



USING SKILL CHATBOT TO ADDRESS INDIA'S SKILL SHORTAGE AND UNEMPLOYMENT

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AGENDA

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CONTEXT

- India has a paradox of skilling where an acute shortage of skilled workforce, as well as high levels of unemployment, exists together.
- Severe threat to the demographic dividend of the country.
- 60% of India's population who live in non-urban settings is technologically adept.
- Through innovation DEF and COL developed Skillbot on the freeware, cross-platform and cloud-based instant messaging service 'Telegram'.
- The purpose of Skillbot is to facilitate digital financial literacy, citizen services and data management for rural youths, artisans and entrepreneurs across multiple States in the country.



1

How can skill-learning through tech be made flexible, affordable, inclusive, democratic, personalised and open?

2

From an organizational point of view, how can such skill-learning be facilitated in a cost-effective, efficient, flexible, safe, secure and interactive manner?

Skillbot - an A.I.-based learning management system (LMS) Chatbot on Telegrama - can facilitate a mobile mediated mode of open-learning for varied skills which:

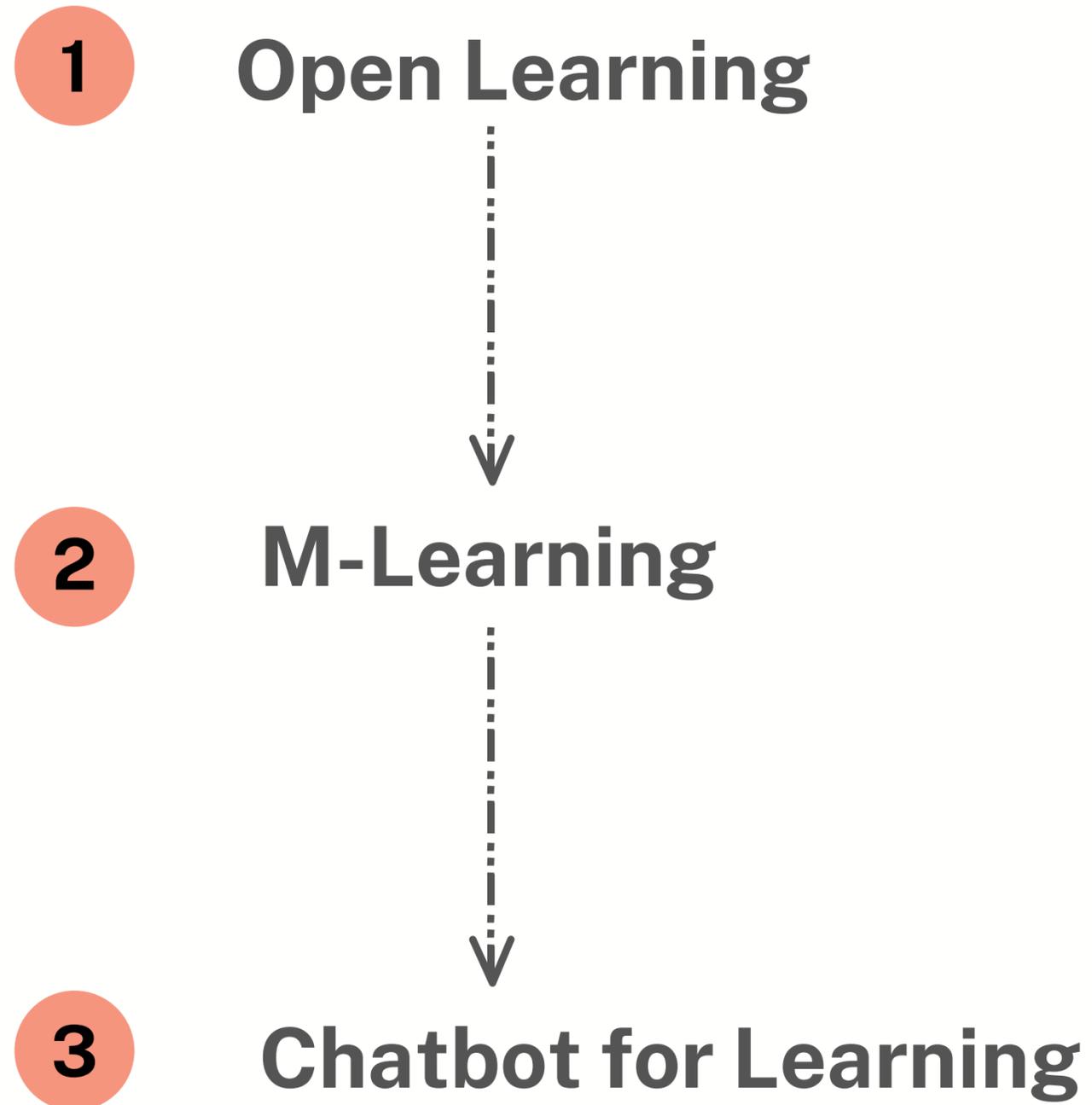


can provide democratic, inclusive, open, remote, personalized, and customized learning service.

is extremely cost-effective, efficient, flexible, safe, secure, and generates interactive learning for both illiterate and semi-literate learners.

is suited towards realising the Sustainable Development Goal (SDG) 4 i.e., education for all.

Theoretical Framework



1

Open-learning is often interchangeably used with distance-learning or e-learning. It also embraces and contains resource-based learning, correspondence courses, self-paced learning, student-centred learning and flexible learning (Kember & Murphy, 1990).

2

Open-learning pedagogies have been able to well utilise the developments in information and communication technologies (ICTs). With easy and affordable availability of smartphones and other portable devices which can be linked to wireless internet at any place and time, M-learning is increasingly being employed, especially for open-learning

