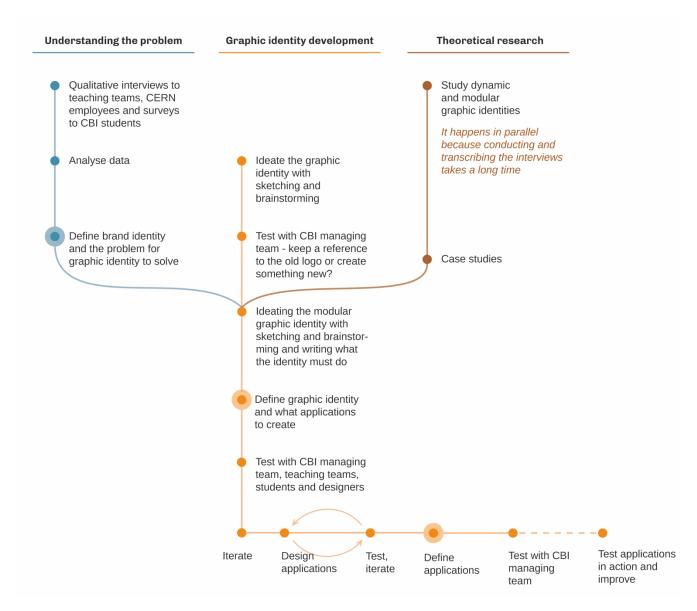
C. Faria; M. Fernandes

Understanding the problem

- Qualitative interviews to teaching teams, CERN employees and surveys to CBI students

- Analyse data

- Define brand identity and the problem for graphic identity to solve

Graphic identity development

- Ideate the graphic identity with sketching and brainstorming

- Test with CBI managing team - keep a reference to the old logo or create something new?

- Ideating the modular graphic identity with sketching and brainstorming and writing what the identity must do

- Define graphic identity and what applications to create

- Test with CBI managing team, teaching teams, students and designers

Iterate — Design applications — Test, iterate — Define applications — Test with CBI managing team — Test applications in action and improve

Theoretical research

- Study dynamic and modular graphic identities

  It happens in parallel because conducting and transcribing the interviews takes a long time

- Case studies

Fig. 5. Project development process

RESULTS

The results of the 'Understanding the problem' phase were identifying problems and opportunities, which strengthened the need for a service re-design of CBI and its rebranding.

It confirmed the research question mentioned in this paper's introduction, and it reframed the specificity of the applications to be produced after the Graphic identity development stage started. The brand positioning would become expressed by the outcome of the new graphic identity and its applications.

Identified problems in CBI communication

In 'Understanding the problem', some of the problems initially identified and described in the introduction were confirmed. Besides those, other problems were found. It was concluded that CBI's communication problem involves the communication channels, the graphic guidelines, the gathering and showcasing of its results with the university community and also the lack of connection with CERN employees.

Communication channels are scattered and not communicating a unified and clear message (Leveratto, L., 2019, January 9, Personal interview). The main channel is the website, which is currently not showing clearly what CBI is. This lack of communication also creates difficulties in connecting with CBI mentors - CERN employees who volunteer to mentor student projects (Thong, C., 2018, January 6, Personal interview, Leveratto, L., 2019, January 9, Personal interview). Also, universities have created their ways of communicating the programme, and some have also created their independent graphic images (Thong, C., 2018, January 6, Personal interview, Leveratto, L., 2019, January 9, Personal interview). For that reason, there is a need to align all CBI programmes (Toivonen, H., Palomaki, S., 2018, November 20, Personal interview), so that communication is more effective and the impact of CBI as a whole is more evident.

The very limited graphic guidelines are not being used because people do not know how to take advantage of them to increase the impact of what they want to communicate (Leveratto, L., 2019, January 9, Personal interview). Therefore, guidance could be given in an easier and clearer manner.

As described in the introduction, projects are not being well archived, which limits knowledge sharing and further study on the results of CBI over the years.

Identified opportunities in CBI communication

These problems can be turned into many opportunities to improve the programme's communication.

The students' and teaching teams' challenge of explaining what CBI is to family, friends, colleagues, is an opportunity for CBI, "the mother programme", to be the primary communicator of how the programme works, what stakeholders are involved and the benefits for students. For instance, by having a clear explanation of the programme on the website.

The challenge of involving CERN staff to volunteer to be mentors is an opportunity to use graphic design to engage with them, by showcasing projects and CBI events happening in CERN premises. As an example, during the year, communicating what is happening in the different CBI programmes can create a genuine interest and curiosity in the students' projects.

Additionally, templates can be provided for archiving project results, that can be used to show each team's outcome clearly and concisely. On the other hand, the organising team can provide good quality photographic and video material to explain CBI by making sure that all CBI events at IdeaSquare are well documented and are later published in an easy-to-access platform.

Also, renovating the graphic identity is an opportunity to address the need to align the programmes from the get-go, in order to measure the impact of each project after the course.

