



Environmental Discourse Strategies and Green Accounting Consequences: The Development of Agonism Theory

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ABSTRACT

Environmental functions Due to environmental tensions and challenges, today, from a purely social responsibility, they have become strategies for sustainable development that are able to create valuable consequences in the way of competition between companies. In the meantime, the existence of conflicts of interest between companies and external stakeholders and the social environment; it has caused a difference in the attitude of managers towards the use of environmental development strategies. The purpose of this study is environmental discourse strategies and green accounting consequences based on the development of agonist theory.

In this research, which is considered methodologically in terms of the nature of the problem and the purpose of the research, the method of data collection was survey-correlation and the research tool was a questionnaire. The statistical population in this study is the managers of different layers of companies listed on the stock exchange in 2020-2021, which due to the unlimited number of target population, the method of determining the sample size in the unlimited community was used and 392 people as a statistical sample. They participated in this research. Partial least squares analysis (PLS) was also used to fit the model.

The results showed that, based on the development of agonist theory, environmental discourse strategies increase the benefits of green accounting. The result obtained in this study indicates the fact that Existence of environmental discourse strategic drivers by expanding the function of agonism can develop the capacity to use conflict in organizational functions to achieve positive green accounting consequences. Because agonism, while accepting the conflict and the desirability of its existence among those in power against the social environment and stakeholders; Conflict is seen as a way to integrate environmental practices by using the potentials of conflict of interest between themselves and the social environment, and especially external stakeholders, to try to create strategies to advance conflicting goals.

This is the first case study focusing on one of the modern environmental theories such as agonism theory to examine the impact of environmental discourse strategies and green accounting consequences. Although a field of research importance in terms of the development of theoretical literature and practical basis in reducing information asymmetry in the field of green accounting, but less research has been done in this regard and doing so can link theoretical concepts with practical concepts in the field of environmental financial reporting and develop the integrity of the theoretical literature.

Keywords: Environmental Discourse Strategies; Green Accounting Consequences; Theory of Agonism

1. Introduction

One of the most important concerns in the new century is environmental issues and problems, many of which arise from the irrational behaviors of human interaction with the environment (Abbaszadeh et al, 2016). In fact, since humans are part of nature, damage to environmentalists has become widespread and generation-to-generation due to power-hungry extravagance. Some of these threats and environmental crises are based on climate change; Ozone depletion and drought are beyond the direct human will, but some of these threats are the result of opportunistic human decisions such as deforestation; population increase; urbanization; are industrial products, etc., which are created due to human exploitation of nature. This unequal conflict between man and nature is based on the rule of human power-seeking in promoting biological well-being (Dai and Liu, 2012). Lee et al (2018) in expressing the conditions of environmental degradation pointed to the role of human monopoly power in the form of managers against the environment and the conflict between the interests of those in power with the environment as a factor for degradation. In fact, power-hungry people, based on the circumstances and position they hold, deepen the gap and conflict between their opportunistic interests and the environment, and in this regard, try to achieve more benefits and efficiency for themselves or a group of those in power. In other words, placing these individuals at the head of a decision-making body as a powerful entity, such as corporate-represented companies, will also make their conflicting functions in the public interest, such as a one-dimensional, opportunistic environment. Therefore, by deviating from social expectations, it tries to advance its goals or institutions with power and support for its position (Walls and Berrone, 2017). People with this approach believe that the priority of personal interests over public interests is the result of a political effort to maintain ownership of management. This approach, which is rooted in antagonistic theory, refers to the conflict of interests of those in power as managers against the collective interests of other stakeholders. In other words, antagonistic theory holds that opportunistic conflict arises in people in power and corporations because of the belief in the extravagance of social expectations. And this widens the gap between agency costs. Agonism as an approach as opposed to the antagonistic approach, while

acknowledging the conflict and the desirability of its existence between those in power and the stakeholders; Conflict is described as a way to integrate and reach a common ground on the environment (Capper, 2013). Agonism uses conflict capacities to try to create strategies to advance conflicting goals. Accordingly, the issue of the environment as a social conflict between the company with upstream and regulatory bodies and even NGOs, based on the agonistic approach, can have a positive impact on environmental discourse strategies on the development of green accounting, and lead to a balance between benefits and reduced agency costs between the company and the community. Environmental discourse strategies are a kind of development of qualitative perceptions of decision makers and managers of enterprises in the role of company managers in order to reduce environmental pollution. This approach in line with the dimensions of green accounting can also help increase information transparency (Shafiee et al, 2016). In fact, these strategies are a philosophy based on coherent and integrated approaches of interaction and symbolic interaction between the company and social expectations, which is based on a charter; a specific norm or procedure takes place regardless of institutional and legal requirements and presents a unified picture of social collectivist behaviors (Saneii and Sokhanvar, 2017). Green accounting influenced by environmental discourse strategies, under the influence of modified approaches to conflict between the company and the social environment, will be able to develop the level of information disclosure for stakeholder decisions and strengthen the company's competitive functions by enhancing its sensitivity to environmental pollutants. Accordingly, in view of the existence of laws such as Article 190 of the Fifth Development Plan Law in Iran, all institutions and companies are obliged to implement the provisions of this law in order to reduce government expenditure credits; optimal consumption policies are basic resources and the environment to implement a green accounting program including energy consumption management; water; raw materials and equipment (such as paper); Reduction of solid waste and its recycling (in buildings and vehicles) are required to cooperate in accordance with the regulations issued by the Environmental Protection Agency and its deputy, until these approvals are approved and approved by the

Council of Ministers and the ground is created for the protection of the environment more than before (Seyed Javadin et al, 2016). Therefore, based on the explanations provided, the importance of this research can be examined from the following two perspectives.

