Corporate Social Responsibility Considered With Two Systems Theories: A Case from Serbia

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Abstract

Corporate Social Responsibility (CSR) becomes one of the prerequisites for success of contemporary organizations aimed at humankind’s survival by sustainable development. As SR behavior can generate significant benefits, more and more organizations are developing SR strategic plans and implementing SR initiatives. In ISO 26000, CSR has three basic concepts: Responsibility for one’s influences over society, interdependence and holistic approach. Therefore, authors focus on systemic approach to CSR. The purpose is to demonstrate how combined use of appropriate systems theories can help dealing with CSR. Accordingly, Dialectical Systems Theory (DST) and System Dynamics (SD), as relevant systems theories, i.e. methodologies stemming from different systemic paradigms, were selected. DST helped to identify some relevant aspects and components of CSR which were empirically tested in businesses in the Republic of Serbia. Hence, the following factors, i.e. groups of SR activities are selected as relevant for improving organizational performance: General CSR activities; CSR activities towards consumers; CSR activities towards environmental protection and beneficiaries’ health, and Socially responsible after sales activities. In addition, empirical research results indicating the influence of the above factors on performance were the basis for using the tools of SD, such as stock and flow diagrams and causal loop diagrams. SD tools contribute to simulating the system’s future behavior, i.e. future performance level after improving these CSR activities. Authors introduce a new, systemic approach to conceptualizing and researching CSR by providing appropriate methodological support for exploring relevant interdependencies of CSR aspects.

Introduction

The current circumstances, e.g., crisis due to pandemic, increasing unemployment and temporary employment, growing pollution, and increasing over-exploitation of natural and human resources, imply that organizations must take responsibility for their functioning and admit the necessity for a new approach to stakeholders, too (Bhattacharya & Sen, 2004; Nikolić & Zlatanović, 2018). Thus, Corporate Social Responsibility (CSR) becomes a prerequisite for the success of contemporary organizations aimed at sustainable development
Authors demonstrate the applicability of the systems approach via CSR and the relevance of appropriate systems methodologies' combined use in dealing with CSR. The key research question in the paper is as follows: Can selected methodologies and their methods enable requisite (i.e., necessary and sufficient; see Mulej et al., 2013) holism for examining CSR of research participants?

Therefore, we selected Dialectical Systems Theory (DST) and System Dynamics (SD), as requisitely holistic tools and used them combined in dealing with CSR. DST enabled us to define the relevant CSR viewpoints that were empirically tested, while SD provided the appropriate methodological support in predicting the future effects of the selected CSR aspects on performance.

The paper is structured as follows. Literature review on key features of CSR and hypotheses were considered first. Then, we briefly present two selected systems theories as methodologies of systemic, i.e. requisitely holistic, behavior, and clarify how they can be combined in dealing with CSR. The third section is dedicated to research methodology, i.e., sample and measures, as well as research results and discussion on them. Finally, the main conclusions, limitations, and guidelines for future research are presented.

**Literature Review and Hypotheses Development**

**Main features and benefits of CSR**

Corporate Social Responsibility (CSR) is an essential aspect of business, as the activities of companies and their impact on society are increasingly under critical review of humans as citizens and as coworkers (Chen et al., 2019; Torres et al., 2012). Managers face constant demands to pay adequate attention to SR policies and initiatives, particularly in actual pandemic circumstances. These requests for socially responsible decisions come from various stakeholders, i.e., owners, employees, customers, consumers, citizens, investors, local communities, competitors, governments, and/or non-governmental organizations (Štrukelj et al., 2021). The observed non-ethical, i.e., socially irresponsible corporate practice, may result in reduced reputation, increased costs, and reduced shares' value. By contrast, SR behavior can generate significant benefits through the development of positive attitudes towards the organization and competitive advantages (Maon et al., 2008). Consequently, more and more organizations are developing SR strategic plans and implementing SR initiatives, for organizational and business reasons (see cases in e.g., Mulej, Hrast & Dyck, 2014).

