




Social Economy: A Simulation Game in Model Social Enterprises

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Abstract. The social economy and social enterprises are a part of entrepreneurship, gaining more visibility in recent years, especially in the European Union. The unique characteristic of social enterprises and their complex relationship to the concept of profit pose significant challenges in designing educational tools for this sector. Accurate simulation of social enterprise must include elements of profit and loss analysis because those enterprises operate as usual market entities. It must highlight the importance of each social enterprise's social impact on its community. This paper presents the game mechanics, the simulation model of the social enterprise and the implementation of the educational game, Social Economy, designed for the Regional Center of Social Politics in Poland.

Keywords: Simulation board game · Social entrepreneurship · Social cooperative · Social indicators · Worker placement

1 Introduction

Social economy is understood as ‘commercial and non-commercial activity largely in the hands of third-sector or community organizations that gives priority to meeting social and environmental needs before profit maximization’ [1]. It is a concept not new to the economic theory and gained a lot of momentum after the 2008 financial crisis. The idea of economic activity that benefits the local community and stakeholders other than the owner of the enterprise or its shareholders is at the center of this concept and is fundamental to the Social Economy game presented in this paper. Promotion of the concept of social economy and education about its applications is an important element of the EU strategy of economic development. A decade ago, the development of the social economy sector was perceived as a means of recovery after the 2008 financial crisis and recession, which resulted in long-term unemployment in several EU countries [2, 3]. Recently, social entrepreneurship has been perceived more as an integral element of several strategic goals of EU economic development, mainly in the areas of youth employment, development of small and medium enterprises, the inclusion of people disconnected from the job market and creation of high-quality secure job positions with sustainable wages. This recent approach is well visible in the communication from European Commission to the European Parliament, the Council, the European and Social Committee and the Committee of the Regions titled ‘A Strong Social Europe for

Just Transitions' (2020). In the contemporary Polish context, the central government document implicating the high role of social economy is the Strategy for Responsible Development (2014) and the area III of the National Program of Social Economy Development (first published in 2014, [4]. The Program's priority 2 highlights the importance of education and tools fostering cooperation and mutual understanding between social enterprises and business organizations. At the regional level, the guidelines for social economy development are included in the Regional Plans of Social Economy Development. The game Social Economy was funded as a part of such a program for Silesian voivodship.

2 Social Economy – Game Design

2.1 Game Concept

Social Economy is a simulation game developed in 2016 for the Regional Center of Social Politics (RCSP) in Katowice, capital of Polish Silesian voivodship. The game development team included the author of this paper and Katarzyna Kotarska from InteliGames company and was supervised by the project team from RCSP. It was created as an education tool for five types of model social enterprises specific to the Polish social economy sector that was considered as the new types of social enterprises as opposed to traditional, well-established forms like cooperatives [5]:

- Disabled cooperative
- Social cooperative
- Vocational Rehabilitation Facility
- Social Integration Centers
- Foundation

The game target groups were teenagers and young adults who didn't have any previous experience or knowledge about the social economy sector. The main educational goals of the game were:

- Teaching the basic concept of social economy
- Increasing the awareness of stakeholders surrounding the social enterprise
- Raising the awareness of types of activity (economic and organizational) conducted by the management team of social enterprise
- Improving the understanding of specific activities for different kinds of social enterprises
- Improving the understanding of the complexity of impact and the measure of success of a social enterprise.

2.2 Development Process

Social Economy was developed during the three months of 2016 which included a complete design process. It started with precise guidelines about the game goals pre- pared

by the RCSP, brainstorming and prototyping, testing, production and finally delivering the game. It was play- tested over 50 times with internal testers, eight test groups of independent testers and assessors and finally reviewed by the RCSP team before running the final print. The RCSP had a significant impact upon the final shape of the game, consulting all the test results and delivering field-specific knowledge such as reports and articles about the social enterprises models.

2.3 Game Content and Setup

Players start the game by selecting one of the available types of social enterprise:

- Disabled cooperative
- Social cooperative
- Vocational Rehabilitation Facility
- Social Integration Centers
- Foundation

This decision impacts the initial social factors which represent the specialization of each type of enterprise. For example, the social cooperative begins with level 2 of job development and a low level of fixed costs, reflecting its focus on workforce activation and tendency to rely on low-cost or costless solutions such as work by volunteers. The game is played by a team of five players in a cooperative mode. Players discuss their preferences and then each player assumes one role from those below:

- Head of the organization
- Financier
- Marketing specialist
- Work coordinator
- HR Manager

Each player receives two special cards associated with his role, representing unique assets, contacts and knowledge that a management team member brings to the organization (Fig. 1). For example, the marketing specialist has two cards, Community Support and Community Project, which reflect the focus of social enterprise marketing on relation- building rather than on direct sales marketing.

