



DIGITAL TRANSFORMATION PROPOSAL

Digital Teaching Community for Beautiful Patterns

Digital Transformation Module

Fulltime MBA Programme

Nottingham Business School, NTU

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Digital Community: Unified Teaching Ecosystem

Beautiful Patterns (BP) should lead its own teaching experience building a space where Learning Facilitators (LFs) and Teaching Assistants (TAs) can train, connect, and grow.

Through a single digital platform, BP can reduce dependence on universities and build a well-supported teaching team. This shift supports training, continuity, and potential growth beyond Mexico.

Simple Tools to Train, Connect and Recognise

Platforms like Teachable, Discord, and Credly can support training, community exchange, and meaningful recognition of teaching efforts.

Benefits and Implications

- **Direct access to feedback:** Direct input from facilitators helps improve materials and respond faster to delivery issues.
- **New dynamics with universities:** Role changes will require open dialogue and flexible agreements.
- **New dynamic capabilities:** Facilitators need support in digital moderation, ethics, and community building. BP must learn to measure engagement and care.

Recommendations

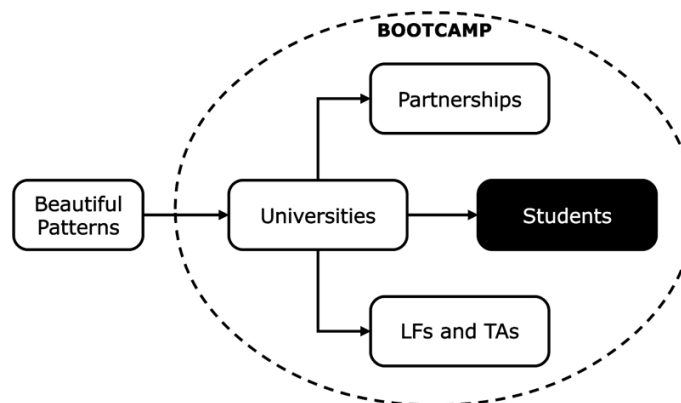
- **Clear governance and standards:** A shared code of conduct and transparent moderation guide community behaviour.
- **Safeguards for people and content:** Policies and secure tools protect personal data, content quality, and user safety.
- **Ethical digital interaction:** Facilitators need training in respectful communication, privacy, and online care.
- **Cybersecurity and responsible AI use:** Limit AI to moderation, apply access controls, and conduct regular platform checks.
- **Inclusive design:** Ensure all tools work across devices, low bandwidth, and varying digital skills.

1. Introduction

This document presents a digital transformation proposal for **Beautiful Patterns** (BP), centred on the development of a digital community for its teaching team: learning facilitators (LFs) and teaching assistants (TAs). The aim is to improve how BP trains, supports, and connects with this team.

Since 2018, BP has worked to close the gender gap in STEM education by offering accessible, high-quality learning opportunities for young Latin American women (Beautiful Patterns 2023a). The initiative, created at the Massachusetts Institute of Technology (MIT), focuses on learning through encouragement and collaboration, helping participants gain confidence in science and technology fields (Beautiful Patterns 2023b).

BP's main educational programme, the Bootcamp, is delivered in partnership with MIT's MISTI programme and Mexican universities. Currently, LFs and TAs are recruited and managed by these universities and then trained by BP's central team (Beautiful Patterns 2023a). This indirect model has created limits. It restricts BP's visibility into what happens during the programmes, slows down feedback loops, and weakens the connection with the people delivering its content (Antinluoma, Ilomäki and Toom 2021; Barreiro 2025).



Research shows that when organisations build direct relationships with teaching teams, they can improve the quality of training, gather useful feedback, and strengthen learning communities. In particular, digital platforms that bring educators together can support shared goals, make coordination easier, and improve consistency in teaching (Antinluoma, Ilomäki and Toom 2021; Craig and Kay 2022). These platforms help educators not only deliver content but also co-develop and improve it. In similar contexts, this kind of direct engagement has helped create stronger peer networks and support systems (Bansal and Mittal 2024; Pinheiro, Tømte, Barman et al. 2023). This proposal suggests that BP move to a new model where it directly manages and supports its LFs and TAs through an digital platform.