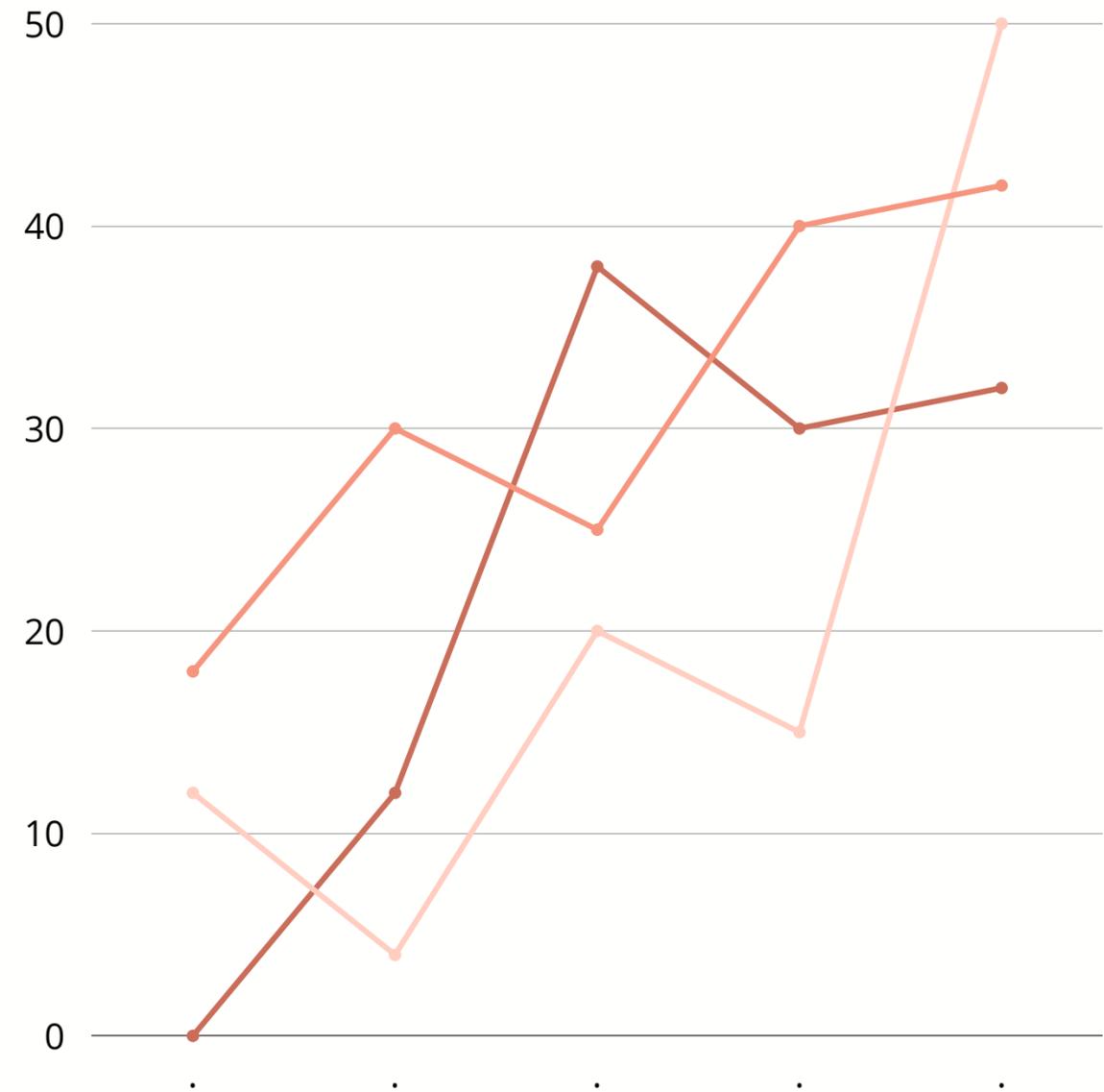
3

In recent times, Chatbot technologies are used to facilitate m-learning through integration of pedagogic approaches with innovative technologies. Chatbot provided an opportunity for improvised learning where students decided the pace, freely engaged with relevant information online and experienced less to no anxiety in case of speech mistakes.

4

This study is an attempt to fill that gap and add an empirical insight into Chatbot technology's usage for inculcating digital financial skills in the users through m-learning and open-learning.

METHODOLOGY



Skillbot was tested in the 'Digital Skilling through Blended Learning Approach for Entrepreneurship and Livelihood' programme with 2400 participants across 12 Indian states.

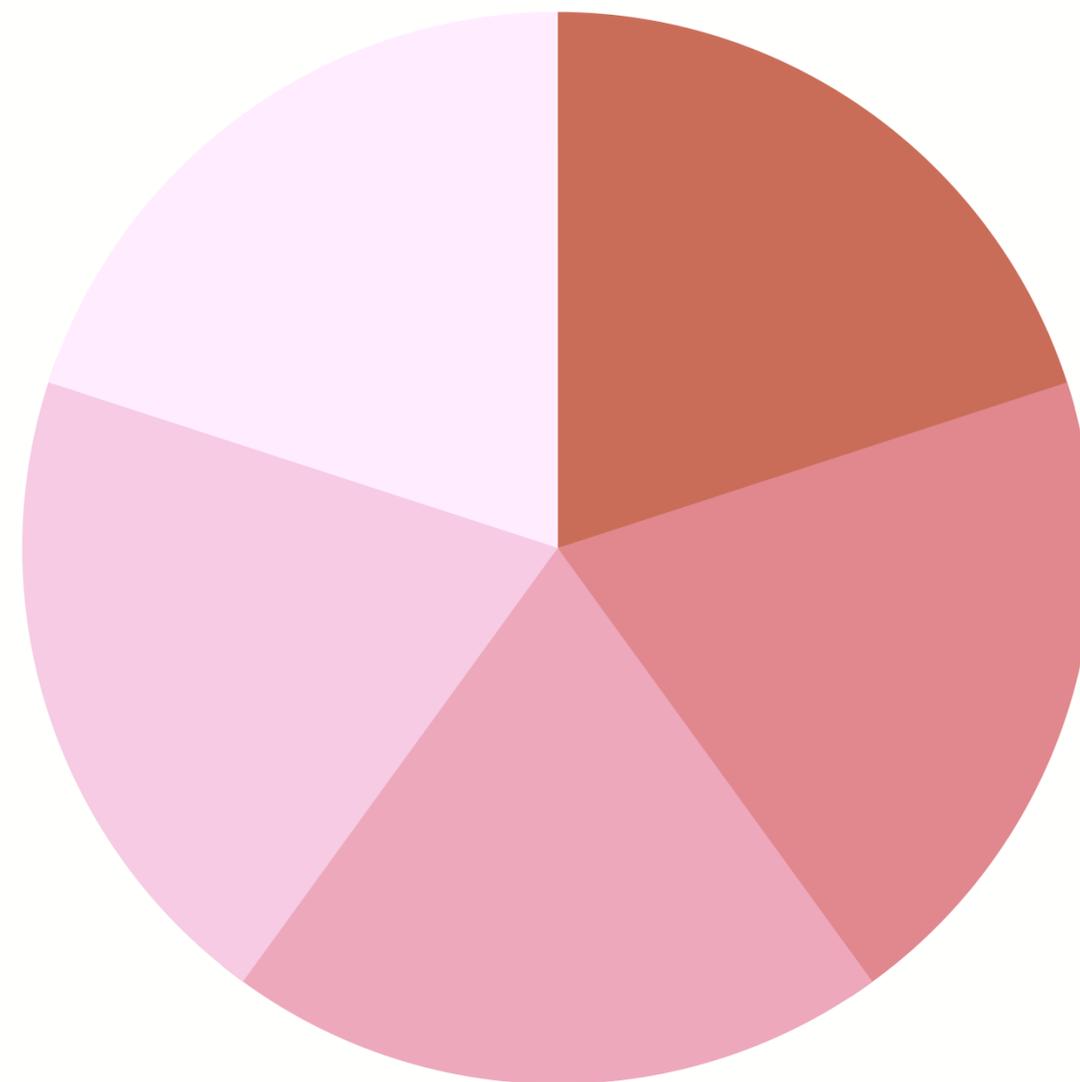
The impact evaluation was conducted through both survey and in-depth interviews within a randomly selected sample size of 200 respondents which was equally distributed amongst the States/languages covered, and 30-50% was kept as the range for respondents to be selected from different gender, caste, and community.