First, this is the first study to examine the effectiveness of the concept through the development of the theory of agonism. Although past research such as Petera et al (2021); Singh (2019) Tu and Huang (2015) review "Environmental Strategies and Green Financial Reporting", respectively; "Business Sustainability and Green Management with a Focus on the Financial Dimensions" however, no research has examined the environmental discourse strategies and green accounting consequences through the theoretical development of the concept of agonism, and this research can help to develop a theoretical literature to fill the gap in agency costs in terms of corporate environmental functions.

Second, the results of this study can help regulators such as policymakers and developers of financial reporting standards, by raising the level of knowledge of information requirements in the field of green performance disclosure, to create more coherent requirements for the development of environmental accounting information disclosure on the one hand and create more culture to promote the level of voluntary disclosure of performance in this area by companies. In fact, there is always the concern of theorists in this field that the content discrepancy between the values of social behavior and accounting standards has been caused by the lack of a comprehensive culture of disclosure of green practices, until the level of environmental protection in industries is not given much attention and this issue will increase environmental pollution and its destruction. Therefore, relying on the existence of this level of social and institutional sensitivities to the environment, the purpose of this study is to investigate the effect of environmental discourse strategies on green accounting based on the agonism theory test.

Literature Review

Environmental Discourses Strategic

The simplest and most general meaning of "discourse" refers to all the phenomena in which interactions and symbolic communication take place between individuals, and this action and communication is

usually created through speech or writing or pictorial expression (Maleki et al, 2016). Cockneys argues that discourses are collections of systematic and organized statements that explain the meanings and values of institutions. Environmental discourse strategies are "an approach that seeks to systematically investigate the often ambiguous causal and determinative relationships between: a) discourse actions, events, and texts; B) deal with broader social and cultural structures, relationships and processes. In fact, environmental discourse strategies are the basis for constructing identities; social relations and systems of knowledge and meaning help and lay the groundwork for how to create acceptance and strategic arrangement of environmental texts, images and ideas. Discourse has been proposed in environmental studies in various ways. There are many books and works that discuss environmental discourse, but many do not provide typology. In the following, three typologies of environmental discourses are introduced, which are in the form of ecological discourse ideas; because basically their view of the environment is global and ultimately supportive of the environment.

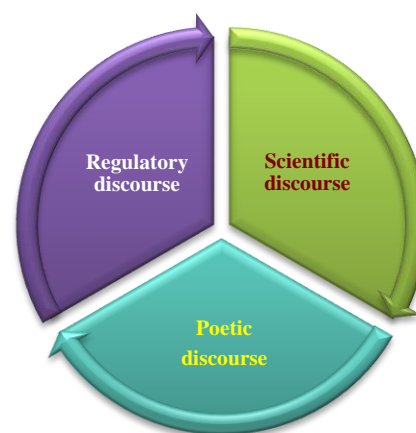


Figure (1) Environmental Discourse Strategies (Herndl and Brown, 1996)

A) One of the main efforts to organize the analysis of environmental discourse has been made by Herndl and Brown (1996). The "environmental discourse model" is in the form of three circles, each of which is located in a circle of a triangle. In the circle to the left of that triangle is "Regulatory Discourse." And points to powerful institutions that make environmental decisions and policies. Here nature is treated as a

resource. In the circle to the right of the triangle is the "Scientific discourse" in which nature is considered as the subject of knowledge that is created through scientific methods. Policymakers always make their decisions here, especially relying on technical information and expert evidence. Finally, it is precisely at the opposite pole in the lower circle of the "Poetic discourse" triangle, which is based on corporate cultural and normative narratives about nature that emphasize the beauty of spirituality and emotional power. Herndl and Brown (1996) emphasize that these three powerful environmental discourses are by no means independent or pure and are often combined. In such cases, it is better to seek the dominant orientation (Rozema et al, 2012).

B) Another attempt to classify environmental discourses is the Brulle (2000) typology of argumentative frameworks adopted by the US environmental movement. Based on the literature on environmental philosophy and a careful study of the history of environmentalism in the United States, Brulle achieved nine distinct discourses:

- ❖ Manifest Destiny (extraction and development of natural resources gives value to the environment that it would otherwise lack).
- ❖ Wildlife management (scientific management of ecosystems can ensure the survival of sustainable wildlife populations for hobbies such as hunting).
- ❖ Environmental conservation (natural resources must be managed technically using a utilitarian approach).

- ❖ Conservation of nature (wildlife area should be protected from human invasion, because it has spiritual and aesthetic value).
- ❖ Reform environmentalism (ecosystems must be protected for human health).
- ❖ Deep ecology (diversity of life on Earth must be preserved because it has intrinsic value).
- ❖ Environmental justice (environmental problems are a reflection and result of fundamental social inequalities).
- ❖ Eco theology (humans have to protect nature because they are created by God).

Herndl and Brown (1996) argue that this multiplicity of discourses has fragmented the American environmental movement and prevented it from speaking in a unified voice to a nationally conscious audience. Proponents of each of these argumentative frameworks speak in a process of skepticism and misunderstanding. Brulle (2000), like Schneiberg and his followers, concludes that without real structural change, no significant environmental action can exist. This is unlikely to happen as long as environmental discourses cover ecosystem social origins and claim a coherent view of the general good of the environment.

C) John Hannigan also identifies three environmental discourses: the arcade discourse, the ecological discourse, and the environmental justice discourse. The order of these discourses is not historical, rather, each has been at the forefront of various stages in the history of the environmental movement. A prominent feature that governs them, like the Herndl and Brown models, is the motivation and justification for action in the field of environment (Maleki et al, 2017).