2. Digital Community Strategy

The new model focuses on direct communication, training, and recognition of the teaching team. Instead of relying on external institutions, BP would manage its own online platform where facilitators are onboarded, supported, and involved in shaping the learning process.

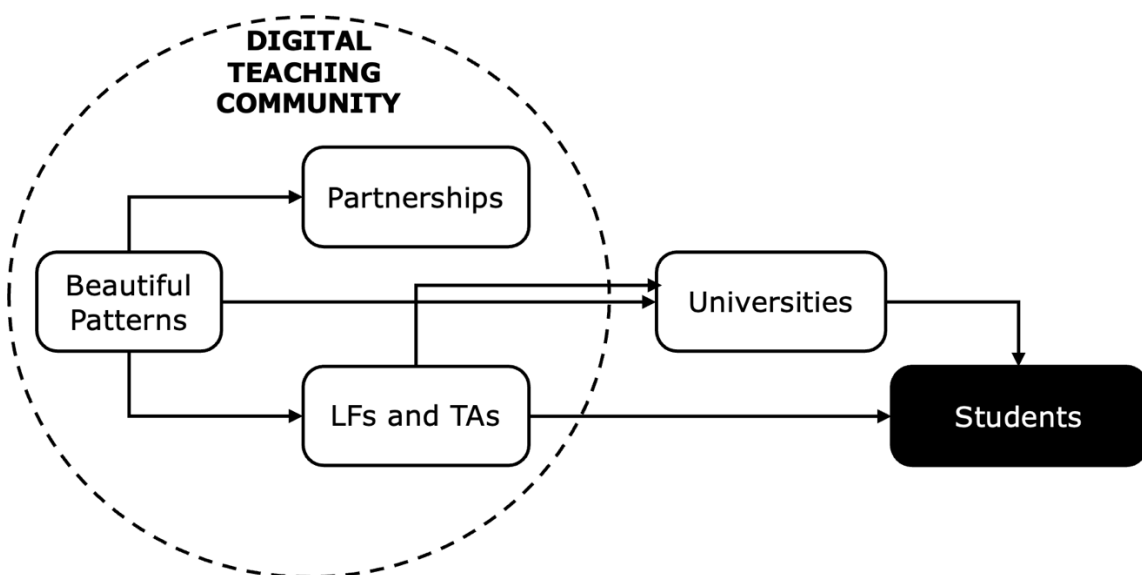
This shift responds to evidence that when educators have access to dedicated, well-managed digital platforms, their participation increases, and their contributions become more aligned with programme goals. In a review of digital educator spaces, Craig and Kay (2022) found that clear communication channels and access to peer knowledge improved confidence and collaboration. Similarly, López, Vila-Villasante and Quintero (2023) observed that when teaching assistants were included in digital communities, their sense of belonging and commitment to learning outcomes increased.

The proposal includes three main digital tools:

- Teachable, to manage training paths and track progress.
- Discord, to host the community and allow informal communication and collaboration.
- Credly, to issue digital badges that recognise completed training or contributions.

Discord is proposed instead of traditional platforms like Moodle or WhatsApp because of its flexible channels, informal tone, and active use by youth and educators. In a multi-case review, Fonseca Cacho (2020) and Dayana *et al.* (2021) reported that Discord made facilitators more comfortable asking questions, engaging in group problem-solving, and co-creating resources (See Craig and Kay 2022).

This approach marks a shift from institution-led delivery to a facilitator-led ecosystem.



Instead of depending on university partners for coordination, BP will provide the structure and support that allow facilitators to lead community activities and contribute directly to programme improvements. Similar models have shown that teacher-led communities strengthen motivation, ownership, and professional development (Antinluoma, Ilomäki and Toom 2021; López, Vila-Villasante and Quintero 2023).

To implement the strategy, BP will need to:

- Create and manage a secure platform space.
- Develop a clear training path for facilitators.
- Establish policies for collaboration and conduct.
- Allocate resources to support ongoing community management.

Moving to this model gives BP more control over teaching quality and allows faster updates based on feedback. It also makes the organisation less dependent on the structures and timelines of partner institutions, which often vary.