Service re-design

In order to answer to the opportunities described above, several actions should be in place before, during and after each programme:

1. **Before** it starts, when a new university joins CBI, they are given a communication kit that includes graphic guidelines and presentations explaining the programme.
2. **Before** each CBI programme starts, universities are informed on how their student teams should archive their developed work and how educators should archive the process and methodologies used in that edition.
3. **During** each programme, students are asked to share photos of their projects in specific platforms, where they are easy to access and to understand their chronological order. During the universities' visits to CERN, photographs and videos are taken by professionals, that document the event and record people's perspectives on their experience so far.
4. **During** the programme, there are regular Skype meetings where all teaching teams share their experiences and where people are regularly informed on communication guidelines and what new pieces of communication have been produced.
5. **After** each programme, the CBI organising team makes sure that all programme methodologies and project outcomes are well documented and shared with the community.
6. **After**, students are asked to fill a survey to measure impact and see what to improve in the programme and how much CBI is contributing to CERN's mission of education.

This system describes only the interactions between the people that make CBI happen. In between, there should be all graphic materials necessary to facilitate these interactions. These should be flexible and adaptable to diverse content and easy to use by people from different backgrounds, such as business, engineering and design.

CBI rebranding

One of the main conclusions of the Understanding the problem stage was creating an updated description of the CBI brand. It was concluded that the programme could be defined with six keywords: organic, technology, innovation, society, collaboration and education, as seen in figure 6 and explained bellow.

Fig. 6. Keywords that define the main characteristics of CBI.

Organic in the sense that it is ever-changing, its format depends on who are the people organising it and what they envision. Therefore, it is like a white canvas, that can have many ways of doing CBI, as long as it aligns with CERN's goal of education.

[CBI] is a chance to experiment with methodologies and collaboration formats. (Thong, C., 2018, January 6, Personal interview)

Technology because being connected with CERN involves consideration for technology and science. Moreover, whatever version of CBI is created, it somehow involves the dichotomy of science with design, technology with society and how these worlds are connected.

[CBI] is the bridge between technological ideas that come from instrumentation development or basic research with everyday life. What CERN produces is the knowledge of how to produce these technologies. On the other end of the spectrum is everyday life, how to use that knowledge for solving societal problems. (Toivonen, H., 2018, November 20, Personal interview)

Innovation is one of the mottos because it connects with CERN's mission of thinking beyond the status quo.

Unite people from all over the world to push the frontiers of science and technology, for the benefit of all. (CERN 2019)

Collaboration as the foundation for CBI to happen, be it through the collaboration with universities, external entities, CERN staff or any other stakeholder that might join the programme.

In our case, all the disciplines of the teaching team are very involved in CBI Barcelona. We have been working together, meeting every week, so we also learn to work in a multidisciplinary teaching team. (Leveratto, L., 2019, January 9, Personal interview)

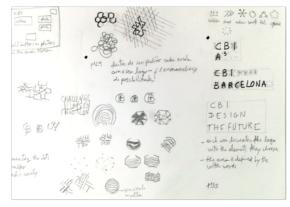**Society** as CBI is a way of applying technology for societal impact.

Challenge based innovation [the name] only refers to the first part, solving problems. We also use a framework, the Sustainable Development Goals, to focus on a social need. (Bragós, R., 2018, December 14, Personal interview)

Education is one of the main purposes of CBI and the connection to CERN's goals. It is now the education of university students, but it might embrace other groups of people.

From a student perspective, it was a huge learning experience on working in multidisciplinary teams, feeling comfortable with uncertainty, doing something that is challenge-based and following the design thinking method to do that. So, I do see CBI as a prototype of the future of education. Challenge-based is the future and working in multidisciplinary teams is as well. So, I think it's a good prototype of what that would look like. (Haddad, F. 2018, December 14, Personal interview)

Experiments on the graphic identity

With the keywords in mind, brand identity experimentation starts. In the initial sketches, there was an attempt to try both modular and dynamic identities, where some referred to the previous CBI logo and others did not (Figure 7).
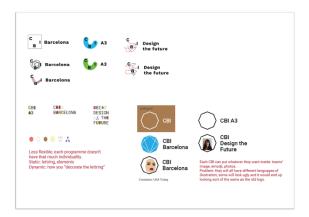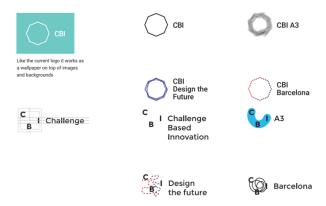
Fig. 7. Examples of experimentation on the brand identity.

There was a first presentation to the CBI managing team, to ask if there was a preference for making a reference to the previous logo or creating a new graphic representation for CBI (figure 8). Both graphic identities presented are dynamic. The idea at the time was to empower each of the universities creating a CBI programme, by letting them create their logo within a set of rules. The conclusion was that it was better to keep a reference to the previous logo, because it already had some recognition.
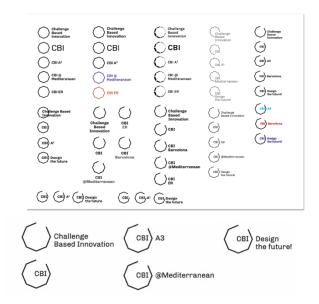
> I would lean towards the first alternative using the octagon symbol. It is important that it is easy to recognise by the CBI community. (Santeri Palomaki, CBI managing team)

Fig. 8. Two initial proposals for the graphic identity, to decide what path to pursue: a reference to the previous logo or a completely new proposal.

