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Accelerating Business Transformation

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Abstract

This work on business transformation unifies knowledge about designing transforming technologies for business acceleration. It explains how technological innovations can go beyond limitations of traditional behavior design and change management. This science-driven work demystifies human change and reveals the secrets of transformation, thus making it accessible for everyone to improve lives and business performance globally.

Keywords: Transformation, Transforming Theory, Typology of Change, Transforming Framework, Transforming Design, Business Transformation

Summary

1 Increasing Importance	4
2 Transforming Theory & Practice	5
3 High Business Case	6
4 Typology of Change	9
5 Transforming Framework	11
6 Transforming Design	16
7 Future Impact on Businesses and Lives	18
References	19

1. Increasing Importance

Majority of global problems and business challenges are byproducts of poor human attitude and behavior (Stibe et al. 2019). Often people look for and find reasons outside themselves for why we have such environmental issues and weakly performing organizations. People, communities, societies, businesses, organizations, industries, basically everyone needs help with transformations. Many people want to change, but we also know how often our new year's resolutions end in February. People tend to perceive changes as something difficult, impossible, and mystical, thus are willing to avoid them. Such attitude naturally leads to poorer decisions and consequent behavioral outcomes for societies and business organizations.

This science-driven work demystifies transformation by introducing:

- **Transforming Theory & Practice** - that explains the essentials of and the inevitable need for global transformations (Stibe et al. 2019, Stibe 2018),
- **Typology of Change** – that clarifies the variety of changes and provides ways to consciously separate them (Stibe et al. 2019),
- **Transforming Framework** – that contains 8 applicable tools for immediate use (Stibe et al. 2019), and
- **Transforming Design** – that blends technological innovations with human nature to empower sustainable changes at scale (Stibe et al. 2018, Stibe & Larson 2016).

Due to its scientific richness and practical nature, this transforming work is applicable in many essential life contexts, including global business, leadership, health, wellbeing, innovation, autonomy, commercialization, education, diversity, culture, sustainability, automation, equality, social change, governance, safety, art, emergency, management, marketing, dwelling, ecology, economy, and, generally, to facilitate our progress towards the United Nations global goals for sustainable development (Fig. 1).



Fig. 1. United Nations: the global goals for sustainable development.

2. Transforming Theory & Practice

Transforming Theory & Practice is emerging as an inevitable response to the evergrowing imbalance in our lives across the globe (Stibe et al. 2019). We have been advancing technologies to make our lives better and businesses grow. The fundamental question still remains: with all the evolving innovations, are we gaining decent success in achieving happier societies and solid organizations? Every crucial domain of our lives continuously provides evidence of how things are getting unbalanced despite us making huge progress in building increasingly capable technological innovations, such as artificial intelligence, blockchain, augmented reality, autonomous vehicles, and drones, just to name a few. This work summarizes the state-of-the-art scientific insights and practical applications to transform lives and businesses at global scale.

Present knowledge on transforming innovations often reveals how behavior change designs and interventions are limited in sustaining their effects (Fogg 2003). There is an increasing need for novel ways to create technology and spaces that help businesses and people not only to achieve their goals, but also to support sustaining newly developed processes and habits. Transforming innovations should ultimately empower people and organizations to succeed in their desired and more often even inevitable changes. Thus, *Transforming Theory & Practice* extends the understanding beyond limitations of traditional change management and behavioral designs.

Transforming Theory & Practice is highly instrumental for business organizations and communities that are undergoing transformations, as it provides and helps internalizing easy to use frameworks for achieving permanent behavior change. This work embodies fundamental understanding of how to design successful transformations, including *Typology of Change*, *Transforming Framework*, and *Transforming Design*.

3. Higi Business Case

Higi (higi.com) is a north American medical technology company that builds innovative solutions to help people better understand and navigate their health, as well as connect with the care and resources needed to manage and improve it. The company believes that it should be easier for people to be their healthiest. The steps toward better health should be more accessible, affordable, and convenient. Higi gives consumers unsurpassed access to track and act on their health data through the network of over 11,000 FDA-cleared smart health stations and over 80 integrated health devices and apps (Fig. 2, left). Higi stations are conveniently used nearly 1 million times per week at pharmacy retailers, community locations, and employer worksites across the United States of America (Fig. 2, right).



Fig. 2. Higi health stations and their locations.