Table (1) Consonant characteristics of environmental discourse Brulle (1996)

A kind of consonant of environmental discourse	Definition
Arcade discourse	Van koppen (2002) identifies three characteristics for arcade discourse: externality; iconic and complementarity. Being external means that arcade nature is constructed as external to human society, or at least removed from everyday urban life. Iconic indicates that the image of nature in the Arcadian tradition has been placed in the form of visual images and stereotypes in cultural memory. Finally, the arcade tradition can be best understood through the complementarity framework; In other words, the Arcadian tradition is at the opposite end of the urban industrial community and all the social and environmental problems associated with it.
Ecological discourse	The second major discourse that has shaped how to deal with nature and the environment is based on the concepts of ecology and ecology. Based on the terminology of Herndl and Brown (1996), it can be said that scientific discourse is the dominant tendency in this discourse.
Environmental Justice Discourse	In the 1980s, a new set of discourse forms emerged in the United States that differed greatly from conventional discourses in interpreting environmental problems and priorities. Environmental justice raises a set of claims regarding toxic pollution with respect to the civil rights of those harmed and not with regard to the rights of nature.

Green Accounting

Environmental accounting is a set of activities that increase the accounting system's ability to identify, record and report the effects of environmental degradation and pollution and can be used in large and small companies, various industries and to be used in different scales in a systematic way or based on the desired principles. The form of choice of green accounting by companies shows the goals and reasons

for its use, which in terms of strategic characteristics can help to develop the company's influence at the market level (Feger and Mermet, 2017). In fact, if we are looking to expand the strategic functions of green accounting, we must consider its applications from two perspectives: microeconomics and macroeconomics (Adams and Larrinaga, 2019), which can be examined in the following figure.

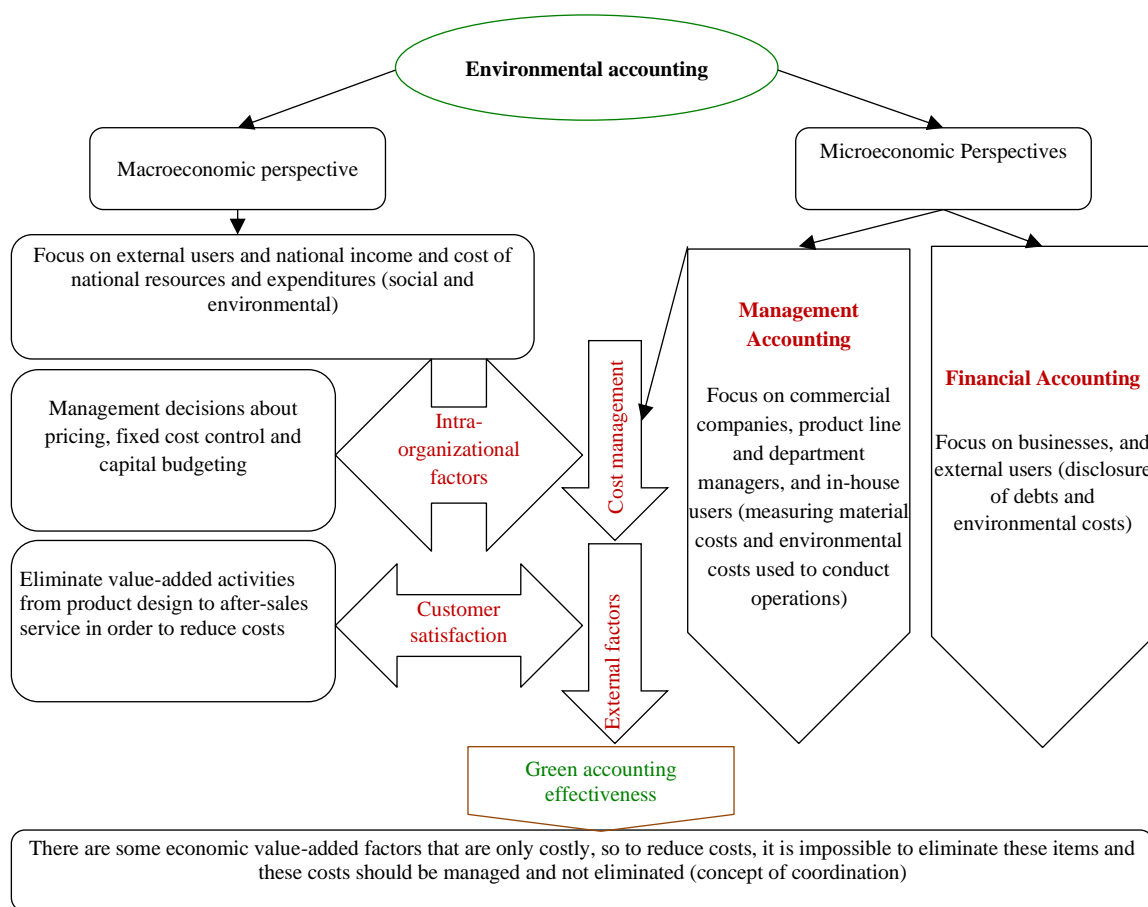


Figure (2) Strategic functions of green accounting (Source: Mehrabanpour et al, 2016)

The microeconomic approach is used in the strategic functions of green accounting (enterprise) based on two branches of financial accounting and management accounting. Financial accounting, through which the firm reports accounting information for its economic activities to external users, sets out requirements for disclosing debts and environmental costs. Financial accounting also examines the issue from the

perspective of financial reporting users, in order to make decisions and present public responsibilities (Solovida and Latan, 2017). In fact, the strategic functions of green accounting at the level of a competitive market allow corporate executives to do so. In product design and production process; Performance appraisal and cost control; Depreciation management; Investing in tangible fixed assets and

waste management provide the company with the highest productivity (Boyd, 1998). But the macroeconomic approach in the strategic functions of green accounting is to perform calculations related to the costs of underground resources and the flows from these resources to increase the level of competitiveness (Solovida and Latan, 2017). In other words, this approach seeks to examine the larger dimensions of the economy, such as GDP, which can reduce production costs and increase national income and economic growth due to the effectiveness of green accounting values.

