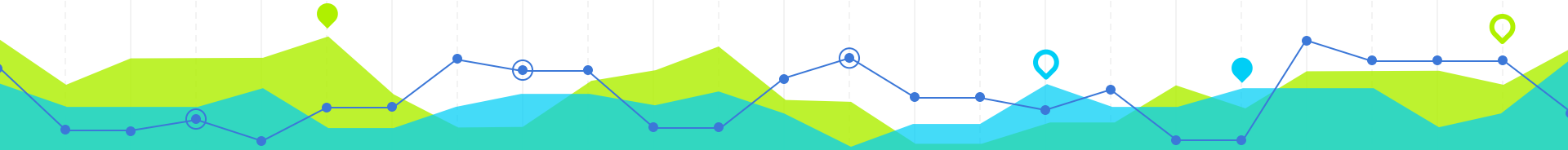World Conference on Educational Sciences 2019

Evaluation for QR Codes in Environmental Museums

Pablo Franco & Francisco García

Alborania Museum

Updated facilities

Broad age spectrum of participants

Economic, social, educational, and accessibility diversity

Bilingual information

Museums & Tech

Interest → Knowledge → Interest

Adapting to connectivity

Audioguide

Websites

Virtual Visits

Podcasts & **Informational QR**

QR Codes

1994 - Denso-Wave.

QRコードは漢字/かなを効率よく表現できます
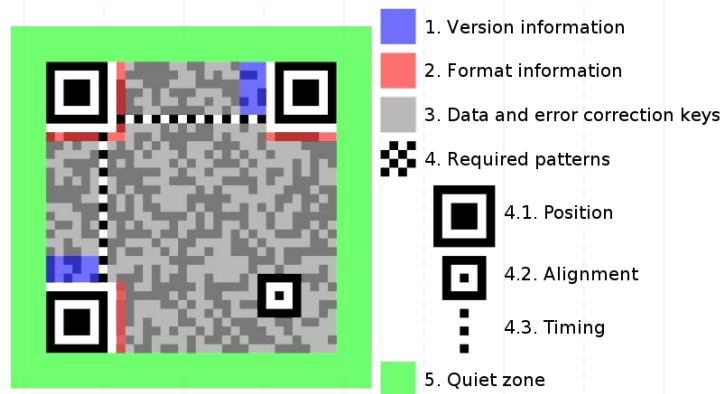
(QR code can express kanji / kana efficiently.)
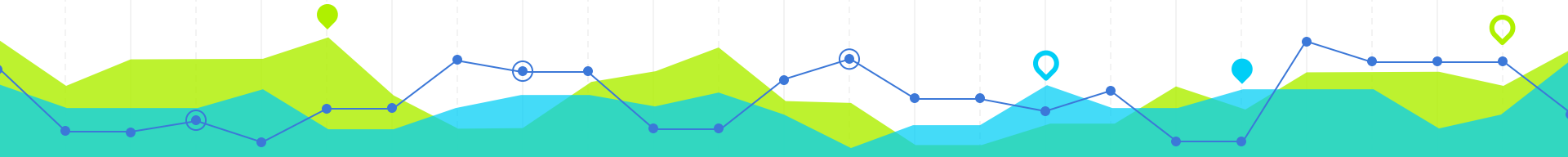
QR Codes

~30 → 7089 digits

2D + Colors.

Restore information.

Geolocalization, links, contacts...

1. Version information
2. Format information
3. Data and error correction keys
4. Required patterns
4.1. Position
4.2. Alignment
4.3. Timing
5. Quiet zone

Aim of study

Has the QR code system of the Alborania Museum been satisfactory?

Methodology

Contribution Analysis (Mayne, 2008)

Define **Causes** through **Effects**
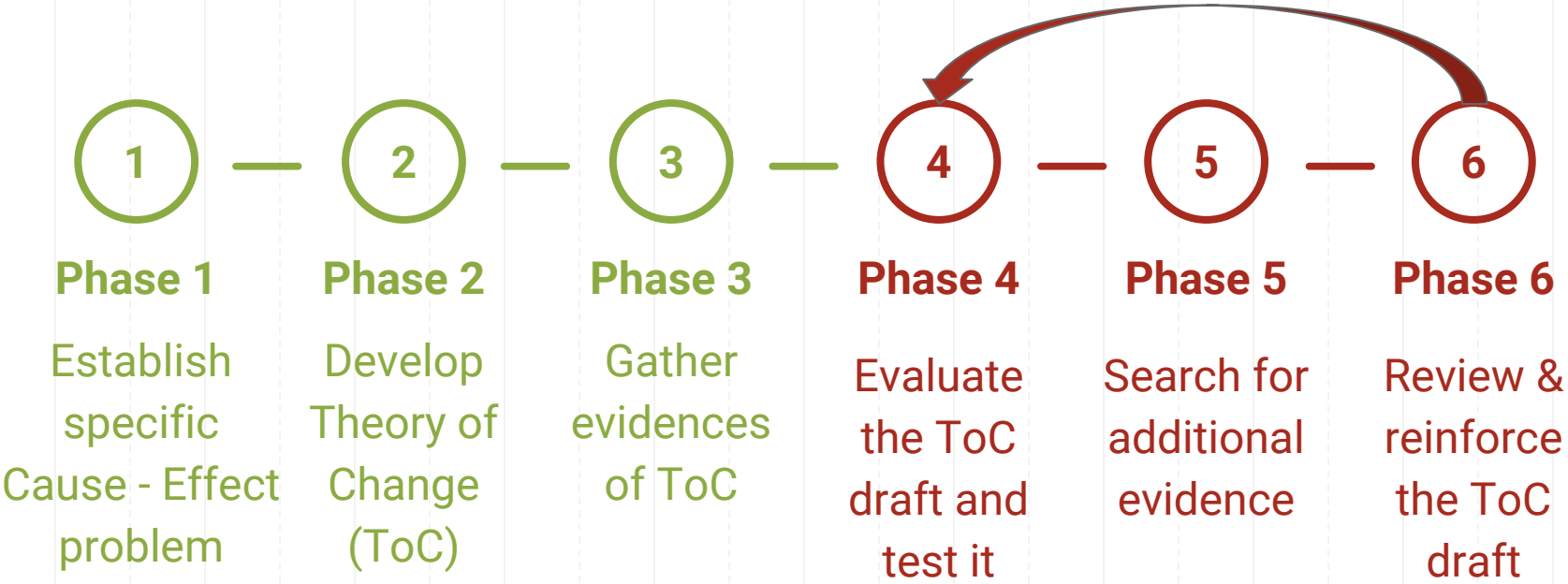
Causality defined by:

Reasoned Theory of Change

Activities already implemented

Theory of change verified by evidence

Controlled external factors

Contribution Analysis
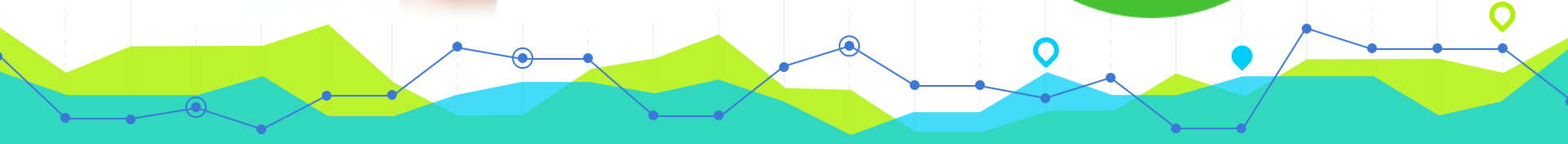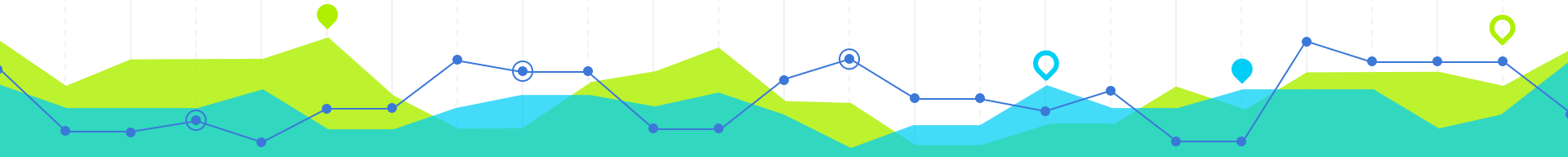
1 — **2** — **3** — **4** — **5** — **6**

Phase 1

Establish
specific
Cause - Effect
problem

Phase 2

Develop
Theory of
Change
(ToC)

Phase 3

Gather
evidences
of ToC

Phase 4

Evaluate
the ToC
draft and
test it

Phase 5

Search for
additional
evidence

Phase 6

Review &
reinforce
the ToC
draft

Evaluation

Cause

Effect

Evaluation

Evaluation

Results

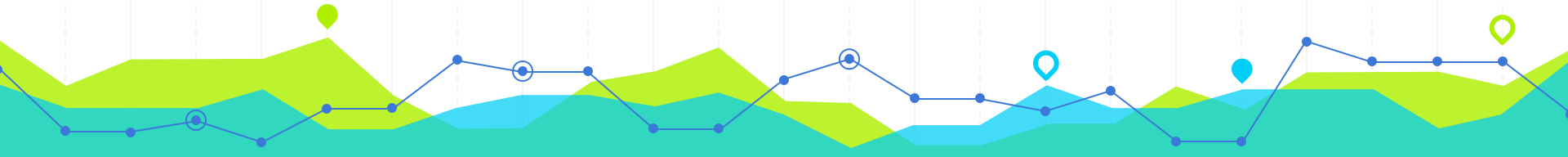| Indicator	Before	After
Time of the visit	30-45 min	45-60 min
Question's type	<10%	**~30%**
Satisfaction (Questionnaires)	3.2 (sd 0.4)	**4.1** (sd 0.8)
Casual questions	17%	**35%**
Request of Internet	65%	70%
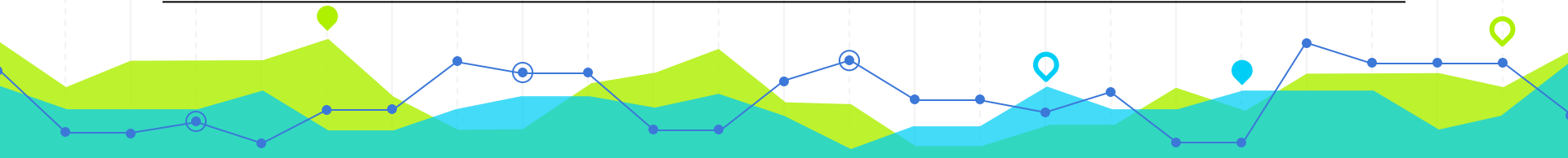
Conclussions

The methodology is appropriate to the context.

QR usefulness to inform.

Environmental sustainability.

Thank you.

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