A key idea embedded in CSR is that companies cannot be isolated from their environment, i.e., from the fundamental social problems (Golob et al., 2014); this implies behavior that includes various social obligations towards relevant stakeholders. But, CSR issues related to internal and external stakeholders are often different and conflicting, which increases the complexity of identifying relevant social issues and priorities. As it is an ambiguous concept, there is still no single understanding of what CSR encompasses and how it should be implemented in practice (Ivanović-Dukić, 2011).

Accordingly, there are numerous and different understandings and definitions of CSR, including EU documents, standards, and guidelines that govern this area. As a part of its strategy, EU Commission defined CSR as ‘‘responsibility of businesses for their impact on society’’ (EU 2011, 7). Accordingly, CSR includes both internal and external aspects. The internal aspect covers e.g., human resources management, health, and safety at work, etc., while the external one includes the local community, business partners, suppliers, and consumers, etc. (Štrukelj et al., 2021).

Benefits of CSR behavior, i.e., the positive impact of CSR on organizational performance, are numerous; various types of research confirmed this (e.g., Chefi et al., 2021, Chen et al., 2019; Crillo et al., 2016; Flammer, 2015). Apart from positive impact on financial performance (De Bakker et al., 2005; Crillo et al., 2016; Flammer, 2015; Orlitzky et al., 2003), nonfinancial benefits are mostly related to improved brand image, reputation, and enhanced consumers’ relationships (Mitra, 2021). Also, Chen et al. (2019) indicate that CSR strengthens competitive advantage, improves reputation, reduces employee turnover, makes consumers and investors friendly, etc. Since the positive effects of CSR activities on consumers’ behavior have been broadly demonstrated (e.g., Bhattacharya & Sen, 2004; Torres et al., 2012; Yang & Basile, 2019), businesses must identify what consumers find essential CSR activities (Bhattacharya & Sen, 2004).

On this basis, we developed the following hypotheses:
H1: General CSR activities positively affect organizational performance.

H2: CSR activities towards consumers positively affect organizational performance.

H3: CSR activities towards environmental protection and beneficiaries’ health positively affect organizational performance.

H4: Socially responsible after-sales activities positively affect organizational performance.

In addition, the vital determination of the CSR is the necessity to consider relationships and interconnect all areas of SR: ISO 26000 exposes the need of a holistic approach to life practice (ISO 2010, 20). Therefore, we selected two systems theories to detect how they can support CSR behavior.

DST and SD support CSR

The systemic behavior is the alternative to the currently prevailing one-sidedness that puts all humankind in danger of self-destruction due to the crucial oversights. CSR includes systemic behavior by its essential concepts of responsibility, interdependence and holistic approach; they are very close to DST (Mulej et al., 2017). The ‘dialectical system’ provides the basis for Mulej’s DST that has the following three components: two dialectical systems of guidelines (a) for persons and bodies working on definition of objectives, (b) for persons and bodies working on the implementation of objectives, and (c) methodology USOMID modeling the creative interdisciplinary co-working. DST includes three relations between the above components: the law on hierarchy of the working process steps and interdependence, the law of entropy, and the law of requisite holism. DST differs from other versions of systems theories by concentration more on human attributes and work process as a methodology (see Mulej et al., 2013).

On the contrary, System Dynamics (SD), as a relevant functionalist-structuralist systemic approach, is based on information feedback and control theory. To understand the implications of feedback, it is necessary to know the structure and the dynamic of complex systems. Complex systems’ behavior depends on interaction among the parts of system, and not by the complexity of its features. It is the fundamental postulate of SD: system behavior depends on its structure. The essential elements of SD model are levels and rates, i.e. stocks and flows. The stocks are “the present values of those variables that have resulted from the accumulated difference between inflows and outflows” (Forrester 1972, 68). The stocks characterize the system’s state and provide the basis for actions.

