*A*ctivating social innovation for sustainability through a playful approach

Abstract

Social innovations convey addressing current ways of action and shifting behavior. Therefore, they are considered a relevant type of enabler to support the transition towards more sustainable ways of living. Identified as a potential tool to prompt behavior change and, thus, social innovations, gaming provides an unique and holistic approach towards understanding the realities around us and developing different strategies to address current social problems, in favor of a more flourishing future. Based on these main premises, the paper starts by introducing the topic of social innovation and its relevance for sustainable lifestyles. Next, it zooms into the potential that games convey for changing individual attitudes. To illustrate it, the paper presents a game developed with the purpose of eradicating corruption and behaviors that lead to or endorse it. Building on the knowledge accrued by developing, testing and promoting the game, conclusions of how a playful approach can lead to the development of social innovations for sustainability are presented for further discussion and consideration.

Introduction

This paper focuses on the potential that games have for influencing individual behaviors towards promoting a social change that will drive relief to current social, economical and environmental challenges from the grassroot level: this is, a social transformation towards more balanced way of living with the limited resources of one planet – a sustainable development.

After introducing the topic of social innovation and its relevance for sustainable lifestyles, this paper zooms into the potential that games convey for changing individual attitudes. To illustrate this case, we present a game developed with the purpose of eradicating corruption and behaviors that lead to or endorse it. Building on the knowledge accrued by developing, testing and promoting the game, a series of conclusions of how a playful approach can lead to the development of social innovations are presented for further discussion and consideration.

1. Social innovations and their relevance to sustainable development

Social innovation is a topic that, during the last two decades, has been gaining relevance in the international context, especially as a framework for multi-sectoral cooperation and sustainable development. According to the European Commission (2010), social innovation is "about tapping into the ingenuity of charities, associations and social entrepreneurs to find new ways of meeting social needs which are not adequately met by the market or the public sector. It can also be about tapping into this same ingenuity to bring about the behavioral changes which are needed to tackle the major societal challenges, such as climate change. [...] social innovations empower people and create new social relationships and models of collaboration. They are thus innovative in themselves and good for society's capacity to innovate." (European Commission 2010)

Social innovation is a broad term that conveys creative solutions to problems that traditional mechanisms, such as policies and the market, have failed to address in a holistic and sustainable manner, e.g. poverty eradication, resource scarcity, inequality and corruption. Howaldt & Schwarz (2010) clarify that social innovations are sociological practices that, unlike technical innovations, can be analyzed, engendered and co-shaped as "they are oriented toward social practice and require reflection on the social relationship structure".

Detailing the implications of social innovations in today's context, the authors of the "Open book on social innovation" (Murray et al. 2010) clearly denote that social innovation is building a new kind of economy, described as "social economy" because "it melds features which are very different from economies based on the production and consumption of commodities."

These three approaches to social innovation have a common story line: it is about a shift in individual behaviors. Such shift, on its turn, is of crucial relevance to achieve the needed change in lifestyles towards sustainability.

The Brundtland Commission, on its 1987 report "Our common future", set the basis to what became the well-known definition of sustainable development: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987). By development, it is understood that there is an improvement from the status quo, a change towards better conditions than the existing ones. In terms of social development, for long time the one condition measured has been the creation and accumulation of economic wealth.

The broad definition of sustainable development goes beyond mere economic growth by implying there are other considerations that must not be put into the equation as a trade-off for economic development. In other words, social well-being and environmental conditions should not be compromised when seeking economic growth. With this notion in mind, the Brundtland statement opens the discussion of what exactly these "needs" are and plays with two different times: present and future.

The same report includes the notions of boundaries, from natural cycles to limitations derived by social organizations and the state of technology, all of them influencers of lifestyles. Among the various points presented at the document "Our common future", three of them hold particularly relevant as a call to supporting sustainable social innovations to address the great blunder to sustainable lifestyles that the vice of corruption entails. These points, presented from the broader societal sense to the individual level, are (WCED, 1987):

-   Societies at large: Equity among and inside nations that ensure economically poor nations get fair share of the resources required to satisfy all their needs and live well. This is to aim for an approach of a lifestyle based on justice.

-   Communities and nations: Participatory and open governance systems that provide wide social participation in decision making whilst ensuring functional political systems that seek social well-being and environmental preservation both in the national and the international levels.

-   Individuals: Implement structural changes in the ways we live. Individuals should adopt lifestyles that are coherent with our planetary resources, considering everybody's rights to live free and be capable of satisfying all their needs as well.