The proposal is grounded in research showing that online educator communities work when they include structured training, direct communication channels, and visible recognition systems (Dille and Røkenes 2021; Ruiz-Rojas, Acosta-Vargas, De-Moreta-Llovet and Gonzalez-Rodriguez 2023). By using simple tools and building a space where facilitators can collaborate and grow, BP can improve both internal operations and learning outcomes for participants.

2.1. Human-Centred Outcomes

The digital community will not only serve as a support hub for facilitators, but also as a space for long-term engagement, peer collaboration, and professional growth. The goal is to foster a sense of belonging and shared purpose among LFs and TAs, encouraging them to take active roles in the development of BP's programmes.

Instead of only tracking completion rates or growth figures, the success of this strategy should be measured through outcomes that reflect the experience and wellbeing of the teaching team. Key indicators may include:

- Sense of belonging: measured through short surveys or interviews on community connection and emotional safety.
- Engagement in peer-led initiatives: such as participation in teaching circles, mentoring, or community-led events (Antinluoma, Ilomäki and Toom 2021).
- Recognition received and shared: number of badges earned, but also qualitative data on how recognition affects motivation (Alier, García-Peñalvo and Camba 2024).

- Facilitator voice in programme design: measured by the number of proposals made and adopted from the community.
- Sustained involvement: facilitators' willingness to mentor others or return in new roles and projects.

By centring these indicators, BP aligns the platform's goals with the lived experiences of its facilitators: valuing trust, collaboration, and autonomy over growth for its own sake.

2.2. Future of the Digital Community

One effective way to build this kind of engagement is through gamification. Research shows that when educators receive recognition for their contributions, motivation increases and participation becomes more consistent (Alier, García-Peñalvo and Camba 2024; Bansal and Mittal 2024). Gamification strategies such as progress dashboards, badges, or leaderboards can make training paths more visible and rewarding, especially for volunteers who might otherwise receive little formal feedback (Ruiz-Rojas, Salvador-Ullauri and Acosta-Vargas 2024).

Recognition tools like Credly allow BP to issue verified micro-credentials when facilitators complete training, mentor others, or lead sessions. These digital badges can be shared on social media or included in professional portfolios, increasing their value and visibility (Huda, Ramli, Ritonga *et al.* 2022). This is particularly useful for early-career facilitators or university students, who are seeking experience and recognition.

Over time, the digital community can expand to include additional features, depending on the needs and capacity of the team. These might include:

- Mentorship matching, where experienced LFs support newer ones.
- Discussion forums and live sessions hosted on Discord.
- Community-led events, such as online hackathons, teaching labs, or design sprints.

Most importantly, this community model creates continuity (Antinluoma, Ilomäki and Toom 2021). Instead of one-time volunteers delivering content and leaving, facilitators are encouraged to grow within the project. They may go from trainees to mentors, or from TAs to LFs. This continuity builds institutional memory and helps BP maintain teaching quality even as it expands geographically.

2.3. New Data Gathering

Creating a digital community for LFs and TAs will also help BP collect more relevant and timely information about its programmes. Currently, most of the feedback and operational data is filtered through university partners. By bringing facilitators into a shared digital space, BP can access new types of insight directly from the people delivering its content.

Platforms like Teachable and Discord can be used not just for training and interaction, but also for gathering structured and unstructured data. This includes:

- Feedback from students, reported by facilitators.
- Conditions and challenges during Bootcamp delivery.
- How learning materials are used, including adaptations and suggestions.
- Network insights, such as who is contributing, collaborating, or leading.

This kind of feedback improves over time when facilitators feel heard and when there is a shared space to compare experiences. As Ruiz-Rojas, Acosta-Vargas, De-Moreta-Llovet and Gonzalez-Rodriguez (2023) note, digital teaching platforms work best when data flows continuously and organically, rather than being limited to surveys.

A community platform also helps identify and support contributors who create tools, share local adaptations, or build bridges between groups (Antinluoma, Ilomäki and Toom 2021). As López, Vila-Villasante and Quintero (2023) argue, these educators are often overlooked in formal systems, but they are central to innovation.