In contrast to stocks, “flows or rates define the present flows between the levels in the system” (Forrester 1972, 69). The SD model is mathematically expressed by the system of equations (stock and flow equations) that control variable interactions of the considered problem situation, changing over time. Since the modeled system moves in time, it is necessary to convert the equations periodically. Different types of software, such as: DYNAMO, POWERSIM, VENSIM, etc. were developed to support SD modeling and simulation. Simulation reveals the dominant feedback loops and predicts the effects of any time-delay that can occur in the system (Zlatanović, 2012).

SD tries to study social systems “objectively”, outside the system and to deal with the complexity of social reality by using models based on feedback processes. In this way, SD tends to simplify reality since its diagrams cannot present the cultural, ethical and political factors that disable the decision-makers to react in the rational ways prescribed by SD (Jackson 2003, 80). Accordingly, to deal with CSR, SD needs support from some soft systems methodology, such as DST, to add Responsibility and requisite holism to interdependence.

Therefore, we indicate the need for the combined use of systems methodologies. The essence of multi-methodology, i.e., combining the systems methodologies, is to employ more than one methodology or parts of methodologies within a single intervention (Zlatanović, 2017). Here, we chose to use parts of methodologies from different paradigms to examine CSR. Hence, limitations of SD, related to its process of problem defining and its lack of social-political theory underlying the intervention, were the basis for combined use of SD with DST. In dealing with CSR, DST can contribute to improving the first stage of SD methodology – defining or structuring the problem to be addressed, i.e., defining the context in which SD can be used.

We started from the fact that the really, i.e., fully, holistic approach reaches beyond human capacity. The application of the DST’s law of requisite holism to CSR, enables humans to distinguish critical viewpoints of CSR. Dialectical system is, by definition, “the system (network) of all relevant and only relevant viewpoints/systems (i.e. mental pictures of the object under consideration from the selected viewpoints’ network). Which viewpoints and related attributes are found essential rather than left aside, is authors/managers’ choice based on their knowledge-cum-values (Zlatanović & Mulej, 2015); thus, interdisciplinary creative cooperation is crucial to enable the requisite holism rather than one-sidedness.
Thus, respecting the ISO 26.000 and the seven core subjects and principles of CSR, relevant viewpoints of CSR are selected and empirically tested. Taking into account dominant perspectives of CSR in Serbian enterprises, and starting from the DST attributes, we empirically tested activities, which are not adequately cared for.

Namely, the following groups of socially responsible activities are selected as relevant for improving performance of socially responsible enterprises: General activities regarding CSR; CSR activities towards consumers; CSR activities towards environmental protection and beneficiaries’ health and Socially responsible after-sales activities. These viewpoints are grouped into four different groups of factors and examined for their impact on organizational performance.

Methodology

Primary data were collected by survey conducted in enterprises in the Republic of Serbia. The data reported in this manuscript were collected as part of a more significant data collection effort. Because of the breadth of the variables in the data set, other findings were reported in previous publications (Zlatanović, 2015). Therefore, a questionnaire that included the previously selected relevant aspects of CSR was created based on ISO 26000 guidelines, as well as the studies about CSR (e.g., Homburg 2013, Maignan & Ferrell 2000, Peloza & Sang 2011, Sharma et al., 2010, Xueming & Bhattacharya, 2006). The sample structure is presented in Table 1.

Table 1
Sample structure

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>43</td>
<td>51.8</td>
</tr>
<tr>
<td>Female</td>
<td>36</td>
<td>43.4</td>
</tr>
<tr>
<td>No response</td>
<td>4</td>
<td>4.8</td>
</tr>
<tr>
<td>Age distribution (Years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26 - 35</td>
<td>29</td>
<td>34.9</td>
</tr>
<tr>
<td>36 - 45</td>
<td>37</td>
<td>44.6</td>
</tr>
<tr>
<td>46 - 55</td>
<td>7</td>
<td>8.4</td>
</tr>
<tr>
<td>&gt; 55</td>
<td>4</td>
<td>4.8</td>
</tr>
<tr>
<td>Level of Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher education (university degree)</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>Higher school education</td>
<td>9</td>
<td>61.4</td>
</tr>
<tr>
<td>Secondary education</td>
<td>16</td>
<td>10.8</td>
</tr>
<tr>
<td>Primary education</td>
<td>1</td>
<td>19.3</td>
</tr>
<tr>
<td>No response</td>
<td>6</td>
<td>7.2</td>
</tr>
</tbody>
</table>