The game board setup includes marking the starting level of social factors on three tracks in the lower part of the board (Fig. 2). The board itself comprises three main components:

- Available actions - in rectangle fields around the board, with the name of the action, places for pawns to activate each action, its requirements, and effects (costs and benefits for the organization).
- The impact made by the organization stakeholders and competition - in the central part of the board, each stakeholder can have a minor random effect described in the relevant field.



Fig. 1. Game board of social economy

- The tracks of social factors - three tracks that represent the level of each factor, which impacts the overall score and after moving through a certain threshold, unlocks additional actions that require a high level of each factor.

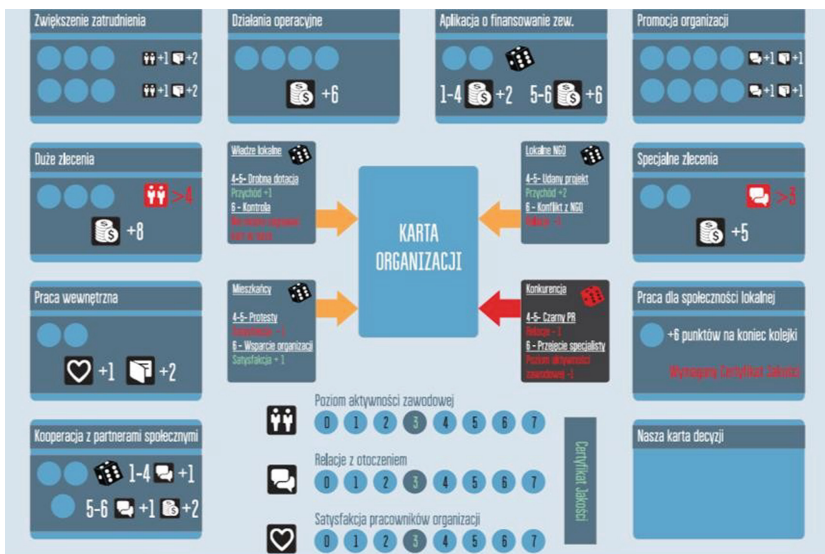


Fig. 2. Game board

2.4 Game Process

The game consists of three main stages:

- Selection of one social enterprise type which impacts the basic financial parameters of the simulation and the available special action card placed upon the board.
- Selection of a specific role for each player which is associated with a pawn representing the time one can allocate to enterprise management and two cards representing unique competencies or assets related to a particular position.
- Four decision-making rounds in which players conduct operational decisions for their enterprise.

The decision-making rounds in the central part of the game and each round is structured around four stages:

1. Dice roll to determine the small but sometimes significant impact of enterprise stakeholders or the market due to effects such as losing the most valuable employees to the competition, inspection from the local government agency or conflict with project partner. This stage is based on the roll of a simple dice but the event table is constructed so that the long run effects of random events impact the result of the game minimally.
2. Group discussion and placing the player pawns on the selected action fields on the board give players some benefits of income or social impact having additional costs and requiring at least one pawn to be activated. This stage represents their internal discussion on organizational and time management priorities.
3. Playing particular action cards for additional benefits. Each player has two cards which can be played in each round. Thus eight out of 10 available cards are played in each game. Each card represents the unique skills or assets such as knowledge of additional funding possibility, extra business contacts or knowledge of each character.
4. The summary of profit and loss and social indicators of each round is made in a chart. The players summarize the economic and social effects of all their decisions in the profit and loss account (P&L) with categories such as
 - P&L data
 - Total income
 - Fixed costs (determined by the type of social enterprise)
 - Variable costs (determined by the actions taken on the board and cards played)
 - Net income (difference between income and all costs)
 - Social indicators typical for the Polish social economy sector:
 - Level of job development
 - Relations with stakeholders
 - Level of employee satisfaction

At the end of the last round, the final score is calculated as the sum of points after each round. This model promotes effective strategic planning throughout the game and reduces the risk of unrealistic decision making based on profit maximization to win the game in the last round. The game is played in the cooperative mode where all players around a single board work towards a common goal, but the inclusion of several teams in the classroom or the workshop adds an element of competition. Different simulated social enterprises may compare the results of their strategy and its impact on organization profitability and achieved social indicators in this mode.