By structuring this space carefully, and letting it evolve based on what facilitators find most useful, BP can gain new insights while offering its team something meaningful: a space to grow, contribute, and be recognised.

3. Relationships Implications

Shifting to a digital facilitator model transforms the way Beautiful Patterns (BP) interacts with its main stakeholders. The organisation will now engage directly with LFs and TAs, moving from an outsourced model to one of internal coordination and shared ownership.

To make this shift work, BP must strengthen specific capabilities. These include not only pedagogical design and community building, but also digital facilitation, safeguarding for minors, and the ability to manage decentralised, volunteer-based networks (Antinluoma, Ilomäki and Toom 2021). As noted by Bansal and Mittal (2024), scaling inclusive education requires organisations to develop flexible, cross-functional teams that can support diverse learning communities without relying solely on institutional structures.

Some of these capabilities can be developed in-house; others will require collaboration with external partners. Institutions with experience in youth education, child protection, and digital pedagogy can support the design of onboarding tools, safety protocols, and engagement frameworks. As Huda, Ramli, Ritonga *et al.* (2022) highlight, digital engagement in education must be designed around values of inclusion, transparency, and trust not just efficiency.

Universities remain key actors in this ecosystem. Their role may evolve, but it remains valuable. Instead of overseeing delivery, they can serve as partners in content co-creation, research, or specialised training. Maintaining open channels and offering both direct and partner-led pathways will help manage this transition respectfully, avoiding exclusion or institutional resistance (Pinheiro, Tømte, Barman *et al.* 2023).

For students, this model offers a potential benefit: a more consistent, responsive teaching experience. Facilitators who are part of a stable, supported network are better equipped to adapt materials, respond to challenges, and bring insights back to the organisation. Research suggests that such continuity builds trust and improves learning conditions, especially for young or first-time learners (López, Vila-Villasante and Quintero 2023; Pinheiro, Tømte, Barman, *et al.* 2023).

However, new risks emerge when interactions become fully digital. If not carefully managed, digital spaces can reproduce exclusion based on access, familiarity, or confidence. Addressing this requires intentional training not only in tools, but also in online collaboration, respectful dialogue, and data protection. Digital literacy must be understood as a shared responsibility, and as a core part of facilitator development.

In short, this model reshapes how BP builds relationships: not only with institutions and volunteers, but with students and the digital environments they now share.

4. Opportunities Through Community Engagement

A digital facilitator community will enable BP to strengthen its core team, improve programme quality, and scale without losing connection to its mission.

Key opportunities include:

- **A more stable teaching team:** Facilitators stay longer when they feel supported and recognised (López, Vila-Villasante and Quintero 2023).
- **Continuous improvement:** Peer-sharing and feedback loops help refine materials and delivery.
- **Expansion readiness:** A scalable training and support model allows BP to grow across Latin America with consistent quality.
- **New learning offers:** Facilitators can co-create new content based on local needs.
- **Clear development paths:** Recognition tools (e.g. Credly) support retention by validating skills (Huda, Ramli, Ritonga *et al.* 2022).
- **Stronger student connection:** A connected teaching team strengthens BP's visibility and feedback from learners.

These benefits reflect a shift from one-off delivery to ongoing relationships, where learning flows both ways between facilitators, students, and BP.

4.1. Challenges and Mitigation Measures

A digital community also introduces risks that require clear safeguards.

Key risks:

- **Data protection failures**, especially with minor participants.
- **Cybersecurity threats**, including account breaches or phishing.
- **Misinformation or errors** in shared content.
- **Partner tensions** over role clarity or communication gaps.

Mitigation actions:

- Set up **data protection policies** specific to working with youth.
- Use **secure, access-managed platforms** (e.g. Discord roles, Teachable admin levels).
- Establish a **code of conduct** for facilitators covering communication, ethics, and quality.
- Train facilitators in **digital literacy and safety**, not just content delivery (Huda, Ramli, Ritonga *et al.* 2022).
- Create **clear escalation channels** and assign community moderation roles.