After reviewing the interview analysis, it was clear that a modular identity was the right solution as it does not require much effort from the teaching teams. A dynamic identity also involves maintenance that is not feasible since CBI does not have an in-house designer.

The experimentation continues with a modular identity that keeps a reference to the octagonal symbol present in the previous CBI logo, as seen in figure 9.

Fig. 9. Examples of exploration of the CBI logo and a highlighted example of this exploration.

This exploration was discussed with design professionals, in terms of shape balance and typography use. The importance of typography was enhanced in the discussions, as a way to stand out the brand. The feedback received was integrated in the iterations of the brand identity.

Regarding the highlighted example in figure 9, the following comment was made:

> I believe this is a balanced shape, especially in how it can integrate with typography. However, it depends on the chosen typographic font. It must be chosen wisely to keep the balance and still be an element of innovation in the brand, that stands out. (Hugo Ferreira, graphic designer)

Further developments led to what is seen in figure 10, being highlighted the following comment:

> The modularity of the logo works very well with varying lengths of programme names. But I believe there is a strange tension between the letter I in CBI and the logo, that requires optical compensation. (Rita Almeida, graphic designer)
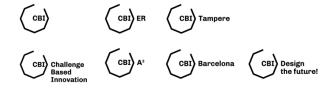

Fig. 10. Further developments of the logotype.

After more iterations and defining the whole brand identity, the latest graphic identity was presented to several professors of CBI in a skype call and it was

approved. Afterwards, final refinements were made at the same time as the applications were developed.

The new graphic identity in summary

With the previous conclusions in mind, the new graphic identity was designed, see appendix E.

The **logo** of CBI keeps a reference to its previous logo, by using a shape similar to an octagon. This reference is important to keep brand recognition within the CBI community, as emphasised by the CBI managing team. However, the logo is now open, because CBI is not a closed programme: it is open to different universities, different disciplines, different approaches.

The graphic identity is modular. The logo lettering of each CBI programme varies, embracing the names of each CBI version. A modular identity was chosen because it gives enough flexibility to incorporate new programmes that will be created. Also, because the process of creating a new logo is short, in comparison to a dynamic identity. A conclusion from the interviews with teaching teams is that the graphic image is secondary in the programmes, and often the professors do not have time to develop a logo.

Regarding **typography**, open-source typographic fonts were chosen to increase the easiness of download and usage. The importance of using open-source fonts was emphasised in the in-person interview with Laura Ferreira, on the SUGAR network rebranding (Ferreira, L., 2018, November 20, Personal interview). Similar to CBI, SUGAR Network is a network of several universities around the world.

Orange is the main **colour** of the graphic identity. It is connected with meanings of joy, warmth, creativity, encouragement. The uniqueness and uncommonness of orange can be used to build a memorable visual brand (Meyer 2018). On the other hand, it is one of the main colours of the structures in IdeaSquare. This is very relevant because one of the main parts of all programmes is when CBI students go to IdeaSquare to work or present their projects. Therefore, CBI is very connected to this space.

Applications development

As brand identity is defined, the brand applications started being developed. These included a website, posters templates, booklet template, presentation template, social media guidelines, project archive guidelines.

There were changes that were made to the applications during their development, as a result of designing them and discussing with the CBI managing team.

For example, initially, there was an application of a booklet to collect and document the projects. Each project filled one-pager that would be printed and archived. This physical format turned out to not be useful, especially as the same information could be collected and archived on the CBI website. Therefore, this booklet changed to "Project archive guidelines", which ensures that the projects showcase the same information on the website.

Website

Within the communication channels, the website is one of the platforms on which communication has the most significant impact, as it is a global programme whose broader reach is digitally achieved. It should thus be an extension of the physical space and events of the course. Just as people would go to CBI at CERN, get to know the organisers, and ask questions about it, people should be able to visit the website and have as much of the same experience as possible. The primary target audience of the website are the students. On the one hand current and alumni students that want to show CBI, for instance, to future employers. On the other hand, potential CBI students that could choose CBI over all other project-based programmes available in their universities. Although students are the main target group, the audience is extended to universities, CERN employees and external stakeholders that might be interested in the projects.

The old website was first tested by observing three people – a student, a possible external stakeholder and a university teaching team member - using it and later discussing what their understanding of CBI was based on navigating its webpage.

> It's like a programme for students with CERN, but I don't really understand what it is about. It's too abstract. (Matilde Ramos, Materials Engineering student)

The conclusion was that the subpages' communication is vague and non-concrete, the page order appears to be random and the introductory video is not informative for an outsider. The three people who tested it did not understand what CBI is.

Afterwards, the website was developed and iterated at the same time as being shared with the CBI managing team and design professionals (figure 11).

Fig. 11. Website exploration.

One comment made at the beginning of the exploration refers mostly to the use of images and typographic fonts.