Higi network and solutions engage and connect the consumer and their data in real-time with their trusted healthcare organizations to improve satisfaction, increase quality, and reduce cost. Higi health stations are designed to be easy to find and use. From the moment a person sits down and begins his or her session, a friendly navigation appears to walk the person through each test offered at the station (Fig. 3). Higi users can track blood pressure, pulse, weight, and body-mass index (BMI). Everyone can just come and measure their vitals anonymously. However, one can also become a member by creating an account, which allows members to store and retrieve their previous measurement data. They also can connect a mobile device to track all their activity in their account.



Fig. 3. Higi health stations in use.

As a large portion of activity at the Higi health stations happened anonymously, the business challenge for Higi was to convert the anonymous users into account holders. In other words, the aim was to encourage more people becoming members by opening an account at Higi. Technically speaking, we began to think of how to increase the conversion rate of anonymous users into account holders. Why? Because, the existing data about Higi members provided valuable insights of how many of them are successfully improving their vitals.

Consequently, we hypothesized that the functionality of keeping and reviewing the values of previously measured vitals has powers to influence the attitude and behaviors of the Higi account holders. That enabled our collaboration to explore ways of applying the knowledge of Transforming Theory & Practice to co-create novel and transformative experience for the anonymous users of the Higi health stations. Informed by social sciences (Stibe 2015), we decided to leverage the prominent strength of social influence in the process of designing additional transforming interfaces for Higi stations (Fig. 4).

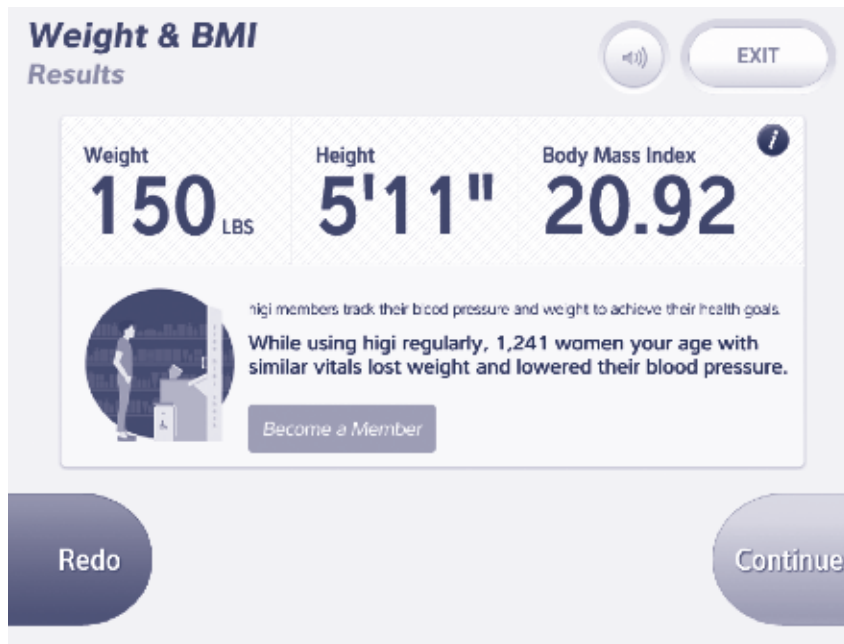


Fig. 4. Transforming interface on Higi health stations.

The new transforming interface provided information about Higi members of the same gender and similar age to the anonymous user. It was easy to retrieve such relevant data, as even all anonymous users are asked to enter their gender and age. Based on that, the news interface reveals how many other similar people have achieved their health goals, thus encouraging the user to become a member as well. During the implementation, we monitored the performance of both a number of Higi health stations that displayed the new interface screen to the anonymous users and an equal number of similarly performing stations without the socially influencing messages. The results of this transforming intervention revealed an overall click rate increase of 19.50% for the Higi stations with the messages and even higher increase of 31.60% for the weight related messages (Fig. 5).