Theory of Agonism; Environmental Discourse Strategies and the Consequences of Green Accounting

Disclosure of information, especially disclosure of environmental practices, plays a key role in the correct and informed decisions of various user groups, especially capital market analysts and environmental regulators. But the question is, to what extent are businesses willing to disclose enough information in this area, without external pressures and legal and professional requirements? Therefore, given that information disclosure may have social and even competitive costs for businesses, there is usually insufficient motivation in this area (Marroni et al, 2020). Although theories such as political economy theory; theory of legitimacy; stakeholder theory and information symmetry theory based on accounting and financial reporting objectives require that information about companies' environmental behaviors should be disclosed appropriately and made available to all so that the level of interactive values between the company and analysts and investors can be developed, but the facts indicate a lack of motivation due to conflicts between stakeholders and companies. It is necessary to disclose environmental accounting information in companies. In fact, concerns about management's authoritarian attitude toward the disclosure of corporate environmental and operational information have always been a dominant reason among capital market observers and researchers, as management plays a key role in the company's core business (Choi and Szewczyk, 2018). By accepting this limiting factor in shaping green accounting values, proponents of the behavioral school environment argue that in order to address corporate environmental issues and disclose discretionary information, one must shift

from physical and ecological sciences to behavioral and ethical sciences by creating environmental discourse strategies, because it seems that these sciences have a good potential for developing ways to improve the environment due to the understanding of conflicts between the company and the social environment by managers (Mantizadeh and Karimi Goghari, 2016). The theory of agonism expresses the same concept, to achieve companies' motivation for self-control in the environment, understanding conflicts and creating environmental awareness by using the potential of companies themselves in designing environmental discourse strategies, can be considered a factor for the effective development of green accounting. Accordingly, the need for a convergent approach in line with the theory of agonism in managers, especially in recent years and with the increasing growth of environmental pollution is felt more than ever. In fact, this theory is a social theory related to the transformation of traditional and anti-green arguments. Through behavioral practices, it leads to intellectual and responsible approaches to society's expectations and the explanation of social phenomena, and changes in French practice practices in accounting for environmental protection take on a more dynamic form (Procter et al, 2019). The development of this behavioral approach to accounting and corporate financial decision-making processes is a very important step in environmental discourse practices that can increase the dynamics of interactions or so-called green accounting at the level of companies operating in the capital market, because competition will lead to Green companies become smoother. Basically, the goal is to strengthen the dynamism and harmony of environmental discourses, to develop the qualitative perceptions of decision makers and managers of enterprises in order to reduce environmental pollution, which approach in line with the dimensions of green accounting can also help increase transparency and transparency of information (Shafiee et al. 2016). In fact, environmental discourse strategies can express the meanings and concepts of environmental values in a society, such as the capital market among companies, based on a set of systematic and homogeneous expressions, and through the representation of social subjects in the form of more congresses and conferences. Leading companies in the field of environment (Pickering & Norman, 2020). It should also be noted that the breadth of environmental

discourse strategies can help advance the goals of social groups such as NGOs in the field of culture-building and the development of adherence to environmental norms, thereby strengthening the inclusiveness and generality of environmental perceptions. It is noteworthy that today environmental theories with emphasis on discourse strategies (phonemes) seek to show that both macro decisions and policies (supply management) and the type of values and behaviors and environmental practices (demand management) are embodied in ecological discourses. In other words, policies and behaviors in

the field of environment at certain points in time are the result of the dominance of discourse ideas in that period; therefore, in recent years, the application of qualitative approach and especially discourse analysis method for the development of environmental accounting has increased significantly (Maleki et al, 2016). Environmental accounting, also known as green accounting, is to measure, record and disclose the impacts of corporate environmental activities on its financial status through a set of accounting systems. The definitions of green accounting in different countries are similar, as shown in Table 1.

Table 1. Definitions of green accounting in different countries (compiled by this study).

Country and name	Regulations or definitions
Denmark, 1995 Green Accounts Act (Ding, 2009)	About 1200 high-pollution enterprises must announce green accounting report. Besides, 200 enterprises voluntarily provide the reports.
Netherlands, 1999 Environmental Management Act (Ding, 2009)	About 260 enterprises are compelled to disclose the environmental report. Besides, 40 enterprises voluntarily provide the reports.
U.S. Environmental Protection Agency, 1995 An Introduction to Environmental Accounting As A Business Management Tool.	Environmental cost accounting means adding environmental cost information to the current cost accounting system, identifying hidden environmental cost and allocating it to proper products or manufacturing.
UN Division for Sustainable Development 2001 Environmental Management Accounting (EMA)	Regarding corporate cost, product design production and investment decision-making, EMA can provide immediate and visionary information. EMA is also the decision-making and support tool. The information system allows the firms to manage environmental lifecycle and economic information and to acquire better information and environmental protection strategies.
International Federation of Accountants, 2005 Environmental Management Accounting Guidelines	Environmental management accounting manages environmental and economic performance by development and execution of a proper environmental accounting system, including reports and auditing of corporate information and environmental management accounting. Generally speaking, it includes lifecycle accounting, total cost accounting, an effective process and strategic planning of environmental management.
Ministry of the Environment, Japan, 2005 Environmental Accounting Guidelines [6]	Green accounting is a quantitative assessment of the cost and effectiveness of enterprises in environmental protection activities. Enterprises are required to have systematic records and reports and are guided to maintain a positive relationship with ecological environment to implement effective and efficient environmental activities. The final goal is to accomplish sustainable development.