2.5 Design Challenges

The project team faced several challenges in game development, symptomatic of the social economy sector. First, the business simulation games in entrepreneurship are a well-established genre of educational tools and their research is widely available and present in the scientific and professional discourse since at least the early '80s [6–10]. Yet, the literature and examples of business games aimed at the social economy sector and the promotion of social entrepreneurship are scarce. This challenge may be attributed to several factors.

Games simulating social economy are scarce and are a relative novelty in training social entrepreneurs [11]. They are hard to reach because most of them are funded as a part of educational projects for particular groups. Very few of them are published for a wider audience. Of the several titles useful for business education in the social economy sector, the only ones widely available are those simulating regular business organizations such as *Simventure* and *The Startup Game* [2].

The second challenge was to address the complexity of social enterprise business and social goals in the game narrative and simulation framework. Most early business simulations and some even now present the financial indicators as the only measure of success of the entrepreneur. In the social economy sector, profit is essential for the organization's sustainable growth but other impact areas such as the three sectors of the economy are as important [12]:

- The private sector, profit-driven and market-oriented
- The public sector, driven by the population needs and oriented towards providing centrally planned public services that fulfill those needs
- The social economy, which is partially market-based and based on multiple agents with- out central planning but oriented towards the needs and well-being of the local community

It is the role of the profit that distinguishes the three groups:

- The private sector: the profit is transferred to the shareholders and is essential for the enterprise continuity
- The public sector: the profit is absent by definition
- The social economy: the profit is present but consumed by the organization to secure its continuity

This specific situation required the reward structure in the game to be designed around the maximization of profit and the measurement of social impact. The business games in corporate social responsibility face similar problems as they mostly use social or environmental indicators to measure business success which varied from game to game [13–15].

After the discussion with the RCSP team, the final list of factors representing the impact of the social enterprise was found to be:

- Level of job development - most simulated organizations are aimed at social inclusion through work and returning people who had dropped out to the job market. The level of employment is their primary measure of success.
- Relations with stakeholders - all organizations in the game provide, to some extent, public services for the local community, complementary for the public sector. The level of satisfaction of local society was taken as a synthetic measure of organizational impact.
- Level of employee satisfaction - most social economy organizations in the game are team-oriented as employee engagement and teamwork are the factors that contribute significantly to their success. They are limited by the amount of financial motivation they can provide to their workers. The satisfaction was taken as a measure of the impact of organizational culture upon social enterprise members.

Those factors are present in the game in two forms. Firstly, they are the success indicators in the game and measure the quality of decisions made by the players. Secondly, they impact the course of the game so that, on high levels, they unlock specific additional actions and options and reward the organization's development and specialization during the game.

The third challenge of the design process was to include the classical board game mechanics of worker placement [16]. The simulation of the social enterprise is constructed on a high level of abstraction in the game. Worker placement was considered an efficient compromise between strategic challenge presented by the game, simulation accuracy and the cognitive load on the player. The underlying rhetoric of moving pawns on the board might be considered an example of instrumental treatment of enterprise employees. This meaning is often a problem in board game design because its elements such as color or shape of the components, a pattern of movement, types of decisions made by the player and the avatar may be discriminatory or evoke associations that may distract the players from the game [17]. This problem was managed through the game manual narrative where pawns are described as measuring the players' work time.

3 Game Reception and Evaluation

The data about game reception and evaluation is from three sources:

- Yearly reports about the development of the social economy in the Silesia region published by RCSP (published twice a year: mid-year and for the whole year)
- Evaluation made during the development phase including the pretest and post-test surveys with game testers (85 complete surveys from 17 recorded sessions)

- Interviews with 32 participants (teenagers and adults) conducted by the game development team independently

The game was delivered in November 2016 and came to public use in early 2017. At first, the RCSP employees used the game during the planned educational sessions in local schools (10 educational events for 2017 and 2018) and distributed it to local high schools for use during the classes on promoting the social economy. The recommendations from the 2017 mid-year report stated that the game has the potential for use in a more engaging tournament form [18].