Research Results and Discussion

Firstly, exploratory factor analysis was done. As Kaiser-Meyer-Olkin Measure of Sampling Adequacy - KMO=0.851 (KMO>0.6) and Bartlett’s Test of Sphericity is statistically significant (p=0.000), we conclude that factor analysis is justified. The following factors were distinguished: General CSR activities (Factor 1 – KMO=0.851); CSR activities towards consumers (Factor 2 - KMO=0.862); CSR activities towards environmental protection and beneficiaries’ health (Factor 3 - KMO=0.923); Socially responsible after sales activities (Factor 4 - KMO=0.862) and Organizational performance (Factor 5 - KMO=0.816).

The examples of the items within the first factor are: Organizational strategic documents include CSR; Your organization respects antitrust laws; Your organization provides relevant CSR information (e.g. at websites), etc. Items involved in the second factor include: All product information is available to consumers; Your organization does not discriminate certain types of consumers (e.g. people with disabilities); Promotions/advertising misleads no consumers, etc. The third factor covers the following: Products safety is confirmed by relevant standards; Your organization encourages recycling; Your organization uses production technology that reduces the emissions of pollutants (e.g. CO₂ emissions), etc. Items in the fourth factor include: Consumers’ complaints service is integral part of the organization; Your organization provides its consumers the right to return malfunctioning products with compensation; Your organization enables product service on regular basis; Your organization strives to improve collaboration with consumers’ rights organizations, etc. In the fifth factor, some performances are investigated, such as: Business’s
image is improving; The sale is increasing; Consumers loyalty is enabled; Better competitive position is achieved, etc.

To investigate the impact of the above-mentioned SR activities on organizational performance, correlation and regression analyses were used. Actually, the dependent variable organizational performance is measured by using respondents’ subjective perceptions. First of all, we analyzed the relationship between all selected factors. So, a statistically significant degree of correlation appears among all variables in the model. The values of Pearson coefficient were used to determine the degree of linear dependence between the model variables. The results of correlation analysis indicate that there is a statistically significant correlation between all factors. Also, correlation is positive, and it is in range of moderate intensity to strong (by the values of Pearson coefficient being in range within 0.544 to 0.842).

To test the hypotheses, we used multiple linear regression (See Table 2).

Table 2
Results of Multiple regression analysis (Dependent variable: Organizational performance)

<table>
<thead>
<tr>
<th>Factors</th>
<th>β</th>
<th>t</th>
<th>sig</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>-0.038</td>
<td>-0.299</td>
<td>0.766</td>
<td>2.608</td>
</tr>
<tr>
<td>F2</td>
<td>0.471</td>
<td>3.189</td>
<td>0.002***</td>
<td>3.440</td>
</tr>
<tr>
<td>F3</td>
<td>-0.073</td>
<td>-0.474</td>
<td>0.637</td>
<td>3.721</td>
</tr>
<tr>
<td>F4</td>
<td>0.382</td>
<td>2.067</td>
<td>0.042**</td>
<td>5.392</td>
</tr>
</tbody>
</table>

Note: sig<0.01 (**); sig<0.05 (*); R²=0.505
Source: Authors

Multicollinearity was tested with VIF values. VIF greater than 5 or VIF greater than 10 are suggested for detecting multicollinearity; but there is no universal agreement on what values of VIF should be used to detect multicollinearity. As shown in the Table 2, all obtained values were lower than 10 and most of them are lower than 5. According to Hair et al. (1995), these results imply that multicollinearity presents no serious problem in this case. As the Table 2 shows, only two factors have statistically significant influence on performance, as dependent variable – CSR activities towards consumers and socially responsible after sales activities. Thus, hypotheses H2 and H4 are confirmed, while H1 and H3 are not.