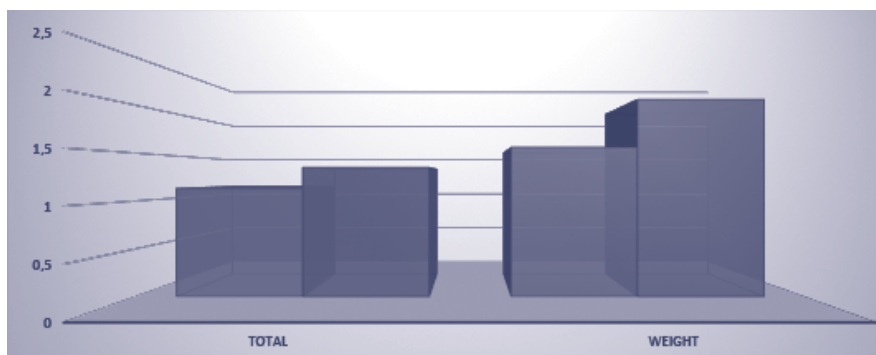


Fig. 5. Click rate increase on Higi health stations with the socially influencing messages.

4. Typology of Change

Previous scientific literature (Amando & Ambrose 2001, de Biasi 2019, Burke & Liwin 1992, Vito et al. 2014) reveals three general *types of change* (Fig. 6):

- transactional,
- transitional, and
- transformational.

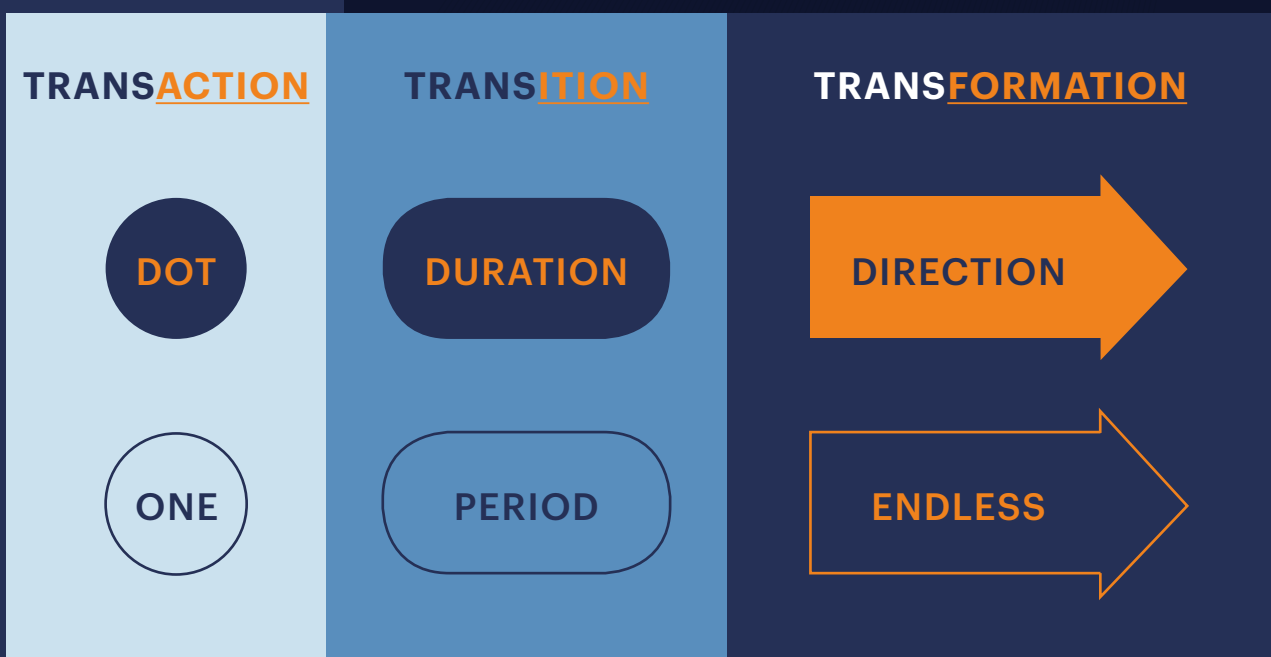


Fig. 6. Typology of Change.

Transactional change is usually defined as an occurrence producing an outcome that differs from previous preferences. Then, *transitional* change is often defined as a period, in which certain outcomes significantly differ from what was habitual before. However, *transformational* change manifests itself as a continuum having direction as well as magnitude to produce apparently irreversible shifts.

The three types of change have their characteristics, including general descriptions, overall perspective, perceived timelines, orientations, nature, metrics, underlining psychology, and some examples provided in Table 1.

Tableau 1. Types of change and their characteristics.