> The overall structure seems to work well, although the images should be better thought to create a bigger impact. The italic type used in the landing page does not work very well, as it has a more traditional tone, not appropriate to CBI." (Hugo Ferreira, graphic designer)

The latest version of the website was tested through a survey, with ten students, as this is the main target audience. Five students knew CBI and the other five did not. The questionnaire can be found in appendix D. It was concluded that the website was informative; all participants understood what CBI is. However, the website missed calls-to-action and the benefits of taking the course were not clear. The website was iterated, leading to the final version (appendix F). The text and headings content were improved to enhance the value provided to students that enroll in CBI. The website uses many photographs to create a clear message and proximity to the audience. Furthermore, the projects page is intended to archive all CBI projects. The contacts page includes a call-to-action, inviting visitors to ask questions and get involved.

DISCUSSION AND CONCLUSIONS

How might we rebrand an ever-changing educational programme with a flexible graphic identity?

This project had the main objective of answering the above question while rebranding the educational programme CBI.

The theoretical research, together with the understanding of the network of stakeholders involved in CBI and with the visual experimentation, allowed for the conclusion that a modular identity is an appropriate fit for the CBI graphic identity. It provides enough flexibility to communicate the programmes, with various names and structures, while ensuring that all programmes are recognised as part of CBI.

This project proposes one possible solution for the graphic identity, that creates a more explicit connection to CERN in its communication channels. The graphic identity is able to include the next programs that will come, with varying methodologies, student profiles, timeframes.

At the same time, the guidelines are detailed with further recommendations, for teaching teams with different backgrounds and little time to dedicate to the communication of the program.

This project aims at giving teaching teams more tools to communicate CBI. Universities should use these brand identity guidelines flexibly, according to their needs. Some universities have more imposing brand guidelines

than others. Therefore, teaching teams should decide how to use the CBI branding in the branding line of their home institutions.

Besides, this project expects to evoke interest in further experimentation on CBI's communication. For instance, in creating more engagement with the CERN community or in keeping an active community between all CBI participants. The results from this research could easily be experimented in IdeaSquare to further see how differing means and channels of communication could spark further innovations.

As the project was finalised and delivered, testing will be necessary afterwards, as teaching teams will use the graphic identity in their everyday work and realise advantages and drawbacks. As we can see in figure 5, the last step with a dashed line is yet to come, as the graphic identity is not a finished project, it requires updating and improving according to its usage.

ACKNOWLEDGEMENT

SUPPLEMENTARY MATERIALS

The supplementary materials include interview guidelines and survey questionnaires. Also, they include photographs of the brand applications and the brand guidelines.

Appendix A - Interview guide for IdeaSquare employees

Appendix B - Interview guide for teaching teams

Appendix C - Questionnaire for surveys conducted with alumni and current CBI students

Appendix D - Questionnaire for surveys conducted with students to evaluate the new website

Appendix E - CBI graphic identity guidelines

Appendix F – Brand applications photos (it includes website, booklet, posters)

REFERENCES

Aalto-Setälä, L., 2015, Inde - Enhancing Mobility, Geneva, Switzerland.

Airey, D., 2015, Logo Design Love, Peachpit Press, San Francisco, USA.

Alessandri, S. W., Yang, S. U. & Kinsey, D. F., 2006, An Integrative Approach to University Visual Identity and Reputation, Corporate Reputation Review, p. 258.

Armin, 2015, What's Old is Neue Again, Brand New: https://www.underconsideration.com/brandnew/archives/new_logo_and_identity_for_the_new_school_by_pentagram.php (Accessed on March 31)

Beirut, M., 2015, How to use graphic design, Talks at Google: https://www.youtube.com/watch?v=7NuKb9mk0ac&t=1039s

Björklund, T., Laakso, M., Kirjavainen, S. & Ekman, K., 2017, All you need is Love, Design, Business & Engineering and… passion-based co-creation, Aalto University Press, Helsinki, Finland.

Bone, J., 2017, The case for modularity: 3 approaches to fluid design systems, HolaBrief: https://www.holabrief.com/community/the-case-for-modularity-3-approaches-to-fluid-design-systems (Accessed on March 31)

Butler, A., 2011, Bruce Mau Design: New OCAD, DesignBoom: identity, https://www.designboom.com/design/bruce-mau-design-new-ocad-identity/

Case study EDP identity, 2012, AIGA The Professional Association for Design: https://www.aiga.org/case-study-edp-identity (Accessed on April 5)

Chaves, N., 2005, Imagen Corporativa, GG Diseño, Barcelona, Spain.

Coelho, R., 2013, Semiótica da marca, Repositório Aberto da Universidade do Porto, Porto, Portugal.

Costa, J., 2011, Design para os olhos: Marca, Cor, Identidade, Sinalética, DinaLivro, Lisboa, Portugal.

Doyle, P., 2001, Marketing Management and Strategy, Prentice Hall, New Jersey, NY, USA.

Dunne, C., 2015, Pentagram Rebrands The New School, Fast Company: https://www.fastcompany.com/3044390/pentagram-rebrands-the-new-school (Accessed on March 30).