In order to develop social innovations that can spread quick and deeply, it is important to understand that there are various aspects that need to be taken into consideration for spreading social innovations and putting forward a comprehensive agenda for lifestyles in general (Guillen, 2011):

- The critical mass for pushing forward an agenda of social innovation comes from cross-sectoral commitment;
- Setting visions of a sustainable society helps to develop innovation towards it, as it enables a comprehensive analysis of actions and potential impacts;
- It is important to translate information into a personal and emotional language that individuals can internalize in order to change their behavior and choices.

On the same line, it is important to emphasize on the need to research further on values, triggers and drivers for trends and entry points to societal engagement. These aspects will support efforts to promote social innovation within diverse critical masses, addressing their different life circumstances. Moreover, the study of social innovations and their impacts should perform diverse target group analyses for developing tailored communication approaches, explore new communication and visualization channels that could support and strengthen the innovation, without forgetting to study opportunities and limitations of ICT-based information and how they enable communication flows. Ultimately, the measurement of the impact of innovations in the realm of lifestyles remains as one of the greatest areas for research to be carried out.

Several models, such as the "the process of social innovation" (Murray et al. 2010) presented in figure 1, provides a simple and comprehensive framework for distinguishing the level of development and impact of a social innovation.
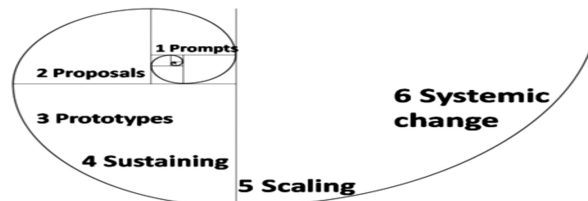

1 Prompts
2 Proposals
3 Prototypes
4 Sustaining
5 Scaling
6 Systemic change

Figure 1. The process of social innovation (Murray et al. 2010)

Other tools, like the "Innovation Assessment Chart" (Guillen 2011) presented in figure 2, enable the analysis and classification of projects and programs developed under multi-stakeholder frameworks, which convey changes in behavior after the project is concluded.

	Methodology					Elements of systemic change					Ripple Effect					Actors Involved								Action Scope												
	inclusive	inspiring	creative	access to communities	open information	pervasive	customizable	causal allow pattern identification	identifies leverage points	replicable	measurable	teachable	scaleable	multi stakeholder dialogue	interactive	policy makers	CSO	foundations	social entrepreneurs	academia	businesses	investors	individuals	cities	social cohesion	lifestyles	PPP	capacity building	social entrepreneurship	health	education	knowledge creation	knowledge dissemination	networking	funding	environmental preservation
SPREAD	X	X	X	X	X			X	X	X		X			X	X		X		X	X	X	X	X	X	X	X	X		X		X	X	X		
SMART	X	X	X	X	X	X	X	X	X		X	X		X	X	X	X	X	X	X			X	X		X	X	X	X	X		X	X	X	X	X
SWITCH Asia NF	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X	X	X	X		X	X	X	X	X

Figure 2. Innovation assessment chart (Guillen 2011)

 An innovation that has a clear methodology to drive systemic change, multi-sectoral involvement and enable a "ripple effect" may qualify to be considered a social one if it supports a change in social behavior and actions. Thus, when a social change is the objective, innovators consider the elements of inclusion, inspiration, persuasion and interaction needed to bring the target audience together and enabling them to perform a change in the way they live.

2. A playful approach to social innovations towards sustainable living

The interconnectedness of sustainable living can be easily translated into the terms of a game all social actors are bound to play: live well but not at expense of your fellow humans or the nature and bear in mind you have finite resources that have to be used today and tomorrow. Considering that a game is an environment with rules, mechanics and dynamics where individuals or actors participate constructing meanings and performing interactions towards a specific goal (Perez 2009), players learn to cooperate and are aware of the consequences of their actions, thus taking strategic decisions towards what they consider will help them to achieve the goal. Under this premise, it is possible to present games as an approach to prompting social innovations that can lead to a sustainable lifestyle.

Games are ways that make us experience the world, or take us out of a certain reality to place us into another. Beyond entertaining and relaxing, when properly designed, games are also expressions of creativity, instruments for conceptual thinking and even tools for social change, thus creating what Flanagan calls a "critical play" (2009). It denotes processes in which players face situations where they become reflective on certain values as games are also cultural expressions and challengers of social contexts (Flanagan, 2009).