As seen above, green accounting is to use lifecycle assessment to measure the environmental impacts of corporate activities, promote the use of clean production, adopt total cost assessment and combine traditional accounting to disclose the environmental financial information of the enterprises. The purpose is to urge enterprises to implement effective and efficient environmental activities, so as to achieve sustainable development. Green accounting makes environmental expenditure a part of operational cost; thus, new thinking should be adopted for product design, in order to maintain the existing profits, enhance environmental performance or meet the green accounting rules (Chang et al, 2012). The new product design concept

should meet the environmental requirements on product development and production. As the common goal of product design is to solve various problems, namely a concept of logical thinking instead of data computation of production technology, product design should be based on the thinking and analysis of the “concept”, thus accomplishing the design according to the concept (Roozenburg & Eekels, 1995). Therefore, according to the explanations, the research hypothesis is presented in the following order:

- ❖ **Research Hypothesis)** Environmental discourse strategies have a positive and significant effect on green accounting consequences.

Research Background

Siddique et al (2021) conducted a study entitled Carbon Disclosure, Carbon Performance, and Financial Performance. The results showed that carbon exposure has an effect on carbon performance in line with signaling theory. It was also found that negative (positive) carbon disclosure affects financial performance in the short (long term). These findings show that this has significant implications for investors, as some companies use carbon disclosure as part of harvest management. The findings help policy makers and regulators control carbon exposure and assist investors in investing decisions. Alsaifi et al (2021) conducted a study entitled Market Response to Optional Disclosure of Environmental Accounting Information. The study was conducted from 2009 to 2015 by surveying companies on the London Stock Exchange. The results showed that the level of shareholder satisfaction is higher than the shares of companies that pursue discretionary disclosure of environmental accounting in their financial statements. On the other hand, it was found that potential capital market investors are more inclined to invest in companies that, through voluntary disclosure, provide them with more significant information about their performance. Gutierrez & Zhang (2020) conducted a study entitled Green Knowledge Management and Renewal Strategy: Inclusive Approaches to Sustainable Environmental Discourse. On the other hand, it was found that potential capital market investors are more inclined to invest in companies that, through voluntary disclosure, provide them with more significant information about their performance. Gutierrez & Zhang (2020) conducted a study entitled "Green Knowledge Management and Renewal Strategy: Inclusive Approaches to Sustainable Environmental Discourse". This research methodologically requires the use of discourse theory in the green strategy literature and the study of Knowledge Management (KM) literature with the aim of creating a framework for achieving inclusive sustainability initiatives. The results show that a discourse-based model of green knowledge management based on identified propositions that seeks to provide theoretical mechanisms for sustainability in the green field of companies to each of the elements of strategy renewal. Therefore, focusing on comprehensive approaches to environmental discourse can be a factor in the

sustainability of companies in the field of waste recycling. Zandi (2020) conducted a study entitled "Testing the effectiveness of environmental management accounting on the quality of carbon information disclosure." Extensive research has paid little attention to evaluating and understanding the application of environmental management accounting and its effectiveness on the quality of carbon information disclosure. The present study was conducted using the annual data of companies listed on the Tehran Stock Exchange during the period 2012-2018. Using data collected from 152 companies, it was found that some environmental management accounting tools have been used by these companies, however, a small number of these companies have used environmental management accounting tools in a wide range. Experimental analyzes show that the application of environmental management accounting has a positive and significant effect on the quality of carbon information disclosure. Baharloo et al (2020) conducted a study entitled "Explaining environmental examples in companies with a phenomenological approach (Case study: Cement, lime and gypsum industries)". In order to achieve this important, the research has been conducted in two separate stages during 2017 and 2018. First, after studying the theoretical foundations of the research, due to the need to use the experiences of people involved in the research topic, a qualitative research method was used with a descriptive phenomenological approach. Targeted sampling of saturation phase was performed with 15 full interviews. The result of the research in the first stage is identifying 20 criteria and classifying them into 4 general categories including criteria for recognizing and preventing environmental pollution, compensation for environmental damage, motivation and development of environmental activities, education and environmental culture and in the second stage approval and fitting of the overall structure It is a factor analysis using structural equation technique and test. Findings of the research will be effective in better understanding and understanding environmental examples and the extent of their observance at the company level, the development of environmental accounting standards by industry and encouraging organizations to implement green accounting and will have desirable consequences.

Methodology

This research is applied in terms of the type and nature of the problem under study and the purpose of the research. In this research, in terms of data collection process, the research is in the category of quantitative / descriptive survey-correlational research. Because the required data were collected based on a survey. Therefore, the questionnaire was used as a tool for collecting research data, because following previous research, it is an effective method of collecting data from a large sample in the category of applied research. Also, to collect the theoretical foundations, the library method was used and the theoretical foundations of similar researches were studied. The period of questioning of the subjects is 6 months, which includes the last quarter of 2020 and the first quarter of 2021.

Statistical population of the research

The statistical population in this study is the managers of different layers of companies listed on the stock exchange during the research period, which is assumed to be unlimited due to the lack of official statistics. Therefore, to determine the sample size, the Cochran's formula is used, assuming an unknown statistical population, as follows:

$$n = \frac{Z_{\alpha^2}^2 pq}{d^2}$$

In this regard: n = number of samples; $Z_{\frac{\alpha^2}{2}}$ = standard normal value is 1.96; pq = variable attribute ratio means 0.5; d^2 = The probability of measurement error is equal to 0.05. Now according to the calculation done below:

$$\frac{1.96^2 \times 0.5 \times 0.5}{0.05^2} \cong 384$$

Due to the above relationship, the sample size was 384 people. To increase the validity of the research, 430 questionnaires were randomly distributed among the auditors and finally, 392 questionnaires were received and used as a basis for statistical analysis.

Research tools

The tool for collecting research data was a questionnaire. The questionnaires used in this study were standard. The questions of all the questionnaires were arranged through a 5 Likert scale from strongly agree to strongly disagree. The following is how to operationally measure research variables.