Electronic Frontier Foundation Brand Identity, 2018, Pentagram: https://www.pentagram.com/work/electronic-frontier-foundation/story (Accessed on February 25)

Gregersen, E, 2019, World Wide Web, Encyclopaedia Britannica: https://www.britannica.com/topic/World-Wide-Web (Accessed on April 17)

Ibarra, J., 2016, Design Factory Global Network, DFGN branding: https://dfgn.org/ (Accessed on February 2)

Khalsa, D. S. & Stauth, C., 1999, Brain Longevity: The breakthrough medical program that improves your mind and memory, Grand Central Publishing, New York City, USA.

Lupton, E. & Phillips, J., 2014, Graphic Design Thinking: Beyond brainstorming, Princeton Architectural Press, New York, USA.

Martin, B. & Hanington, B., 2012 Universal Methods of Design, Rockport Publishers, Beverly, USA.

Martins, D. R., 2005, Gestão de Identidade Corporativa: do signo ao Código, RIA Repositório Institucional, Aveiro, Portugal.

Mendonca, R., 2012, Marca PPorto, Instituto Politecnico do Porto: https://www.ipp.pt/comunicacao/marca-pporto (Accessed on April 7)

Meyer, S. K., 2018, How 3 major brands use orange, Sierra Keller Meyer: http://sierrakellermeyer.com/blog/how-3-major-brands-use-orange (Accessed on February 7)

MIT Media Lab., 2010, The Green Eyl: http://www.thegreeneyl.com/mit-media-lab (Accessed on February 2)

Mollerup, P., 1999, Marks of Excelence: The History and
     Taxonomy of Trademarks, Phaidon Press, New York,
     USA.
Moreira, M., 2018, Understanding the problem – CERN staff.
     (C. Faria, Interviewer)
Morggridge, B., 2006, Designing interactions, The MIT Press,
     Boston, MA, USA.
Nes, I. V., 2014, Dynamic identities: How to create a living
     brand, BIS Publishers, Amsterdam, The Netherlands.
Neumeier, M., 2005, The Brand Gap, New Riders Publishing,
     San Francisco, USA.
Ollins, W., 1990, Corporate identity, Harvard Business
     School, Boston, MA, USA.
Pater, R., 2016, The politics of design, BIS Publishers,
     Amesterdam, The Netherlands.
PBL Trigger 3: Brand architecture and brand strategy, 2017,
     Study Blog:
     http://noorastudyblog.blogspot.com/2017/09/pbl-trigger-
     3-brand-architecture-and.html (Accessed on February 19)
Rita, M. & Areias, B., 2018, Geolight, Instituto Politécnico do
     Porto, Porto, Portugal.
Snabb, R., 2015, Aalto University, Behance:
     https://www.behance.net/gallery/25479395/Aalto-
     University (Accessed on March 2)
SUGAR Network, 2019, www.sugar-network.org/about
     (Accessed on August 9)
Sustainable Development Goal 12., 2019, Sustainable
     Development UN:
     https://sustainabledevelopment.un.org/sdg12 (Accessed on
     December 2018).
Temple, P., 2006, Branding higher education: illusion or
     reality? Policy and Practice in Higher Education,
     Perspectives, pp. 15-19.
The New School., 2015, Pentagram:
     https://www.pentagram.com/work/the-new-school/story
     (Accessed on February 9)
Wheeler, A., 2009, Designing Brand Identity, John Wiley &
     Sons, Inc, New Jersey, NY, USA.

Appendix A - Interview guide for IdeaSquare employees

Story

1. What is the story of CBI? How did it start?
2. What is its goal in your view?
3. What is the role of CBI? (does it disseminate CERN, connect CERN to other stakeholders, creates a sustainable image of CERN)
4. What's the role/relation of CBI to IdeaSquare? Do you feel like CBI belongs to IdeaSquare?
5. What's the role of CBI to Attract or vice-versa?
6. What impact has it had so far?
7. How has the impact changed over time?

What it is

8. What makes a CBI?
9. Please tell me about CBI PS/Design the future?
10. Santeri mentioned that it was a way to refresh the methodologies used in CBI and trying something new. Does this make sense? In what way?
11. What is the process of creating a new CBI?

Communication

12. With whom should CBI communicate in your view?
13. What's the relevance of communicating with the general public? Why?
14. What's the connection between CBI and all these stakeholders?
15. How do you think CBI is perceived?

Rebranding

16. What is the primary message that CBI should transmit?
17. What tone of image do you want to portray? / Please characterize CBI
18. How do you tell about CBI to other people? Do you show the website? Word of mouth?
19. How is CBI communicated?
20. What channels are used?

Future

21. What do you find as a need for the programme?
22. What is your personal wish for CBI? Where do you see CBI going? What would you like it to be?
23. What is the strategic plan for the next years? How does CBI want to grow?

Appendix B - Interview guide for teaching teams

What it is

1. What is CBI? What is its goal in your view?
2. What is the role of CBI?
3. What is your story with CBI? How did it all start?
4. You've been doing CBI for some years now. Why is it worth to continue doing CBI? Why not something different? What is still the advantage of CBI?
5. How do you characterize CBI?
6. How did you view CBI in relation to (your university)?
7. What are your difficulties/challenges while doing CBI?

Communication

8. What is the graphic identity of your CBI programme?
9. Why do they have a need to create a graphic image? Why didn't they just use the CBI logo?
10. When doing CBI, with whom do you need to communicate?
11. How do you tell about CBI to other people? Do you show the website? Word of mouth?
12. What is your personal wish for CBI? Where do you see CBI going? What would you like it to be?