Throughout history, critical play is present in social gatherings when seeking to entertain and bringing groups together. There is a historical approach that needs to be considered at all times, since games are representations of cultural development – artifacts that were used in the past as entertainment subjects are also tools for perpetuating lifestyles and philosophies (Perez 2010). Chinese board games where the objective is to guess the future or communicate with a higher being are a good example of this statement. Even playing the doll-house or the notion of success described by the Milton Bradley game "Life" (1960) are objects of cultural expressions that validate moral values and reinforce aspirations. The game has been modified since its original design from the 1960 but the story line is the same: the decisions you make decide the turns of your life. Of course you can have your chances to take revenge or to leap forward in success. Beware: you can end up as a poor philosopher living in the woods or as a millionaire. Newer versions of the game include other conducts such as recycling or doing community service (Hasbro 1991).

Games are also means for criticizing and propitiating analytical states in which people can reflect upon an issue and change their opinion or disposition (Perez 2010). A board game highly popular in contemporary culture and well-known for its function of questioning capitalism is "Monopoly" (Parker Brothers 1937). In its different versions, issues and reinterpretations, this game allows players experience the accumulation and enormous disparities of money produced by an imperialistic system (Perez 2010).

Flanagan's take on games consists on positioning them as very impactful agents in political and social spheres, since they are presented as means for the understanding of social issues that can also pose action guides for change and improvement. Moreover, she quotes

anthropologist Sutton-Smith affirming that play helps to define and process daily life norms and identities with the aim of coming up with enhancements to our own context (2009).

Another game theorist acknowledging the power and influence of games is Ian Bogost. He identifies games as agents for persuasion with social, political and cultural implications and with the property of modifying or even curbing attitudes and beliefs about the world, even to the point of propitiating meaningful changes (2007).

For a game to be persuasive according to Bogost, it must incorporate what he calls "procedural rhetoric" of a theme. It should embody a discourse based on rules of representations and interactions (2007). The better and more complete a "procedural rhetoric", the more a discourse or doctrine is immersed in a ludic and entertainment system in the form of a game, the more persuasive it will result.

3. Case: a game driving behavior change against corruption

"¿Y… si tranzas?"[1] is a board game designed by the games' professional and scholar MSc. Enrique Perez as part of his Masters in Videogames thesis at the IT University of Copenhagen. The game follows Mary Flanagan's Critical Play Model (2009) with the purpose of contributing to Mexican society with a didactic and entertaining tool that allow players realizing the negative effects of corruption and consequently reject it in their daily lives.

3.1. Background information

Since social innovations emerge as strategies, ideas, concepts or solutions to meet social needs that strengthen the civil society and its breadth of action, in a country where 70% of the population considers corruption levels have increased among police and authorities (International Transparency 2013), it is important for its citizens to find solutions that address this problem and implement them directly. This is, start changing their own behavior and stopping the reinforcement of conducts that lead to corruption acts.

Mexico ranks at the bottom of the OECD countries in relation to transparency due to the increase of corruption in the last two years. In the context of 185 nations, the North American country fell from position 100 in 2011 to 105 in 2012. The 2013 study of International Transparency showed this is actually a larger trend: 11 out of 107 countries analyzed considered having made progress against corruption, 13 other countries didn't show any change, whereas the other 83 actually reported an increase of corruption.

Aware of this situation, Perez decided to develop a tool to tackle and contribute to the eradication of this social problem: a game against corruption that will entertain the players and at the same time trigger actions towards repudiating the problem and enable better living.

3.2. Developing the game

Under the premises of Flannagan and Bogost, who emphasize on the importance of representing a social and political situation by the incorporation of a discourse or ideological

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[1] In Mexican slang, "tranzar" means to cheat, take advantage of a situation and do something in a perhaps not very legal manner. The title could be translate to English as "What… if you cheat?". More information about the game can be found online at: gameagainstcorruption.org.

framework in a game, five game forms were designed as part of Perez's master thesis project about corruption as a vice in the social context. By undertaking a thorough rhetoric and mechanics-affording evaluation of each game design proposal, one idea was selected as the most suitable: a game that allowed all its participants perform acts of corruption, suffer corruption and realize the consequences this social problem causes in their daily lives. This design embodies a descriptive corruption phenomenon while developing a model that sketches different forms of corruption connected to the many roles participants can take when making common decisions.

As a project, the case shows how games can embed values and propitiate the means and logics for participants to explore and experience social issues so that solutions can be worked out (Sicart 2009). Players can see their reality reflected on a ludic initiative allowing questioning and, hopefully, the design of strategies to improve it.