Key project parameters/indicators against which the data was analysed are: (i) Curriculum Content, (ii) Method and Platform of Delivery including Training of Trainers, (iii) Output; (iv) Outcome. These 4 indicators have further parameters under them as shown in the following table:

S. No.	Primary Indicators	Sub Indicators
1	Curriculum Content	<ul style="list-style-type: none"> • Secondary assessment of Content Need Assessment. • Primary first-hand assessment by evaluators of content; Inputs from trainers; inputs from participants; • Qualitative & Quantitative assessment; primary tools/instruments of evaluation.
2	Platform of Content Delivery for training	<ul style="list-style-type: none"> • Primary first-hand assessment by evaluators of Telegram, Chatbot LMS in content placing, delivery, learning assessment; • Primary inputs from trainers; inputs from participants; inputs from managers; • Exploratory / Deductive / Inductive in exploring the platforms and features at various levels from users, management; learning assessment point of view for MBLS purpose • Primary tools of evaluation

3	Output	<ul style="list-style-type: none">• Secondary inputs based on LMS data and reports; reference to data from baseline, mid-line-end line;• Primary inputs from participants across variables• Quantitative: Data & Analysis based on numbers of participants reached out across social, economic, variables.• Qualitative evaluation based on interviews, discussions (online/offline)• Primary tools including administering questionnaire / tele-interview / Telegram based inputs and feedback• Random sampling with fixed variables - State, District, Participant classification groups
4	Outcome	<ul style="list-style-type: none">• Primary: Based on direct reference to data from baseline, mid- line-end line; participant inputs.• Quantitative evaluation of data & Analysis based on numbers of participants reached out across variables.• Qualitative assessment based on primary inputs• Participative tools and direct engagement method - calls, interviews, discussions.• Secondary inputs from data and reports of Chatbot LMS.• Social Rate of Investment (SROI) based outcomes.

FINDINGS & DISCUSSION



QUALITATIVE FINDINGS

The community-based mutual learning and the design interface especially contributes to an enriched learning experience and keep the participants motivated to explore new entrepreneurial ventures and expand their existing businesses.

The open-learning and m-learning model of training allowed many participants to opt for remote learning as well, especially women participants who have moved to another city for educational purposes.

Adoption of Skillbot and its positive impact was higher amongst the younger generation as compared to participants aged above 40 years. One of the reasons given for this by the latter participants was their distrust on digital financial tools and resources. It was also found that the positive output experienced by the younger participants allowed them to encourage others in their community to equip themselves with the necessary awareness and skills.