Appendix C – Questionnaire for surveys conducted with alumni and current CBI students

Survey to former CBI students (alumni)

1. Do you still tell about your Course experience to other people (e.g. in a work context, or to friends and family)?
2. What do you tell/show to describe your experience?
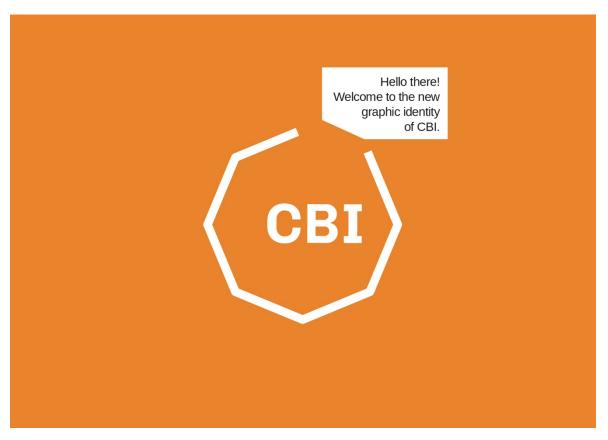3. How did the Course affect your way of thinking?

Survey to current CBI students of CBI Tampere (Tampere University, Finland) and CBI A3 (Porto Polytechnic, Portugal, Swinburne University of Technology, Australia, Pace University, New York, Mannheim University, Germany)

1. What are the advantages of taking CBI?
2. Do you still tell about your course experience to other people (e.g. in a work context, or to friends and family)?
3. What do you tell/show to describe your experience?
4. Do you get updated on how other CBI teams in other universities are running currently?
5. If yes, how do you get updated?

Appendix D - Questionnaire for surveys conducted with students to evaluate the new website

1. Did you know Challenge Based Innovation before?
2. From the website, what did you understand that CBI is? Please don't take a second look at the website, just write your understanding.
3. Please characterise it, in a scale of 1 to 5, where 1 is Uninformative, 5 is Informative and 3 is Neutral, if you don't have an opinion.
   a. Why?
4. Please characterise it, in a scale of 1 to 5, where 1 is Too little information, 5 is Too much information and 3 is Neutral, if you don't have an opinion.
   a. Why?
5. Please characterise it, in a scale of 1 to 5, where 1 is Confusing, 5 is Clear and 3 is Neutral, if you don't have an opinion.
   a. Why?
6. Please characterise it, in a scale of 1 to 5, where 1 is Nonintuitive, 5 is Intuitive and 3 is Neutral, if you don't have an opinion.
   a. Why?
7. Please characterise it, in a scale of 1 to 5, where 1 is Boring, 5 is Appealing and 3 is Neutral, if you don't have an opinion.
   a. Why?

C. Faria; M. Fernandes

Appendix E - CBI graphic identity guidelines

Index

Introduction

Welcome!
This document describes the use of CBI's graphic identity, from how to create and use logos, how to use typography, colours and tips on where to find and use the applications templates. All the materials for the CBI graphic identity can be found in CERN Box folder:
Link:
https://cernbox.cern.ch/index.php/s/nIIfVdNv5iErZ7a
Password: BrandNew2k19

If you are creating a new CBI:
1. Create a name for your programme.
2. Create a logo with logo creator (CERN BOX folder > CBI Logos > cbi_logo_making.ai)
3. Read the CBI archive instructions that you should be aware of in the beginning of the year and that your students will have to follow for us to capture and archive their projects coherently.
4. Read these instructions to create communication materials.

CBI was a great adventure

This looks interesting

This was a lot of work, but it was totally worth it!

Wow!

Identity
Characteristics

Organic in the sense that it is ever-changing, its format depends on who are the people organizing it and what they envision. Therefore it is like a white canvas, that can have many ways of doing CBI, as long as it goes with CERN's pillar of education.

Technology because being connected with CERN involves consideration for technology and science. And whatever version of CBI is created, it somehow involves the dichotomy of science with design, technology with society and how these worlds are connected.

Innovation is one of the mottos because it connects with CERN's mission of thinking beyond, *"unite people from all over the world to push the frontiers of science and technology, for the benefit of all."*

Society as CBI is a way of applying technology for societal impact.

Collaboration as the foundation for CBI to happen, be it through the collaboration with universities, external entities, CERN staff or any other stakeholder that might join the programme. It is created by the community of people and entities.

Education is one of the main purposes of CBI and the connection to CERN's goals. It is now the education of university students but it might embrace other groups of people.

Organic

Technology

Innovation

Society

Collaboration

Education

Logo

The concept

The logo of CBI keeps a reference to its previous logo, by using an octagon. However it is now open, because CBI is not a closed programme: it is open to different universities, different disciplines, different approaches, etc.

The main logo now embodies the text "CBI", as this is actually how all the people involved know the programme.

Logo

Mother programme

The logo of the programme has a short version as "CBI" and a complete version as "Challenge Based Innovation"
The short version should be used more commonly. The complete version should be used when the name of the programme becomes necessary.