When still in prototyping phase, "¿Y... si tranzas?" game underwent an iterative improvement process for evaluating its rules, mechanics, items and entertainment factor following Flanagan's Critical Play Model (2009) and other interaction design methods (Schön 1983; Löwgren & Stolterman 2004). The development process of the selected game continued with the enhancement of the gameplay through a thorough discursive analysis of the game system and the evaluation of each of its elements at 5 play testing sessions with the participation of people from different countries, including Mexico.

The prototyping happened during the research period (the development of the thesis in Denmark) and among the many findings from the play testing sessions, the following are worth noting:

- Mexican students enunciated the game made them realize corruption is bad in a fun way;
- Mexican players mentioned the game depicts the country's reality and also offers a positive view on how to address the way citizens behave;
- It was possible to confirm that each cultural group has a very particular perspective on the corruption phenomenon and the way to perform it.

While the thesis project sought to confirm that games can work as tools that afford criticality and reflection, it is also pertinent to consider the player's side, as Miguel Sicart (2009) proposes: "people at play act as virtue beings, they have the capability to discern between evil and good, between the righteous and the dishonest even within the fictitious scope of a game". Therefore, it can be inferred that players can be conscious about their acts and whether what they perform and their consequences within the game's "magic circle" is

socially acceptable in the real world. Even though the master thesis project was finished in 2010, new play testing sessions have been carried out in Mexico, thus improving the game as it has been applied in the context it was designed for.

3.3. Playing the game

At a play session, all the participants perform acts of corruption, suffer from it and have the resources to fight against it. The message embodied is: we are all part of the problem; we all are responsible of spreading it or stopping it. This game system affords understanding we are not mere victims of this social problem but also causes of its happening. This is shown by the representation of very typical Mexican situations presented as examples of corruption as they happen in daily life. Participants can experience almost immediately how their corruption acts in the game cause the detriment of their game environment.

Set of features of the game:

• "Incident spots" are the game events propitious of corruption; they make reference to situations at which people would have to pay a fine for incurring in an administrative fault. Examples of these would be: sweeping the sidewalk with water, parking in a forbidden place, getting a speed ticket, leaving one's pet's excrement on the sidewalk, etc.

• Players have to take a role at every incident to know how to sort the situation out, honestly or corruptly.

• Every time an incident takes place, 3 players get in action: the "Offender" or the one that incurs in the incident, the "Responsible" or who observes how it has to be repaired or amended, and a "Witness", who watches the transaction.

• There are "Denunciation Spots" for the players to profess their right and obligation to denounce corrupt participants.

• After the accusation of a corrupt player, the damages caused are amended, money stolen is given back and the corrupt player pays a fine or even goes to jail.

• Money that is acquired through a corrupted act is considered as dirty money and it cannot be used for anything.

• Money that is acquired honestly through collecting incident fees or getting a salary or revenue can be used to pay anything.

• There are indicators of good and bad money and their levels have an impact on the looks of the board. If the bad money tops up the indicator, the board flips to an ugly board, while if the good money does, it causes the board to flip to a nice view.

• Players can buy surveillance systems to catch corrupts and get a reward.

As mentioned before, the game is highly discursive; every action allowed or rejected is understood analogically to social ideals. For instance, the money corruptly earned cannot be used. This is because otherwise this kind of "earning" would be understood as a practice that could be tolerated.

The steps of the game correspond to the ones of a social innovation where the game prompts (the problem of corruption in Mexico) lead to the creation of a proposal (a game to address this problem and support behavioral change) and eventually endorses a transition to a more sustainable, corruption-free society.

3.4. Overall results and challenges

The overall results of the play-testing sessions showed that the game has solid and thorough components that emphasize on the aspects of how corruption works and negatively affects societal development. It can be played among people of different nationalities and ages though its current version has been whetted into the Mexican idiosyncrasy. By modifying this very culturally-customized affordance, the game could be perfectly adapted to any nationality. There can be even an international version.

Studying the messages of different games, it is possible to identify the seeds of social innovations that can emerge, starting by raising awareness of the pernicious outcomes of corruption and triggering changes in the behavior of the players.

Regarding the challenges of using games as tools for sustainable, social change, seeing game experiences as "outside" the ordinary and not serious may induce taking as irrelevant any messages games could convey (Montola et al. 2009).

Another relevant factor is the maturity required from players to discern the meaning and use of games, and to observe (or not) ethical, moral and social game discourses. This risk of not considering or understanding the game's purpose is even higher when games are presented on a digital way. In a digital version, if players realized the system disproved any corruption, they would always avoid any kind of injurious acts, thus impeding the discourse to be understood. It is as in many socially considered violent games, players engage in simulations that enact unethical and morally rejected actions but because they know it is just a game, a simulation, they perform them permissively.