Independent variables

The independent variable of this research is environmental discourse strategies. To assess this variable, the Herndl and Brown (1996) questionnaire, which includes 12 modified questions on the three dimensions of environmental discourse strategies (regulatory strategy; scientific strategy and poetic strategy), was used. This questionnaire is based on the Likert scale, which includes a completely agree (5 points) range; Agree (4 points); I have no comment (3 points); I disagree (2 points) and completely disagree (1 point). In fact, it examines the level of functions of environmental interactions in the capital market that the role of corporate institutional power in the development of environmental policies on the one hand in the form of disciplinary discourse and the framework approach of information feedback within the company to develop sustainable environmental development procedures, in the form of knowledge-based discourse on the other hand and narrative discourse with the aim of narrative alignment discusses the corporate environment based on ethics and spirituality. Due to its standardization, the validity of the questionnaire was confirmed and its reliability was confirmed in Murphy's research (2018) equal to 0.87.

Dependent variable

In this study, the green accounting consequences variables of the researcher-made questionnaire were used. This questionnaire, according to the analytical process based on Delphi analysis and meta-synthesis, includes three subscales of competitive backgrounds; value consequences and legal consequences are green accounting, which is measured based on 15 questions in the form of a 5-point Likert comparison. Considering that the concepts of the questionnaire based on the CVR validity index were reviewed by experts, it was confirmed. In this questionnaire, questions such as: Does increasing tax incentives help

strengthen the application of green accounting in the capital market? Or: To what extent do you consider the application of green accounting as a basis for the sustainability of social responsibility values at the market level? Is coordination between the organization's bylaws with environmental regulators a stimulus to strengthen companies' commitment to green accounting? In fact, the content of the questions is based on strategic consequences in green

accounting, which strengthens competitive criteria; Value and legal or regulatory among capital market companies. The reliability of this questionnaire was estimated based on Cronbach's alpha coefficient of 0.86, which was approved due to the fact that it was more than 0.7. Therefore, relying on the definition of research variables and considering the nature of the hypotheses, the theoretical framework of the research is presented in the form of Figure (3):

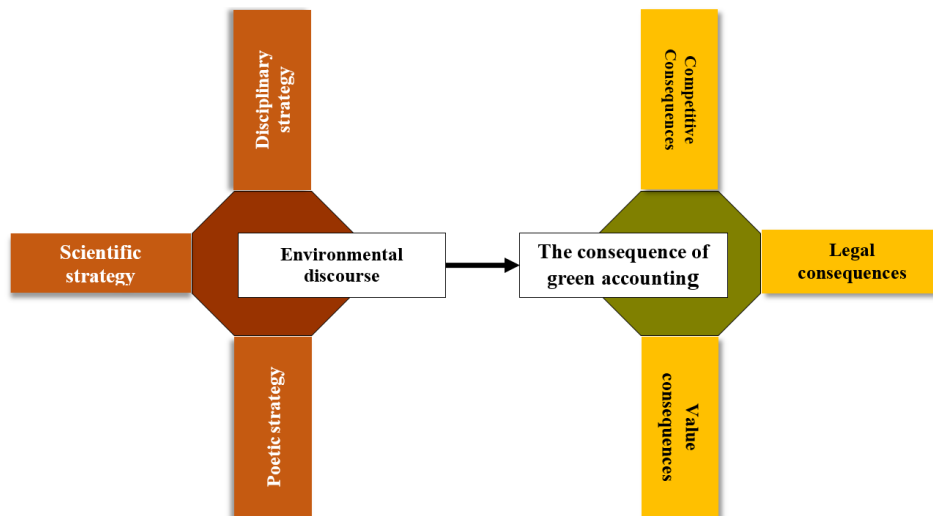


Figure (3) Theoretical framework for testing research hypotheses

Findings

In this section, first the findings of descriptive statistics and then the findings of inferential statistics are presented.

Findings of descriptive statistics

Based on the results of Table 2, the descriptive statistics of the tested variables, which include some central indicators and dispersion, should be stated that the highest average is related to the subscale of narrative discourse strategy (4.282), which indicates that this is a kind of collective effort. It is being

formed by companies to describe environmental functions in the form of social norms which can shape the future perspective of industries' interaction with the environment in a more dynamic way. On the other hand, it was found that the highest rate of standard deviation is related to the disciplinary discourse variable with a standard deviation of 0.99, which means that there is no coherent and integrated approach to effective oversight of the protection of relevant environmental institutions, and this has led to some confusion and the lack of a coherent regulatory requirement.

Table (2) Descriptive statistics related to research variables

Variables	Subscales	Variable symbol	Average	Mean	Minimum	Maximum	Standard deviation
Environmental Discourse Strategies	Regulatory discourse	Regulatory Discourse	3.841	4.210	1.00	5.00	0.96
	Discourse of Knowledge	Scientific Discourse	4.169	4.232	1.00	5.00	0.72

Variables	Subscales	Variable symbol	Average	Mean	Minimum	Maximum	Standard deviation
	Poetic discourse	Poetic Discourse	4.291	4.521	1.00	5.00	0.65
Green Accounting Consequences	Competitive Consequences	Competitive Consequences	3.102	3.714	1.00	5.00	0.52
	Value consequences	Value Consequences	4.011	4.139	1.00	5.00	0.62
	Legal consequences	Legal Consequences	3.663	4.108	1.00	5.00	0.74

Inferential statistics

After expressing the descriptive statistics in this section, in the first step, the fitting of the measurement models is presented. Three criteria of reliability, convergent validity and divergent validity are used in fitting measurement models. In order to evaluate the reliability of the research measurement model, factor load coefficients, Cronbach's alpha coefficients and combined reliability are used.

The value of the criterion for the suitability of the factor load coefficients is 0.4. According to Table (3), all numbers of factor load coefficients in the questions are greater than 0.4, which indicates the appropriateness of this criterion. According to the data

analysis algorithm in PLS, after measuring the factor loads of the questions, it is time to calculate and report Cronbach's alpha coefficients and combined reliability, the results of which are shown in Table (4).