	Transactional Change	Transitional Change	Transformational Change
Definition	An occurrence producing an outcome that differs from previous preferences	A period, in which certain outcomes significantly differ from what was habitual before	A continuum having direction as well as magnitude to produce apparently irreversible shifts
Description	To carry on or conduct something to a conclusion or settlement	Relating to a period during which something is changing from one state or form into another.	To change completely the appearance or character of something or someone, especially so that that thing or person is improved
Perspective	One-time decision	Steps toward a goal	Paradigm shifts
Time	Short-term	Defined-term	Timeless
Orientation	Cost-benefit	Goal	Self-connection
Nature	Bargaining	Achievement	Directional
Metric	Decision	Milestones	Personality traits
Psychology	Economical	Motivational	Spiritual
Example	Riding a bike to a park to get free lunch	Giving up alcohol for a month	Becoming a true forgiver

5. Transforming Framework

Despite acknowledgeable progress in designing persuasive technologies, many behavioral design interventions still produce unsustainable effects on target audiences. To help scientists and businesses creating technology designs for sustainable changes, a science-driven *Transforming Framework* is introduced (Fig. 7).

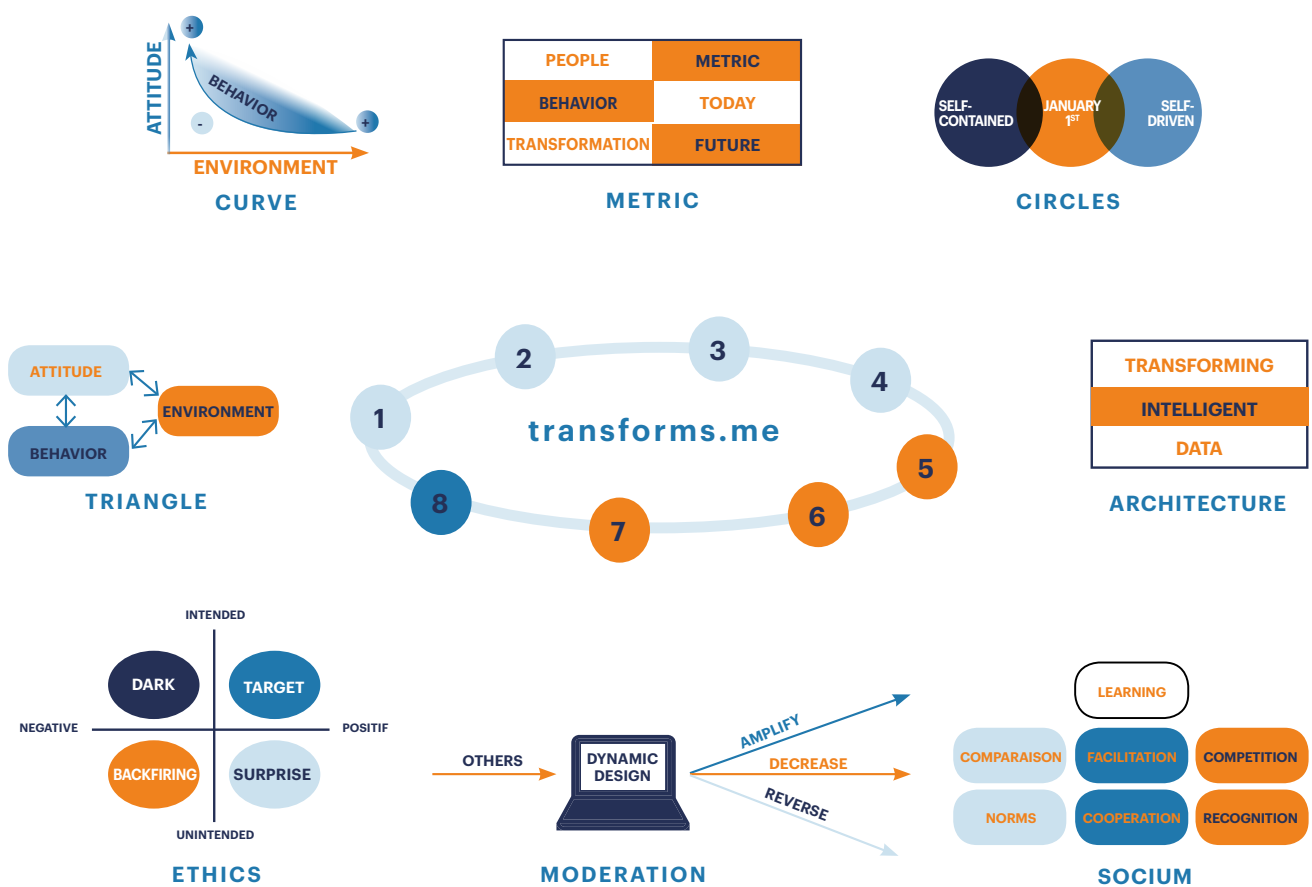


Fig. 7. Transforming Framework for designing sustainable change.