65% Improvement in Usage of Digital Devices

Before



After



184% Improvement in Usage of Online Marketing Platforms

Before



After

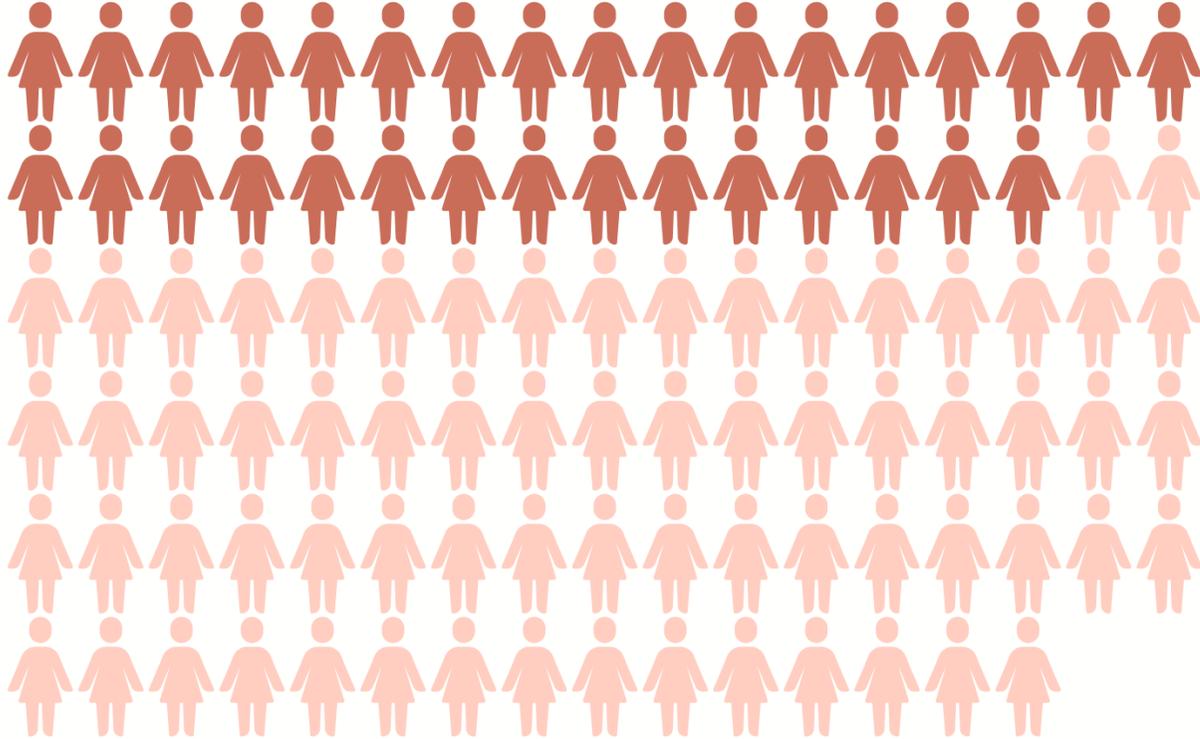