Considering that the appropriate value for Cronbach's alpha and combined reliability is 0.7 and in accordance with the findings of the table above, these criteria have adopted a suitable value for latent variables, so it can be confirmed that the reliability of research measurement models is appropriate. The second criterion for examining the fit of measurement models is convergent validity, which examines the degree of correlation of each construct with its questions (indicators).

Table (3) Factor load coefficients

Variable	Factor	Indicators	Load factor
Environmental Discourses Strategy	Regulatory Discourse	Regulatory Discourse	0.51
	Scientific Discourse	Scientific Discourse	0.76
	Poetic Discourse	Poetic Discourse	0.83
Green Accounting Consequences	Competitive Consequences	Competitive Consequences	0.45
	Value Consequences	Value Consequences	0.71
	Legal Consequences	Legal Consequences	0.77

Table (4) Cronbach's alpha standard results and combined reliability of latent research variables

Concealed variables	Abbreviation	Cronbach's alpha coefficient (Alpha > 0.7)	Combined reliability coefficient (CR > 0.7)
Environmental Discourses Strategy	Regulatory Discourse	0.83	0.88
	Scientific Discourse	0.87	0.91
	Poetic Discourse	0.76	0.85
Green Accounting Consequences	Competitive Consequences	0.84	0.88
	Value Consequences	0.90	0.93
	Legal Consequences	0.88	0.91

Table (5) Convergent validity results of latent research variables

Concealed variables	Abbreviation	Mean extraction variance (AVE > 0.5)
Environmental Discourses Strategy	Regulatory Discourse	0.66
	Scientific Discourse	0.71
	Poetic Discourse	0.59
Green Accounting Consequences	Competitive Consequences	0.61
	Value Consequences	0.73
	Legal Consequences	0.68

Given that the appropriate value for AVE is 0.5 (Fornell and Larcker, 1981) and in accordance with the

findings of Table (6), this criterion adopts an appropriate value for latent variables, thus confirming

the appropriateness of convergent validity of the research. Divergent validity is the third criterion for examining the fit of measurement models. Acceptable divergence validity of a model indicates that one structure in the model has more interaction with its characteristics than other structures. Divergent validity is at an acceptable level when the AVE for each construct is greater than the common variance between that structure and the other structures in the model (Fornell and Larker, 1981). According to Table (5), the root value of the average of the common values of the hidden variables in the present study, which are located in the cells located in the main diameter of the matrix, is greater than the correlation value between those located in the lower and right cells of the main diameter. This means that each structure in the research model interacts more with its own characteristics than other structures. This shows the appropriate divergent validity and proper fit of the research measurement models.

According to the results of reliability, convergent validity and divergent validity, it is observed that the measurement models of the structural equation model of the research have the ability to measure the hidden variables of the research in an optimal way. Therefore, the fit of the structural model of the research is examined. After measuring the validity and reliability of the measurement model, the structural model was evaluated through the relationships between latent variables. In the present study, two criteria of coefficient of determination (R²) and predictive power coefficient (Q²) have been used. R² is a criterion that indicates the effect of an exogenous variable on an endogenous variable. According to the table below, the value of R² has been calculated for the endogenous structures of the research, which can confirm the suitability of the structural model. In addition, a criterion called Q² was used to evaluate the predictive power of the model. According to the results of this criterion in Table (7), it can be concluded that the model has strong predictive power.

Table (6) Fornell and Larker matrices for divergent validity

Factor	Abbreviation	RD	SD	PD	CC	VC	LC
Regulatory Discourse	Regulatory Discourse	0.81					
Scientific Discourse	Scientific Discourse	0.09	0.84				
Poetic Discourse	Poetic Discourse	0.23	0.46	0.77			
Competitive Consequences	Competitive Consequences	0.57	0.24	0.33	0.83		
Value Consequences	Value Consequences	0.18	0.41	0.19	0.11	0.86	
Legal Consequences	Legal Consequences	0.57	0.24	0.33	0.16	0.30	0.83

Table (7) The values of coefficient of determination (R²) and coefficient of predictive power (Q²)

Factor	Abbreviation	R ²	Q ²
Regulatory Discourse	Regulatory Discourse	0.27	0.17
Scientific Discourse	Scientific Discourse	0.60	0.12
Poetic Discourse	Poetic Discourse	0.69	0.36
Green Accounting Consequences	Green Accounting Consequences	0.40	0.44

After checking the fit of the measurement models and the structural model, the general model of the structural equations of the research should be checked using the good fit criterion (GOF) which has three values of 0.01, 0.25 and 0.36 as weak, medium and strong values for Good of Fitness (GOF) has been introduced. This criterion is calculated using the following formula:

$$GOF = \sqrt{\text{Communalities} \times R^2}$$

That in: Communalities : The average of the common values of the hidden variables and (R²): the average values

of the coefficient of determination of the endogenous variables of the model.

Given the value obtained for GOF of 0.54, a very good fit of the overall model is confirmed. After examining the fit of the measurement models and the structural model and having a suitable fit of the general model and according to Figures (4) and (5), the test results of the research hypotheses are examined and the results are presented in Table (9).

According to Figures (4) and (5), the standardized coefficient (path coefficient) between the research variables was determined based on the model fit in the research hypothesis test. (0.62) and the t-statistic between the two variables is equal to (12.06), which confirms the research hypothesis.