The results of correlation can be the basis for creating a causal loops diagram shown in Figure 1; the following feedback links that determine the potential future behavior of the system are presented.

Figure 1
Causal Loop Diagram – CSR feedback structure

Source: Authors

In Figure 1, all factors are connected with a positive feedback; i.e. CSR activities towards consumers, CSR activities towards environmental protection and beneficiaries’ health, socially responsible after sales activities, general CSR activities and organizational performance. Thus, the whole feedback loop is positive, i.e. reinforcing (R). But this SD tool cannot enable prediction of the future level of performance. Hence, we need other SD tools, e.g. stock and flow diagram, and stock and flow equations in order to predict future values of performance (Figure 2).

Figure 2
Stock and flow diagram

Notes:
F2 - CSR activities toward consumers
F4 - Socially responsible after sales activities
Stock of OP1 - Organizational Performance at time t1
Stock of OP2 - Organizational Performance at time t2
Source: Authors

In Figure 2, the levels, i.e. stocks of organizational performance cover a certain interval of time, i.e. time t1 and time t2. Namely, relying on the presented results of the regression analysis, the future level of performance, i.e. the level of performance at time t2 is presented as a result of improving certain factors,
i.e. groups of SR activities. Accordingly, we can distinguish the following positive links: (1) between improving CSR activities towards consumers and flow of CSR, (2) between improving socially responsible after sales activities and flow of CSR. Also, a higher level of performance at the time $t_2$ enables a lower need for improving of selected groups of SR activities, i.e. factors, indicating two negative links presented at the Figure 1. So, the future level of performance can be presented as the function of improving two groups of socially responsible activities, i.e. two factors – CSR activities towards consumers and socially responsible after sales activities. In conceptual framework of SD, the future level of performance can be predicted by using the stock and flow equations (equations 1 and 2).

\[
\text{Stock of } OP_2 \left( \int_{t_1}^{t_2} (\text{Flow of CSR}) dt + \text{Stock of } OP_1 \right) \tag{1}
\]

where:
- Stock of $OP_2$ – Stock of organizational performance at time $t_2$ (after improving)
- Flow of CSR – performance improvement resulting from improving CSR activities
- Stock of $OP_1$ – Stock of organizational performance at time $t_1$ (before improving)

\[
\text{Flow of CSR} = F_c + F_s \tag{2}
\]

where:
- $F_c$ – CSR activities towards consumers
- $F_s$ – Socially responsible after sales activities

**Conclusions and Future Research**

The paper’s contribution reflects exploring the CSR as one of the very important modern businesses’ characteristics, through the tools of two systemic methodologies, i.e. DST and SD, conceptually. By exploring subsystems of CSR, and by identification of their mutual relations with the selected requisite holistic instruments, the CSR is appropriately structured. In other words, DST helps its users to provide a context within which they can use SD as a supportive methodology. Actually, taking into account the complexity and dynamic of CSR, we used DST to select relevant areas of CSR for empirical research. By respecting the law of requisite holism underlying DST, we created a dialectical system consisting of subsystems representing the following: General CSR activities, CSR activities towards consumers; CSR activities towards environmental protection and beneficiaries’ health, Socially responsible after sales activities and Organizational performance. This was the basis for empirical research. Its results demonstrated which activities regarding CSR statistically significantly impact performance. But they cannot enable anticipating the future level of performance. Thus, we needed the tools of SD, such as causal loop diagram, stock and flow diagram, as well as stock and flow equations. Therefore, we concluded the following: if the examined SR groups of activities, i.e. factors (statistically significant for performance) are improved, the performance of a SR enterprise will be improved. SD tools contribute to simulate the future level of performance after improving these CSR activities. It is important to emphasize that feedback loops presented on SD diagrams are not intuitive, but based on empirical research results (results of correlation and regression analysis).

Taking into account all the above, we can conclude that DST and SD offer relevant methodological support for exploring CSR. Actually, the paper contributes to introducing a new, systemic approach to conceptualizing and reasearching CSR. One should also note that the presented new approach - combining DST and SD - reflects the efforts to combine selected tools of the selected methodologies, only. Accordingly, in anticipating the effects of possible changes and improvements on performance, i.e. in simulating the future behavior of the system, some types of the software developed within SD, such as VENSIM or POWERSIM, can be applied. This is an important guide to future research.