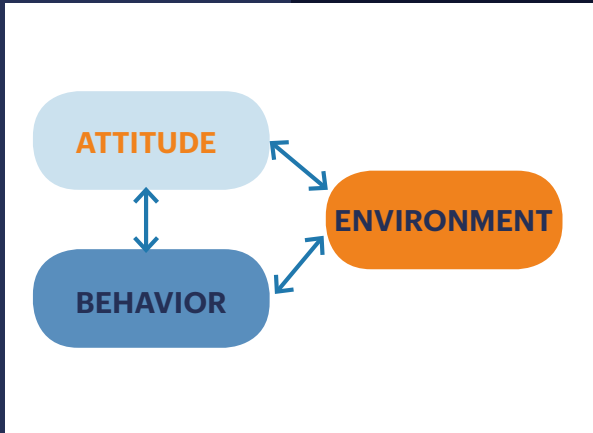
Transforming Framework embodies 8 (eight) scientifically driven tools that leverage prior knowledge. The framework demystifies transformation to reveal it as a practical process for designing and implement sustainable solutions. The framework helps you to address any of your reallife behavioral challenges with ease. The first 4 tools will help you to locate the root causes of your issues. The next three tools will guide your design and implementation process. And the last tool will handle ethics. Here are listed all the tools:

- **TRIANGLE** – triadic reciprocal determinism (Bandura 1986),
- **CURVE** – elaboration likelihood (Petty & Cacioppo 1986) and behavioral (Fogg 2003) modeling,
- **METRIC** – essential components for defining transformation (Stibe & Larson 2016),
- **CIRCLES** – susceptibility to influence and change (Stibe & Larson 2016),
- **ARCHITECTURE** – key layers of transforming technology design (Stibe & Larson 2016),
- **SOCIUM** – fundamentals of socially influencing systems (Stibe 2015a),
- **MODERATION** – typology of computer-supported influence (Stibe 2015b),
- **ETHICS** – dark patterns and persuasive backfiring (Stibe & Cugelman 2016).

Transforming Framework is highly instrumental for scholars and practitioners designing influential innovations, as it helps internalizing and applying science-driven tools for achieving sustainable behavior change. Businesses and organizations can now use the framework to substantially improve their performance and achieve more than expected or planned before. All of the eight tools are presented in Table 2 and available online (transforms.me).

Table 2. The 8 tools of the Transforming Framework.

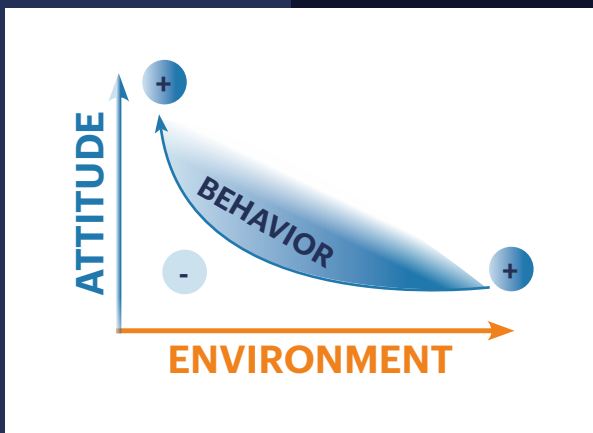
TRIANGLE
Bandura (1986)



Even when you see a behavioral problem, you not always are able to see the reasons behind it.

The Triangle helps to decompose any visible behavioral problem into essential parts, and then allocate some parts of the problem to obstacles in the surrounding environment and some to attitudinal barriers in the minds of people.

CURVE
Petty & Cacioppo (1986), Fogg (2003)



Your observed behavioral problem most likely will land close to the area of low attitude and difficult environment. The Curve helps to understand that you have to either make the environment less difficult or make the attitude more positive. Changes in the environment rarely bring expected results, because the major resistance often emerges from what people think.