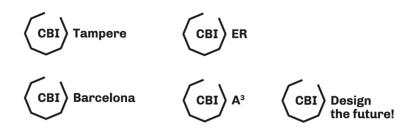Logo's short version.

Logo's complete version.

Logo

CBI programmes

The logo lettring varies, embrassing the names of each CBI version.

If you are creating a new CBI programme and you have not created your logo, do it with the Adobe Illustrator file "cbi_logo_making.ai", in the CERN Box folder > CBI Logos.

Please use the Adobe Illustrator file, even if you do not have the programme installed yet. It might seem easier to just create a logo using powerpoint or any other programme, but your logo will exist for a long time, you will use it often, so it is better to do an extra effort now and have a solid logo, for the rest of the year.

CBI ⟩ Tampere   CBI ⟩ ER

CBI ⟩ Barcelona   CBI ⟩ A³   CBI ⟩ Design the future!

Logo

Construction

The construction of the logo should keep the same distance between all elements, regardless of the name of the CBI version. The logo has a maximum length, that should be respected when building the logo.
If the name of the programme does not fit the three lines, it is probably too big.

Space with other elements
The geometric shapes around the logo mark the space that should be respected when using it next to other elements.

CBI ⟩ Challenge Based Innovation

Maximum length that the logo can have.

CBI ⟩ Challenge Based Innovation   CBI

Construction of the logo and breathing space.

Logo

Minimum sizes

Establishing a minimum size ensures that the impact and legibility of the logo is not compromised in application.

Digital
To ensure legibility and impact, the logotype should never be reproduced smaller than 40 px in any digital communication. The symbol should not be smaller than 16 px.

Print
To ensure legibility and impact, the logo should never be reproduced smaller than 10 mm in any print communication. The symbol should not be smaller than 4 mm.

Minimum logotype size:

Digital
40 px ⟨CBI⟩ A³   Print
10 mm ⟨CBI⟩ Tampere

Minimum symbol size:

Digital
16 px ◯   Print
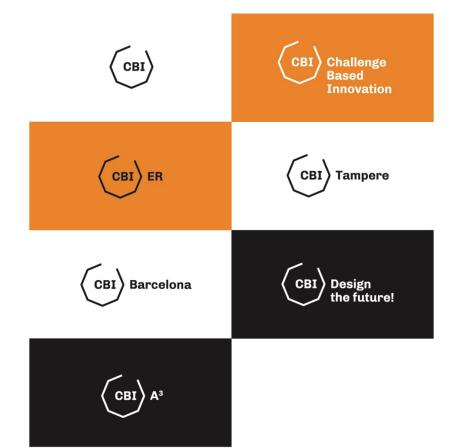4 mm ◯

Logo

Colour

The logo's main colour is black. It may be white when used against other colours or dark backgrounds.

⟨CBI⟩

⟨CBI⟩ Challenge Based Innovation

⟨CBI⟩ ER

⟨CBI⟩ Tampere

⟨CBI⟩ Barcelona

⟨CBI⟩ Design the future!

⟨CBI⟩ A³

Do's and don'ts

It is important that the appearance of the logo remains consistent.
The logo should not be misinterpreted or modified. No attempt should be made to alter the logo in any way. Its orientation, color and composition should remain as indicated in this document.

To illustrate this point, some of the more likely mistakes are shown on this page.

Do not change the relationship or spacing between the words.

Do not change the colour.
It should only be black or white.

Do not distort, wrap or rotate the logo.

Do not change the typeface or recreate the logo.

Chivo Bold is the font chosen for the typography of the logos and also of titles. The strength of Chivo Bold makes it ideal for highlights and headlines.

Noto Serif is a serif font chosen to be used in long text, such as in publications, and in text that should stand out. It provides a visually harmonious readability on and off-screen.

Arimo Regular is the font chosen for general text and smaller titles. It can be used in regular, bold and italic, as needed. Arimo is adequate for long text and offers improved on-screen readability characteristics.

CBI Jam is in the horizon

Only on titles

A memorable event taking place in IdeaSquare.

Quotes and highlights

CBI Jam is an event that gathers students from Porto, Manheim and Melbourne in IdeaSquare to work on projects that connect CERN technology with UN's Sustainable Development Goals. This means that 20 students will be very curiously asking questions, ideating and prototyping for two weeks, with us. If you are also curious to know more join us for breakfast, on Tuesday, at 9 am.

Smaller titles and general text

CBI Jam is an event that gathers students from Porto, Manheim and Melbourne in IdeaSquare to work on projects that connect CERN technology with UN's Sustainable Development Goals. This means that 20 students will be very curiously asking questions, ideating and prototyping for two weeks, with us. If you are also curious to know more join us for breakfast, on Tuesday, at 9 am.

Long text, specially in print

Colour
Primary

Orange is connected with creativity and energy as well as it is one of the main colours of the structures in IdeaSquare. This is very relevant because one of the main parts of all programmes is when CBI students go to IdeaSquare to work or present their projects.

Therefore, CBI is very connected to this space, and this connection should be emphasized.