45% Improvement in Digital Marketing and Promotion Skills

Before

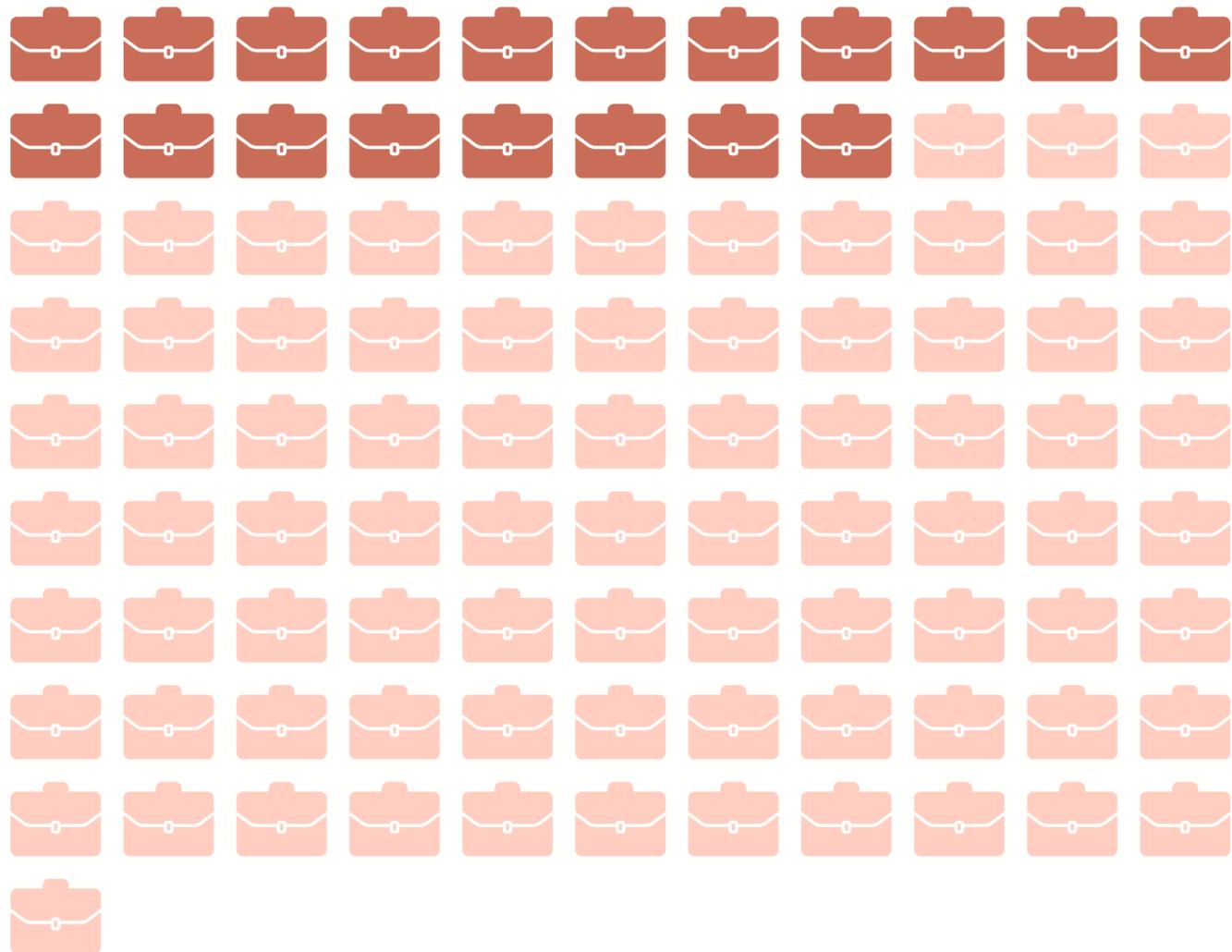


After

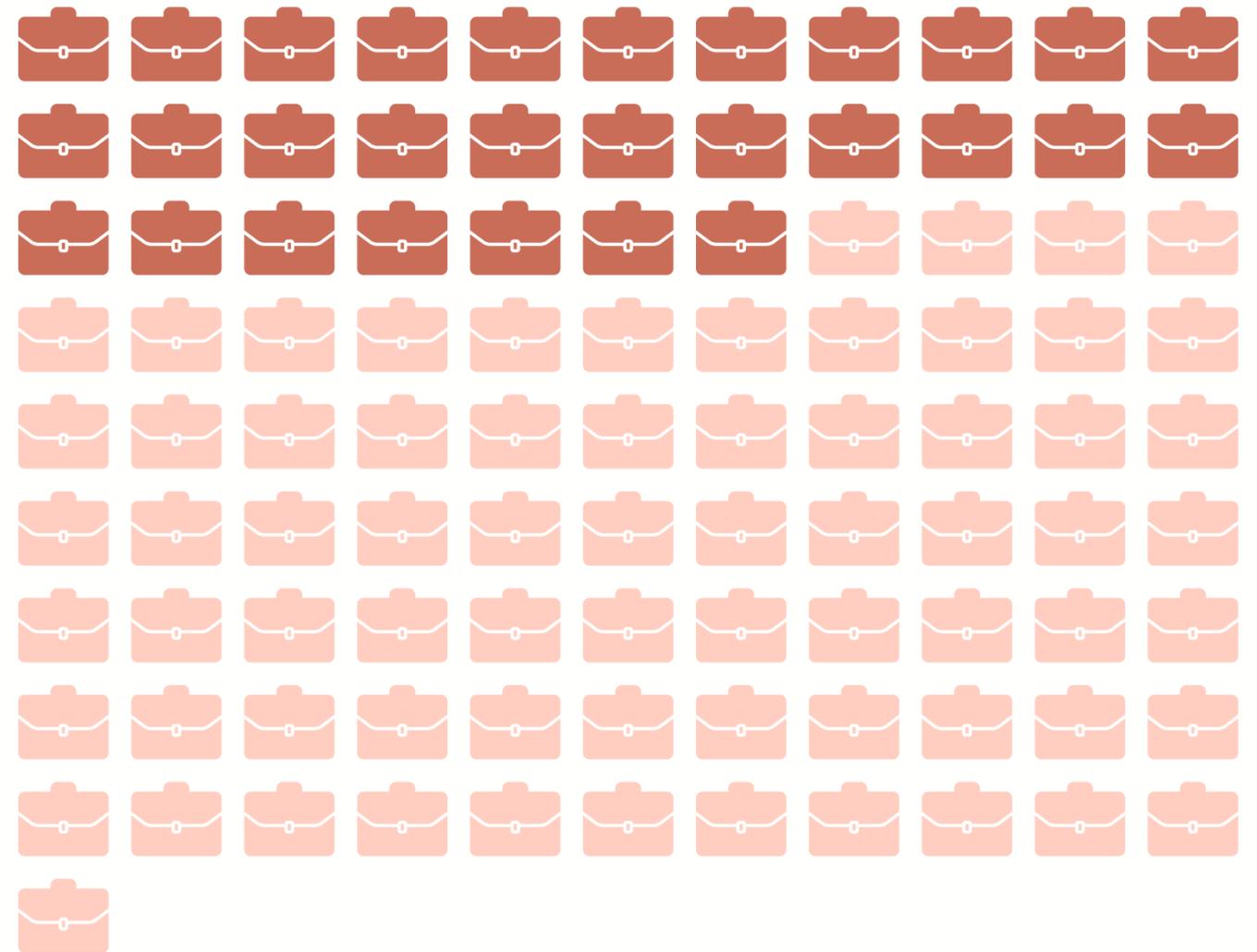