These steps will allow BP to build a community that is safe, inclusive, and capable of growing sustainably. The effort is not only technical it's relational. Trust, transparency, and shared learning must guide this transformation.

5. Conclusions

This proposal positions Beautiful Patterns (BP) to lead its teaching strategy through a sustainable, human-led digital community. By supporting Learning Facilitators (LFs) and Teaching Assistants (TAs) directly, BP enhances service quality, ensures continuity, and strengthens ties with learners. However, ethical responsibility must remain central.

AI tools used in Discord such as auto-moderation and activity tracking can help manage the space. But they must not guide teaching, filter conversations, or replace facilitators' voices. Research shows that educational communities thrive when human input is valued, feedback is ongoing, and trust is protected (Ruiz-Rojas, Salvador-Ullauri and Acosta-Vargas 2024).

Any use of AI should be transparent, limited to routine tasks, and subject to community review. Data collected through the platform must be used with care, particularly when working with minors. This includes clear policies on access, consent, and confidentiality (Huda, Ramli, Ritonga *et al.* 2022).

Digital transformation in this context means more than using new tools. It means creating a space where facilitators can learn, lead, and stay connected to BP and its mission. It means designing for care, not control. Done well, this model strengthens BP by putting people students, facilitators, and partners at the centre of its digital future.

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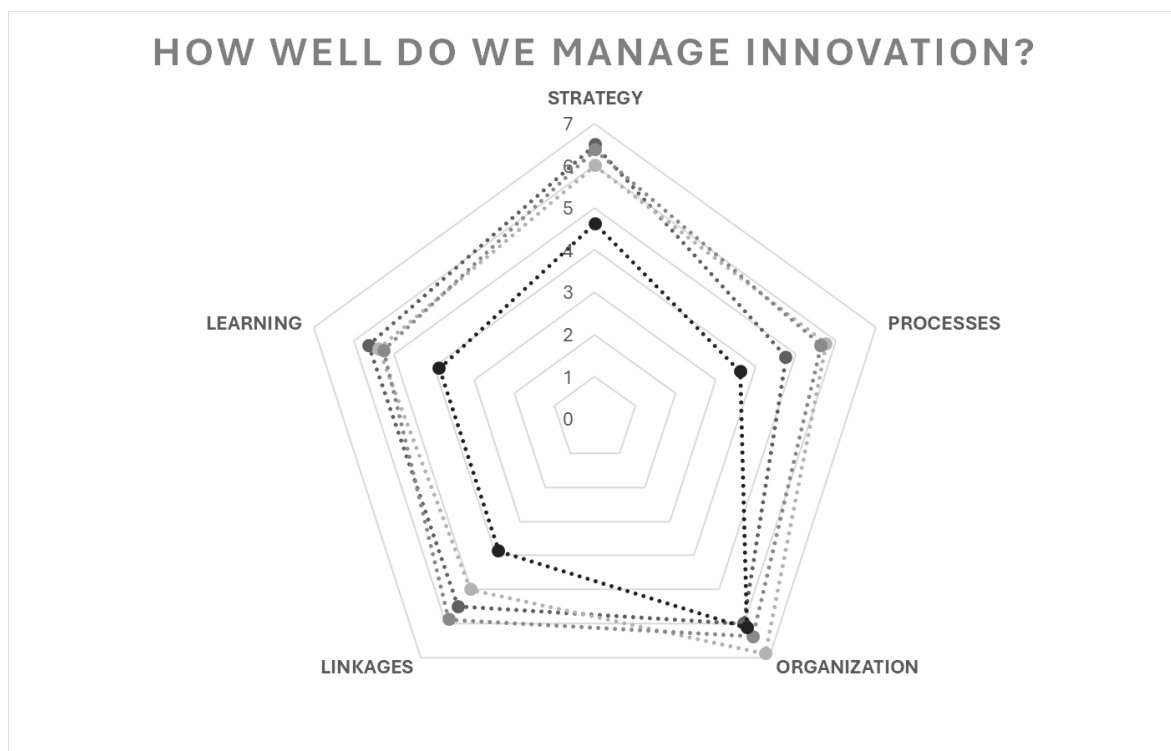
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