Based on the above, some theoretical and practical implications can be identified. In a theoretical sense, the article contributes to the body of knowledge related to researching corporate social Responsibility holistically. In the methodological sense, the originality of the paper is reflected in the combined use of certain very holistic tools of selected systems methodologies and appropriate statistical methods. Additionally, research results indicate that in order to improve CSR generally and particularly in the researched businesses in the Republic of Serbia, important role should be given to the improvement of certain CSR activities – CSR activities towards consumers and socially responsible after sales activities. It further implies that improving relations with consumers can contribute to better reputation as one of the key organizational non-financial performances, resulting in improved relations with external stakeholders (for example, with the local community). Accordingly, it can be concluded that this study can be a starting point for an effective choice of CSR activities adapted to consumer expectations, but it also can provide guidelines for improving relations with consumers, since every business strives to build such relationships with consumers that would guarantee their
satisfaction and loyalty. The implementation of CSR activities expected by the target group of consumers can contribute to this. On the other hand, the research results provide implications for public policy makers, who should pay more attention to CSR, as well as to the development of strategies and culture that promote CSR.

References


Družbena odgovornost podjetij, obravnavana z dvema sistemskima teorijama: primer iz Srbije

**Izvleček**

Družbena odgovornost podjetij (DOP) postaja eden od predpogojev za uspeh sodobnih organizacij, katerih cilj je preživetje človeštva s trajnostnim razvojem. Ker lahko ravnanje družbene odgovornosti ustvari pomembne koristi, vse več organizacij razvija strateške načrte za družbeno odgovornost in izvaja pobude za družbeno odgovornost. V standardu ISO 26000 ima družbena odgovornost podjetij tri osnovne koncepte: odgovornost za svoje vplive na družbo, soodvisnost in celostni pristop.

Zato se avtorji osredotočajo na sistemski pristop k družbeni odgovornosti podjetij. Namen je prikazati, kako lahko kombinirana uporaba ustreznih sistemskih teorij pomaga pri obravnavi družbene odgovornosti podjetij. V skladu s tem sta bili kot ustrezni sistemski teoriji, tj. metodologiji, ki izhajajo iz različnih sistemskih paradigem, izbrani dialektična sistemska teorija (DST) in sistemska dinamika (SD). DST je pomagala opredeliti nekatere pomembne vidike in sestavine družbene odgovornosti podjetij, ki so bili empirično preverjeni v podjetjih v Republiki Srbiji. Zato so bili naslednji dejavniki oziroma skupine dejavnosti SR izbrani kot pomembni za izboljšanje uspešnosti organizacije: splošne dejavnosti družbene odgovornosti podjetij; dejavnosti družbene odgovornosti podjetij v zvezi s potrošniki; dejavnosti družbene odgovornosti podjetij v zvezi z varstvom okolja in zdravjem upravičencev ter družbeno odgovorne poprodajne dejavnosti. Poleg tega so bili rezultati empiričnih raziskav, ki kažejo na vpliv navedenih dejavnikov na uspešnost, podlaga za uporabo orodij SD, kot so diagrami zalog in tokov ter diagrami vzročnih zank. Orodja SD prispevajo k simulaciji prihodnjega obnašanja sistema, tj. prihodnje ravni uspešnosti po izboljšanju teh dejavnosti družbene odgovornosti. Avtorji uvajajo nov, sistemski pristop h konceptualizaciji in raziskovanju družbene odgovornosti podjetij z zagotavljanjem ustrezne metodološke podpore za raziskovanje ustreznih soodvisnosti vidikov družbene odgovornosti podjetij.

**Ključne besede:** družbena odgovornost podjetij, ISO 26000, celovit pristop k družbeni odgovornosti podjetij, teorija dialektičnih sistemov, sistemska dinamika