In early 2017, the management of the game community was redirected from the RCSP team to the Fajna Social Cooperative which was assigned the task of preparing the game tournament and conducting additional promotional events. The game was presented during fairs and conferences dedicated to the social economy sector (the First Forum of Social and Solidary Economy held on 17 November 2017). Fifteen schools and 65 students participated in the first two-stage regional tournament.

Excellent reception of the game and higher than expected interest in the game distribution from the schools resulted in the second print of 300 copies in late 2018 and a recommendation for another tournament in 2019. This tournament included the eliminations in five cities of the region (Częstochowa, Bielsko-Biała, Dąbrowa Górnicza, Katowice and Rybnik) and the final on November 6 held in Katowice.

The project team also has access to the evaluation of the game from the final stage of the development phase which included 85 surveys as a pretest and post-test measurement of these variables:

- Assessment of overall game attractiveness (post-test only)
- Level of knowledge about social economy sector (pretest and post-test)
- Attitude towards social economy sector (pretest and post-test)

Game attractiveness was measured after the game on a five-point Likert scale. The overall attractiveness was high or very high (together 82% responses). There was no significant impact of demographic variables of gender and age on the level of perceived attractiveness.

The level of knowledge about social economy sector was measured from a test of ten questions about the definition of key terms in this field such as types of institutions, social factors and economic terms. It was measured on a 10- point scale as a number of correct answers. The post-test showed a significant increase of knowledge as predicted, since initial knowledge level was very low. The result of comparison (mean in pretest: 3.34, mean in post-test: 7.73, $t = -20.64$, $df = 129.63$, $p\text{-value} < .05$) was strong and statistically significant.

The attitude towards social economy sector was measured before and after the game on a five-point Likert scale. In this case, the difference was also statistically significant showing a better perception of social economy sector after the game session. The overall effect should be considered weak (mean in pretest: 3.32, mean in post-test: 3.79, $t = -3.36$, $df = 145.05$, $p\text{-value} < .001$).

In both cases of knowledge and attitude, there was no significant impact of demographic variables. In the qualitative reviews of the game, the school participants highlighted certain strong sides of the game:

- For most players, it was the only business simulation they ever played and for all of them, it was the only one focused on the social economy.
- The game mechanics of ‘worker placement’ was well received as an excellent way to provide strategic challenges during the game.
- The game allowed players to efficiently learn basic concepts of social economy such as types of institutions, types of projects and tasks in social enterprise, assets, and funding options which help the organization and the general issues of social economy sector. Most players could recall those concepts correctly in the interviews conducted two to eight months after the game.
- The game allowed several non-trivial strategies of play such as specialization, balanced development and focus on profit. Players could evaluate and figure out the optimal development pattern by themselves although the balanced development was optimal but hard to follow in the simulation model, which significantly increased their understanding of the difference between social economy and regular business.
- Although unintended for adults as a target group, the game worked out well during the workshops with them who received the P&L chart exceptionally well.

The interviewed players also stated some drawbacks of the game and the areas to improve:

- The cognitive load in the beginning of the game was declared as still high, even though its reduction was one of the primary project goals, especially when the game was played in school within a week.
- The game’s replay value was limited to 4–8 plays. The most limiting factors were the number of various organizations in the game (five types) and possible winning strategies perceived by the players (3 to 4, dependent on the player).

4 Discussion

Social Economy is one of the most successful simulation games developed for the Polish social economy sector in terms of player frequency and range of the educational activities conducted with the game. The design was based on a high-level simulation combined with mechanics from entertainment board games and limited knowledge elements and critical concepts and processes. It resulted in a tool that is highly effective as an introduction to the field of social economy and is well received by its target group of high school students and adult players. Game evaluation shows that it was well received and significantly increased the understanding of basic concepts of social economy and players’ attitude, although only the knowledge improvement effect could be considered large. This result was not surprising to the project team, as the social economy is a concept basically unknown by general audience. Presenting the students with new knowledge about its scope as an engaging simulation game could almost certainly improve their understanding.

The game implementation in partnership with the social cooperative as a project leader resulted in forming an active community of students playing the game. In addition to other benefits, it allowed two editions of the regional tournament. The biggest challenge in the game design was to obtain the correct balance between simulation accuracy, gameplay attractiveness and cognitive load for the players.

The Social Economy is well balanced in the first two areas although the simulation complexity is limited. The cognitive load required to play the game proved to be its most significant limitation. The most common game mode used in the schools was quite challenging to grasp for its youngest target group.

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