49% Improvement in Digital Business Management

Before

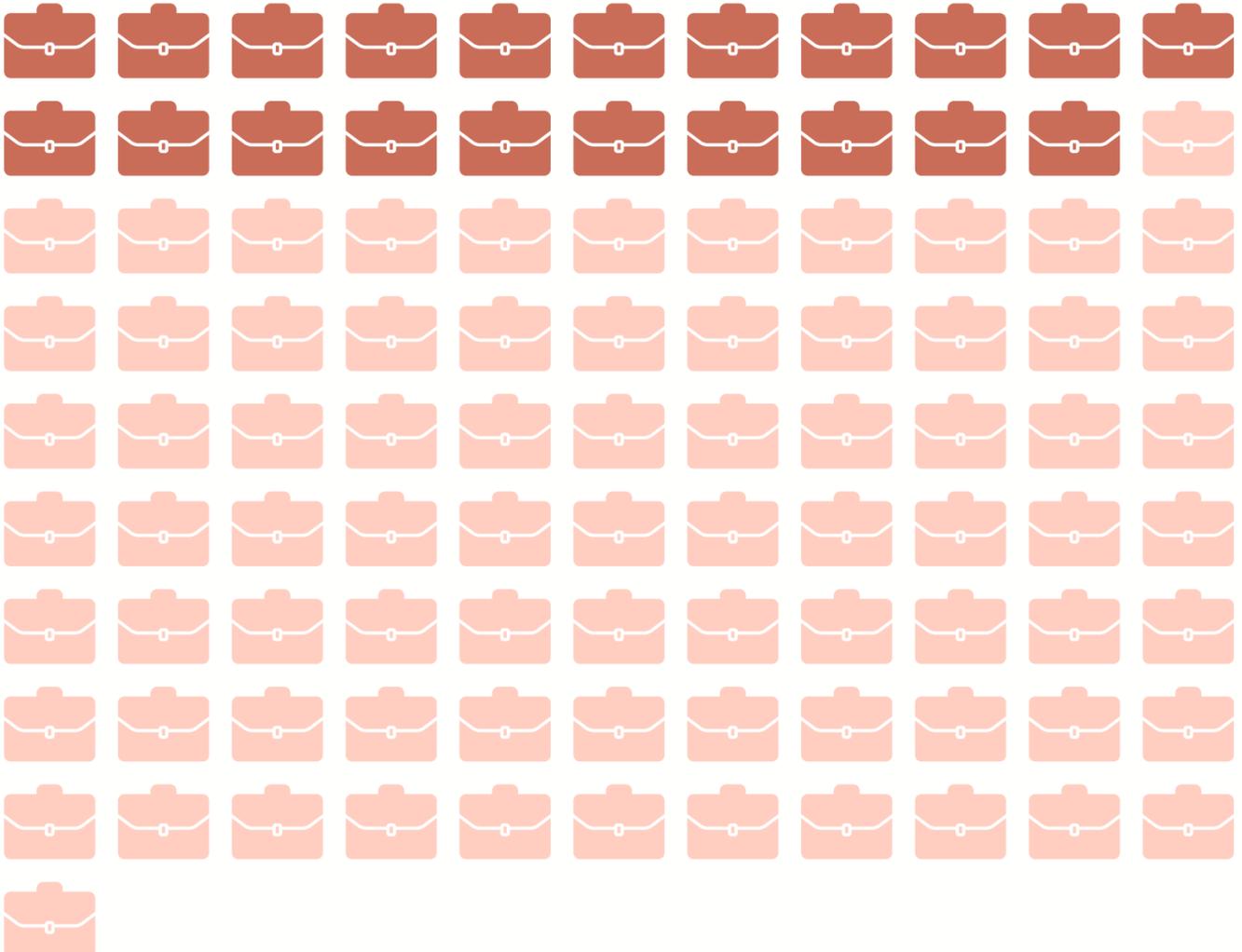


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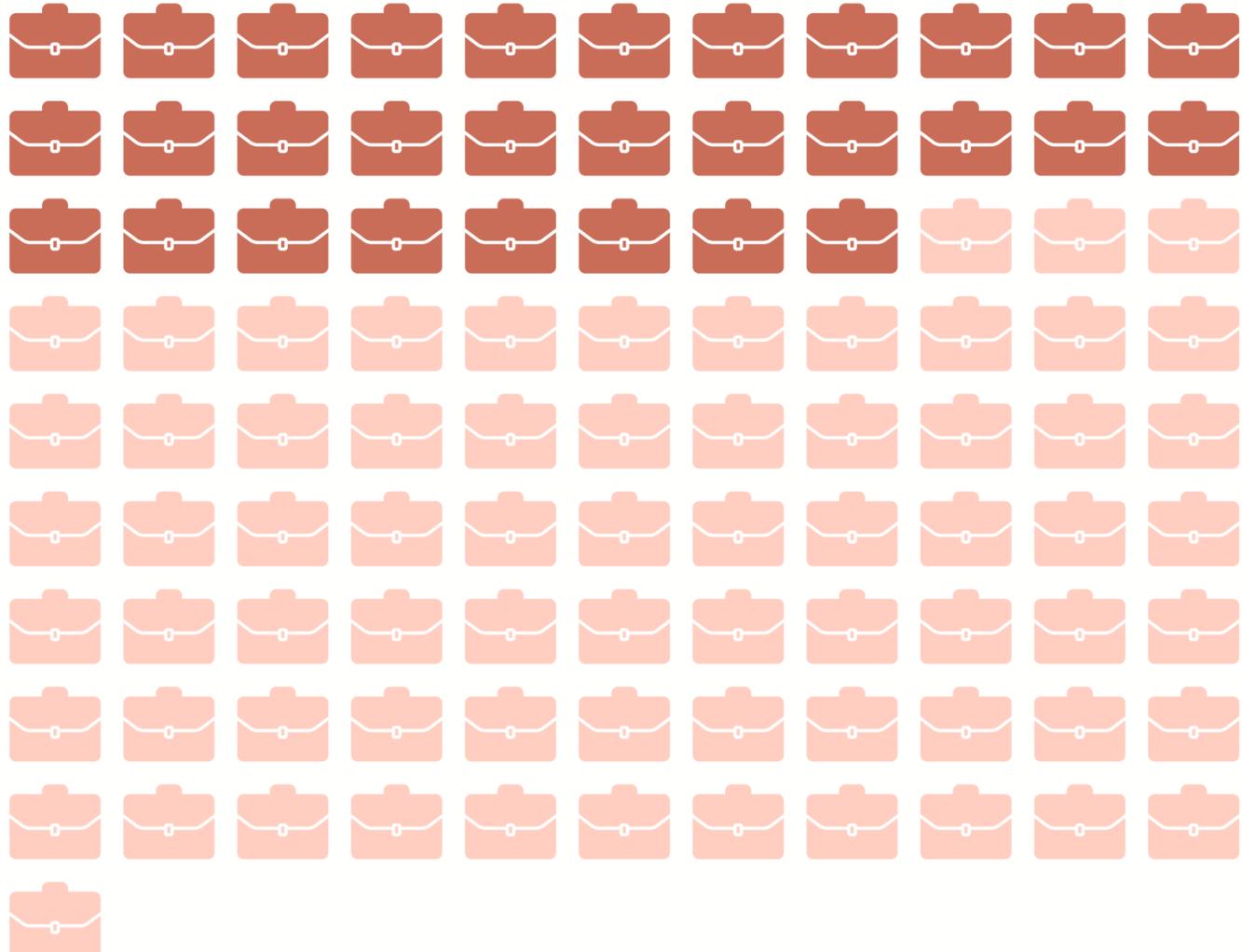