Orange
#F68B1F
RGB 246 139 41
CMYK 0 55 100 0
PANTONE P 24-8 U

Black
#000000
RGB 0 0 0
CMYK 0 0 0 100

White
#FFFFFF
RGB 255 255 255
CMYK 0 0 0 0

Colour
Secondary

Although orange and black are the main colours there is a need to use other colours for the applications of the brand.

These are the secondary colours to be used, in order to ensure that all colours make sense together.

These secondary colours are complementary to orange.

Brown
#A85C26
RGB 168 92 38
CMYK 26 69 100 15
PANTONE 7601 UP

Blue
#3D8FA8
RGB 61 143 168
CMYK 76 31 26 1
PANTONE 2391 UP

Grey
#58595B
RGB 88 89 91
CMYK 0 0 0 80

Use brown to distinguish content in illustrations and graphs, to indicate different chapters in presentations, to highlight text in documents.

Use blue to distinguish content in illustrations and graphs, in secondary text, in quote slides and social media posts background.

Use grey to distinguish content in illustrations and graphs, in printed text (optional).

Colour

For the programmes

Orange, black and white are the main colours of CBI, as the mother programme.
Each university may prefer to use its colours when communicating CBI, which they are encouraged to.

Only the logo must be black, or as an alternative, white. It should **not** use other colours.

Images

CBI's identity should be heavily based on photography. The fact that this is a complex programme, hard to explain to outsiders is overcome by the use of images, as "a picture is worth a thousand words".

Therefore, a lot of attention must be put when reporting events, taking photographs, choosing and using them to communicate the several programmes.

Ideally the help of a photographer would be used, in chosen events and activities.
An idea is to also add analog photography, as a way of reporting the programmes. Analog makes the programme stand out and is nowadays seen as "cool and appealing".

Professional photography by Simon Olofsson.

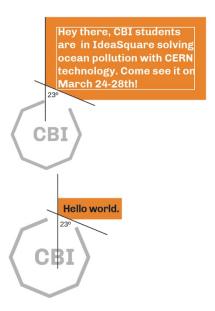Analog photographs taken by Manuel Soares and Carolina Faria.

An example of a good photograph taken by John Enggleman, a previous CBI professor.
Photos taken by students and professors should also be used, but carefully chosen.
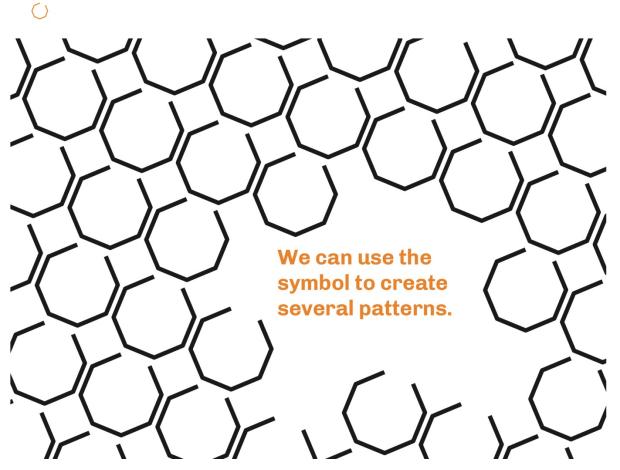
Playing with logo and type

Text can be placed in these polygons, especially when used on top of pictures. We create these shapes by cutting the corner of a rectangule.

The symbol by itself can also be used to create patterns, as we see in the following page.

Hey there, CBI students are in IdeaSquare solving ocean pollution with CERN technology. Come see it on March 24-28th!

23º

CBI

Hello world.

23º

CBI

We can use the symbol to create several patterns.

For the programmes

You can find all applications' templates in the CERN Box folder.
Link:
https://cernbox.cern.ch/index.php/s/nIlf VdNv5iErZ7a
Password: BrandNew2k19

In each folder there is a Microsoft PowerPoint template and a Adobe Illustrator or InDesign file, or Microsoft Word. Also, templates have instructions.

CBI archive: to guarantee that all projects and programme curriculum are archived in the same way.
CBI Logos and Fonts: for all uses when communicating CBI.
One pager: overview of the programme.
Slides: introduction to CBI. The template can also be used in lecture slides.

Applications folders.

One pager, CBI archive and slides.

For the programmes

Social media: profile images for LinkedIn and Facebook, posts templates, video starter.
Posters: posters for communicating different purposes. All poster categories have templates for print and digital. These are suggestions, please use the templates freely.
- Event: advertising events, such as final presentations.
- Talk and workshop: advertising talks and workshops.
- Publicity posters: advertising CBI to either prospective students or CERN mentors.
- Student publicity poster: has the same goal, but it can be combined with the "Student publicity brochure".
- Suggested print setting: semi-gloss paper, 150 gms.

Posters and social media post examples.

Applications

For the programmes

Publication: for sharing developments with CBI audience. For instance, for gathering all projects and developments that happened during the year in all CBI's.
- Suggested print setting: booklet print. Book block in Munken Linx paper, 120 gms. Cover in munken Linx paper, 150 gms.
Student publicity brochure: to advertise CBI on campus to new students in the beginning of the year.
- Suggested print setting: Munken Linx, 300 gms.

Publication and brochure examples.

Thank you!

CBI

Appendix F – Brand applications photos