"Y si tranzas…?" shows that as a board game has the benefit that brings people together. This physicality enforces the discourse about corruption having negative consequences, players see those effects on the system, live and experience them, and have to deal with them and counteract them to make their way through. It is still pending to test until what extent the players of "¿Y… si tranzas?" sessions have changed their attitudes towards corruption. During the debriefing sessions, participants showed more awareness of how the problem happens and willingness to act differently, however a more in-depth research on the actions undertaken after the play is still pending.

4. Insights: playful approach as a relevant tool to reach sustainable lifestyles

The case portrayed in this paper demonstrates the potential of a playful approach to initiate behavior change, as games mirror reality and can make us reflect who we are, how we deal and face social issues, etc. Building on this knowledge, we can envision the potential of games as tools to prompt behavior change in favor of more sustainable practices. In other words, behaviors towards living more sustainably could as well be shaped through well-designed games that support crafting and reaffirming sustainable attitudes.

While playing, people can bring up very interesting conversations and dialogues on why and how to solve each incident that may arise, allowing them to express their beliefs, points of view and convictions on sustainable development which sometimes can be very liberating, provoking, controversial or even illustrative on why this social problem is so relevant.

Different media forms allow people to learn and reflect on how to sort out social problems, including movies, TV shows and books. In the case of games, they are particularly welcome because of their entertaining properties: people are empathic towards them and allow themselves to immerse in their logics and discourses. They represent spaces accepted as entertainment without prejudices, thus liberating their potential to impact people as agents of change (Perez 2010).

Regardless of several and outstanding academic and professional contributions, games operating within the range of ethics, critical thinking and social-issue reflection can still be subject of deeper and different analyses and investigations. For instance, they can be explored further in order to offer more impactful and long-effect lasting alternatives, solutions and experiences; they can be expanded and reformulated for people to acknowledge their implications, benefits, and find them as more worth-recurring tools.

It would be interesting to explore, for example, the point at which players engage in game discourses and when they disengage. To find out, also, about what is it exactly that they take from the experience that is able to change their reality.

Key words: Social innovation, games, behavior change, sustainable development, sustainable lifestyles.

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References

Bogost, I. (2007). *Persuasive games*. USA: MIT.

Corruption Perception Index 2013. International Transparency. Available at: ‹http://www.proceso.com.mx/?p=346996›.

European Commission (EC) (2010). Europe 2020 *Flagship Initiative*: Innovation Union. COM(2010) 546 final. Available at: ‹http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0546:FIN:EN:PDF›. Access on: 03/12/2013.

Flanagan, M. (2009). *Critical Play - Radical Game Design. Massachusetts Institute of Technology*, Massachusetts. United States.

Howaldt, J., Schwarz, M. (2010). *Social Innovation: Concepts, research fields and international trends*. Sozialforschungsstelle Dortmund ZWE der TU-Dortmund. Germany.

Löwgren, J. & Stolterman, E. (2004). *Toughtful Interaction Design*. Cambridge, Massachussetts, MIT Press.

Millman, D. (2007). *Wisdom of the peaceful warrior*. Novato California: New World Library.

Murray, R., Caulier-Grice, J., Mulgan, G. (2010). *The Open Book of Social Innovation*. The young Foundation & NEsta.

Perez, Enrique (2010) *Designing a board game that makes Mexican realize that corruption is bad*. IT Universitet I Kobenhavn. Danmark. Master thesis.

Robèrt, Karl-Henrik (2000). Tools and concepts for sustainable development, how do they relate to a general framework for sustainable development, and to each other. In: *Journal of Cleaner Production*, 8, no. 3 (June): p. 243-254.

Robèrt, Karl-Henrik et al. (2010). *Strategic leadership towards sustainability*. 5th ed. Karlskrona: Blekinge Institute of Technology.

Schön, D. (1983). *The reflective practitioner*. London: Ashgate.

Sicart, M. (2009). *The ethics of computer games*. Cambridge / London: The MIT Press.

United Nations World Commission on Environment and Development (WCED) (1987). *Our Common Future (Brundtland Report)*. New York, NY: United Nations.

Games:

Brothers, P. (1937). *Monopoly*. Board Game.

Hasbro (1991). *The Game of Life Instructions*. Available at: ‹http://www.hasbro.com/common/instruct/Life,_the_game_of_%281991%29.pdf›. Access on: 03/12/2013.