43% Improvement in Business & Enterprise Decision Making

Before

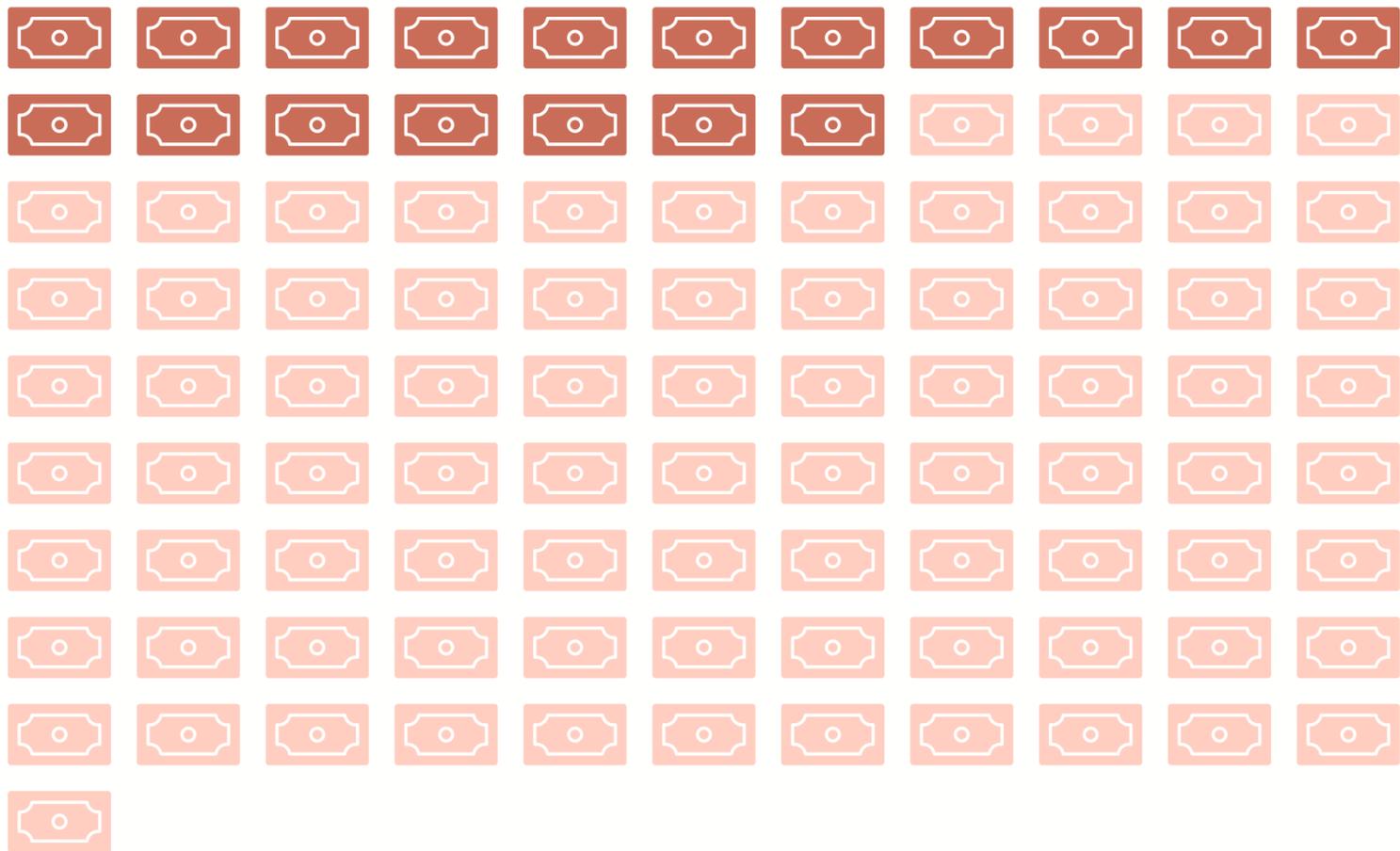


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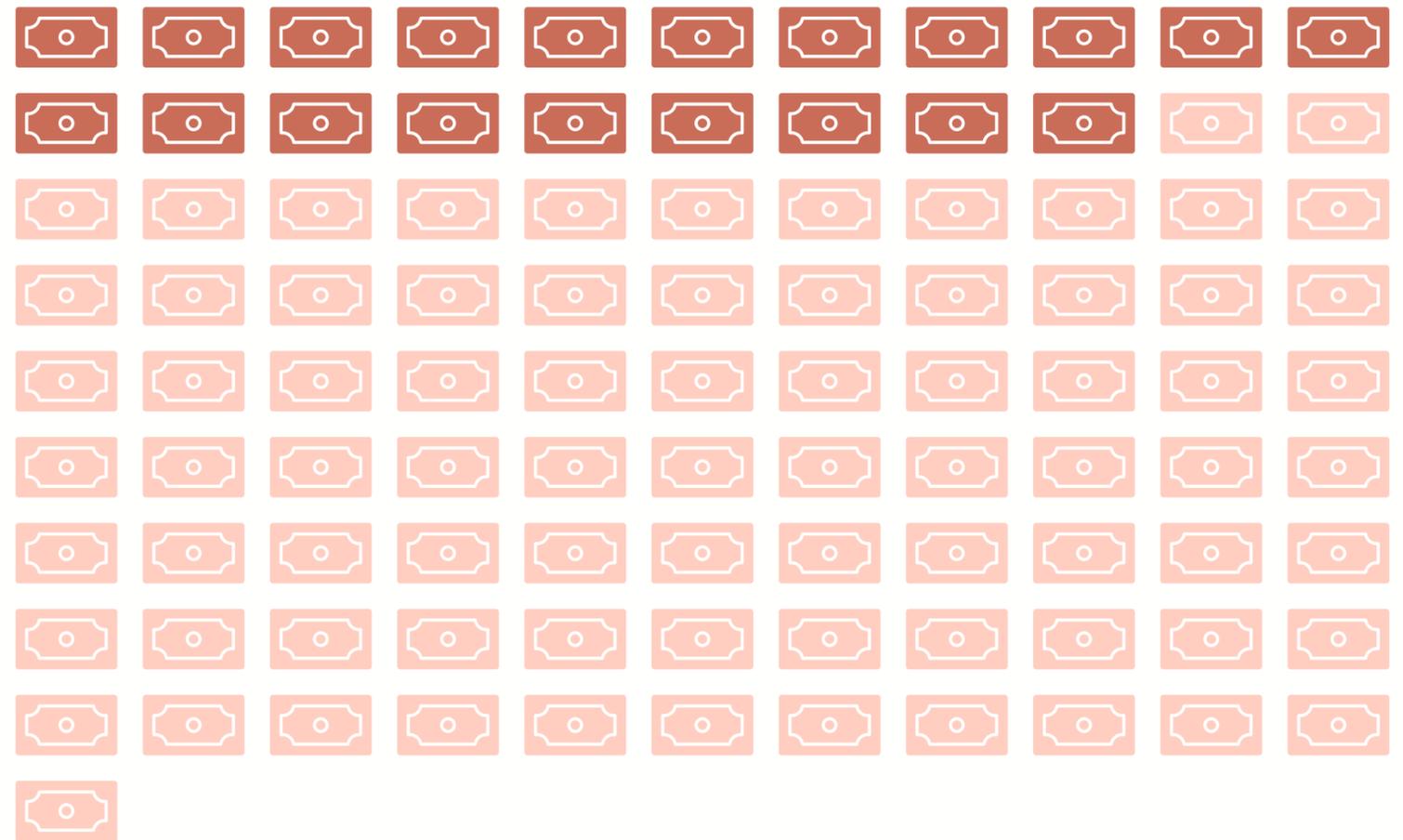