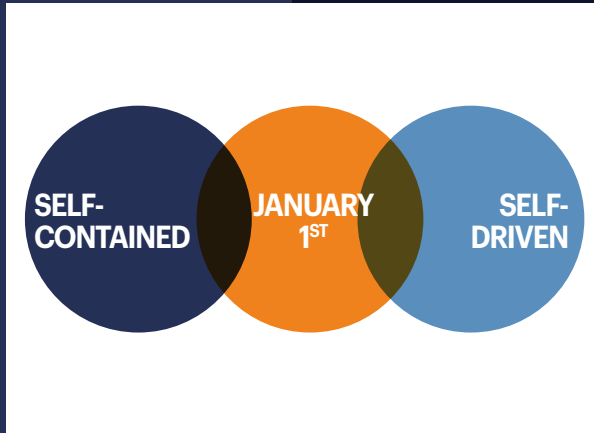
METRIC
Stibe & Larson (2016)

PEOPLE	METRIC
BEHAVIOR	TODAY
TRANSFORMATION	FUTURE

For successful transformation, it is essential to find a way measuring changes in an easy, reliable, and comprehensible manner.

The Metric helps to define variables for proper measuring of the observed problem behaviors. Usually, such variables should be as simple as counting time, frequencies, durations, and so on. The same variables will help monitoring the progress and results.

CIRCLES Stibe & Larson (2016)



Although you see a group of people that you would like to change, remember that there are always others that perform well. The Circles help to have all the related groups of people in the same picture. Dark blue people that will never change, orange people that are willing to change, but lack something, and light blue people that will serve as a positive example for the orange ones.

ARCHITECTURE Stibe & Larson (2016)



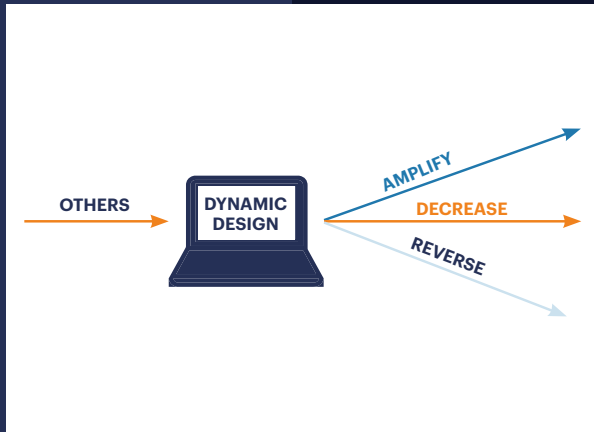
Only now you can start designing solutions for the situations that you have understood well enough using the first 4 tools. The Architecture assures that you will use proper data sources in designing your solution. Then, you will use intelligent tools to classify your data according to the groups you discovered in the Circles tool. Finally, you will design transforming user feedback.

SOCIUM Stibe (2015a)



Motivators that are based on rewards and punishments are very limited in their performance, thus becoming obsolete. The Socium offers infinite sources of motivation for designing truly transforming experience and solutions. As social beings, we are constantly influenced by others around in multiple ways. So, let's include this powerful source into your solution.

MODERATION Stibe (2015b)



Not always you will have other people around that exhibit positive behavioral examples to use in your solution. The Moderation explains how to manage the power of social influence, when it is designed using technologies. For the situations of low availability of dark blue people, your solution has to enable access to a wider view on previous positive historic data.

ETHICS Stibe & Cugelman (2016)



Transforming solutions can be very sensitive instruments that should be understood properly and used ethically. The Ethics help the designers of influential solutions to see the spectrum of concerns related to morality of their work. Such solutions not only can be produced with intended positive or negative outcomes, but they also can surprise and backfire.

6. Transforming Design

Transforming Design blends technological innovations with human nature to empower sustainable business and societal changes at scale (Stibe et al. 2018, Stibe & Larson 2016). It addresses highly important future direction that influences the advancements of our ever-increasing technology-supported environments.

According to social sciences (Bandura 1986), environmental, personal, and behavioral factors are locked into triadic reciprocal determinism, meaning that all three are strongly interconnected and continuously reshaping each other. Thus, environmental design is a strong influencer on human behavior and attitude. In other words, quite often it is merely sufficient to improve our digitally-equipped spaces to achieve better business results and lives overall (Stibe 2015a). This is a very powerful vision as it encompasses not only behavior change, but also the potential of transforming human behavior at scale (Stibe & Larson 2016).