8% Improvement in Income Level

Before

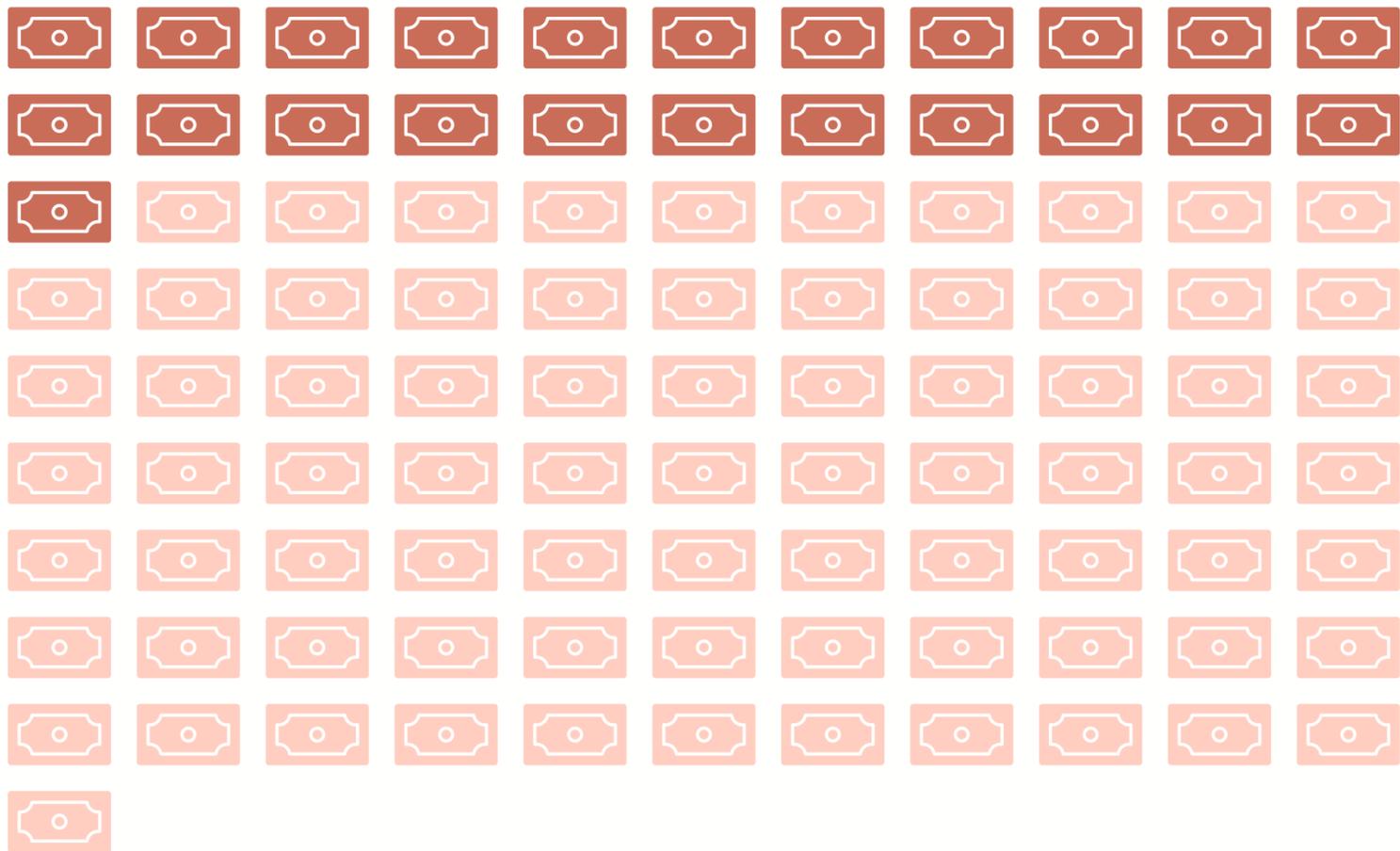


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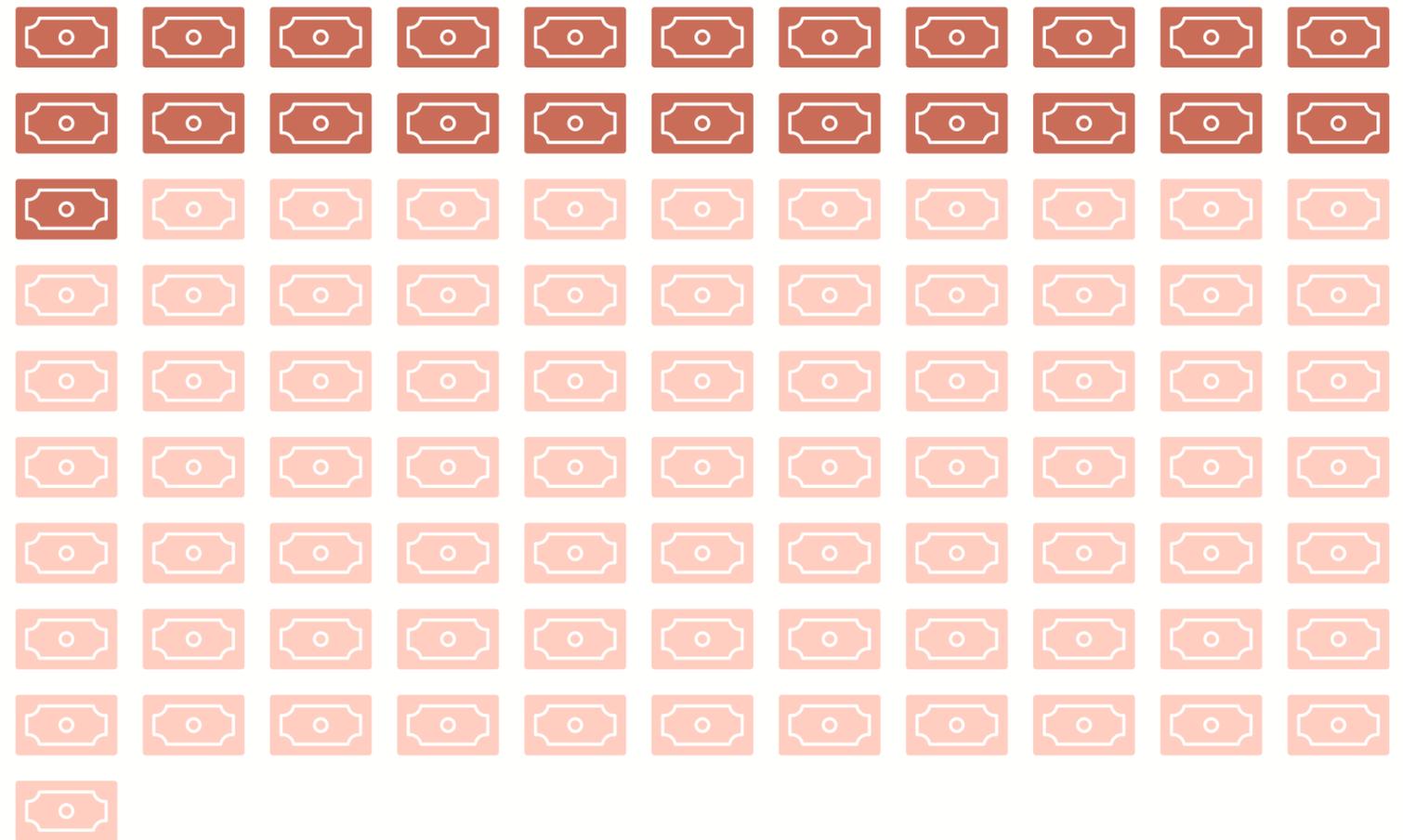


No Change in Livelihood Security

Before



After



Discussion

- **The m-learning and open-learning model has presented optimistic results among its 2400 participants in just a few months. There is improvement in terms of their understanding of digital tools and platforms promoting entrepreneurship. More participants are able to utilise social media for digital marketing and promotion of their ventures and products.**
- **The training has improved their confidence on the usage of digital tools, resources, platforms and linkages which are necessary components of digital finance for successful entrepreneurship in today's competitive and increasing digital market economy.**
- **This model of learning has shown great potential for a sustainable solution to the problem of unequal distribution of access to skill training, especially in the hinterlands of India.**

- **An increase in financial awareness among the populace with least access to information and digital financial skills can lead to greater financial inclusion (Kumar & Pathak, 2022), especially through improved management of finances (Setiawan et al, 2022).**
- **SkillBot not only provides last-mile access to many potential learners but may also contribute in equipping them with the required information and skills needed for digital financial inclusion.**
- **Skillbot is therefore not only a democratic and inclusive tech solution for learning but its also cost effective, efficient, safe & secure.**

Need For Further Research

- **Design in correspondence with how the learners are interacting with the technology. A learner-centric innovative interface which is pedagogically sound and complements the traditional modes of learning is an aspect which is worth exploring empirically.**
- **Teachers' attitudes towards adoption of Chatbot in education. By understanding the needs and challenges faced by the educators in adopting a new technology, the design can be made holistically inclusive**



Thank You.

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