Transforming Design empowers businesses and individuals to create transforming technologies and influencing spaces that make behavioral and attitudinal changes last. Moreover, such design also employs knowledge about strategies from:

- *behavioral economics* (Altman 2015),
- *gamification* (Burke 2016),
- *nudging* (Weinmann et al. 2016),
- *persuasive technology* (Fogg 2003),
- *rhetoric* (Christensen & Hasle 2007),
- *psychology* (Bandura 1986),
- *neuroscience* (Cacioppo et al. 2017), and
- *social influence* (Stibe 2015a, Stibe 2015b)

that can lead to attitudinal transformation. By definition, Transforming Design expands the ways of attaining longterm permanent behavioral changes at all scales, be it at individual, organizational, or societal levels.

New transforming design concepts can also enable multiple ways of advancing behaviors related to future cities. Behavior change interventions can target choices involving physical activity, nutrition, socializing, networking, coworking, business acceleration, dwelling, and mobility.

For example, urban transforming design could activate social comparison by publicly displaying how quickly bicycles move compared to cars on the same street via street signage (Fig. 8). Such transforming technology design would naturally encourage more people to reconsider their mobility choices.



Fig. 8. Transforming Design for improving mobility in cities.

Businesses can also employ Transforming Technology to steer their employees towards better performance in various aspects. Organizations can use Transforming Framework to design novel experiences for their employees, for example, to choose healthier and more sustainable mobility modes while commuting to work and back. This idea was implemented in the Biking Tourney (Stibe & Larson 2016), a large-scale study designed by researchers from Massachusetts Institute of Technology (MIT Media Lab) and Austrian Institute of Technology (AIT). The study engaged 239 employees from 14 companies around Greater Boston Area, including Google, iRobot, Boston Children’s Hospital, Volpe, and others, who collectively rode around 30 000 miles in six weeks (Fig. 9).

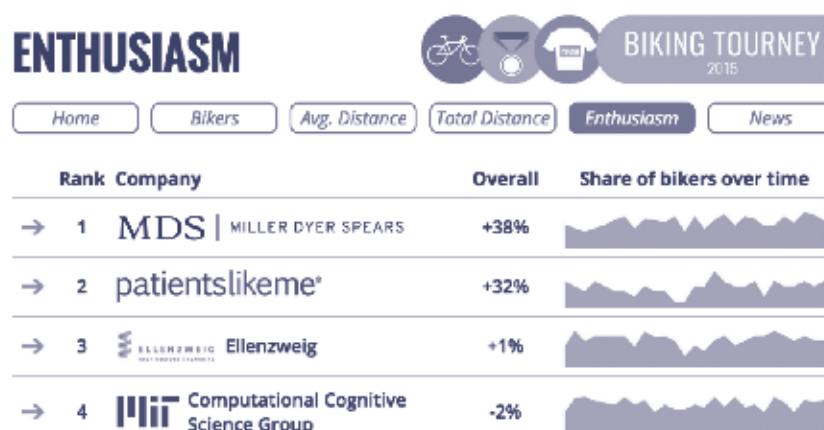


Fig. 9. Transforming Design for the Biking Tourney study at MIT.

7. Future Impact on Businesses and Lives

Rapid technological evolution not only enables advanced innovations to emerge, but also requires reconsidering their effects on businesses. With novel technologies, such as artificial intelligence, smart sensing, blockchain, and autonomy, life changing transformations are inevitable. To succeed with these challenges, we have to be mindful about human nature playing its important role in every transformation.

Businesses and organizations can now benefit from the advanced knowledge and immediate application of fundamental strategies and frameworks to transform corporations and enterprises. This transforming work provides tools that have been proven to be effective in helping to achieve permanent behavior changes and attitudinal transformations.

This work on business transformation provides principles that are applicable for creating novel technologies that go beyond solely improving their own performance, thus assisting with behavioral and attitudinal shifts in everyone involved. The transforming work unifies knowledge about designing transforming technologies for business acceleration. It explains how technological innovations can go beyond limitations of traditional behavioral design and change management. This sciencedriven work demystifies human change and reveals the secrets of transformation, thus making it accessible for everyone to improve lives and business performance globally.

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