Table (8) Communication rate and R2 of research variables

Concealed variables	Abbreviation	Communality	R ²
Regulatory discourse	Regulatory Discourse	0.66	0.27
Scientific discourse	Scientific Discourse	0.71	0.60
Poetic discourse	Poetic Discourse	0.59	0.69
Green Accounting Consequences	Green Accounting Consequences	0.44	0.40
Environmental Discourses Strategy	Environmental Discourses Strategy	0.51	

Table (9) Results of the general Good of Fitness

Communality	R2	GOF
2.63	.48	0.54

Figure (4) Structural model of research hypothesis with factor load coefficients

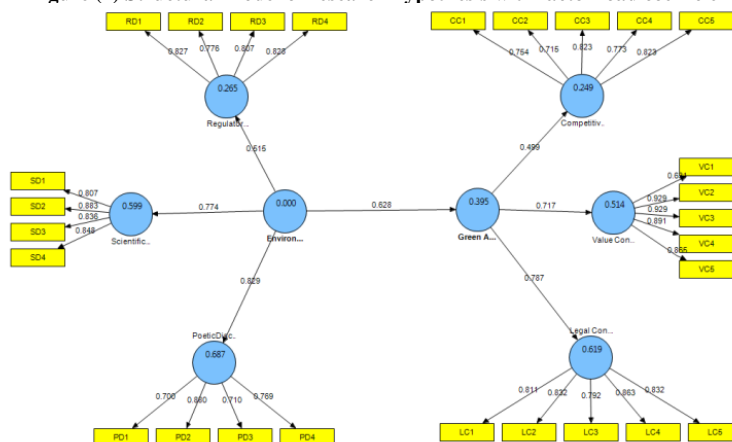


Figure (5) Structural model of research hypothesis with significant coefficients

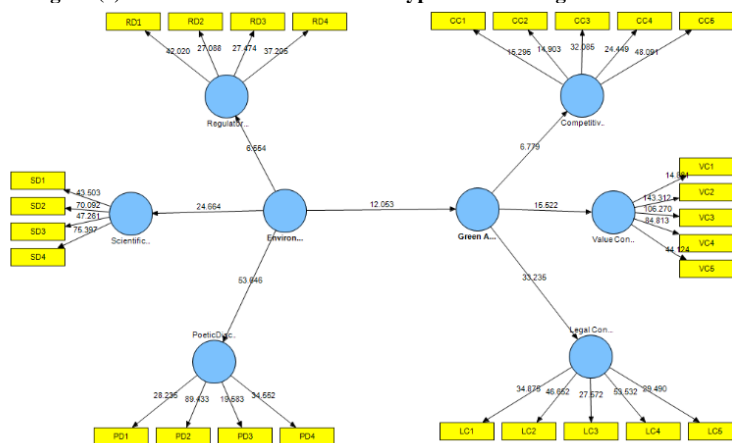


Table (10) Results of the research hypothesis test

Hypothesis	Causal relationships between research variables	Route coefficient (b)	Significance (T-Value)	Test result
H ₁	Environmental discourse strategies have a positive and significant effect on green accounting consequences.	0.62	06/12	proving a theory

Conclusion

The purpose of this study is to investigate the effect of environmental discourse strategies on the consequences of green accounting using the development of agonist theory. Based on the results of the research hypothesis test, it was found that environmental discourse strategies have a positive and significant effect on green accounting consequences. The result obtained in this research indicates this fact that the existence of green discourse strategy drivers by expanding the function of agonism can develop the capacity to use conflict in organizational functions to achieve positive green accounting consequences. Because agonism, while accepting the conflict and the desirability of its existence among those in power against the social environment and stakeholders; Conflict is seen as a way to integrate environmental practices by using the potentials of conflict of interest between themselves and the social environment, and especially external stakeholders, to try to create strategies to advance conflicting goals. Accordingly, the issue of the environment as a social conflict between the company and upstream and regulatory bodies and even NGOs, based on the agnostic approach, can have a positive effect on environmental discourse strategies to strengthen green accounting benefits and balance the benefits and reduce agency costs, participate with the community lead. Environmental discourse strategies are a kind of development of qualitative perceptions of decision makers and managers of enterprises in the role of corporate executives with the aim of reducing environmental pollution. In fact, these strategies are a philosophy based on coherent and integrated approaches of interaction and symbolic interaction between the company and social expectations, which is based on a charter; a specific norm or procedure takes place independently of institutional and legal requirements and presents a unified picture of social collectivist behavior. Under such strategies, the benefits of green accounting, while improving the level of information disclosure for stakeholder decisions, will enable the company to be more successful either by gaining competitive advantage among other companies or in terms of value in terms of interaction and accountability to the future draw a more positive image or propose the philosophy of accounting profession in the form of standard integrations to higher institutions. Therefore, the

beneficial functions of green accounting by stimulating environmental discourse strategies can lead to a more balanced interaction between the company and stakeholders and the social environment at a more effective level, and enable the company to be on the path of more sustainable development. The result obtained by the research of Alsaifi et al (2021); Gauthier and Zhang (2020); According to Baharloo et al (2020).

Based on the obtained result, it is suggested that companies, according to the nature of their industry and strategic activities, should have more comprehensive and complete studies on the operational position of companies in the production sector, to use the knowledge of experts and cooperate with consulting firms to improve green accounting effectiveness. Lead financial systems to more realistic and transparent disclosures of environmental practices and help to improve the level of competitive and value-added functions of green accounting by creating an atmosphere of partnership with thinkers in this field. It is also suggested that research and development teams and units, by analyzing the level of benefits and the existence of conflict between the interests of companies with the social environment, while promoting the knowledge of managers in formulating environmental discourse strategies, try to guide the financial reporting pillars towards dynamism in creating a better balance between the benefits of the company and the environment, and to reduce the climate and environmental situations that the company faces based on the coordination of technological infrastructure in terms of controlling and monitoring waste reprocessing. Use pollutants in a more prone way to increase the company's competitive advantage.

References

- 1) Abbaszadeh, M., Bani Fatemeh, H., Alizadeh Aghdam, M, B., Alavi, L. (2016). the Effect of environmentally responsible attitude interventions on the relationship between spatial attachment and environmentally responsible behavior, *Applied Sociology*, 27(2): 61-80. (In Persian)
- 2) Adams, C. and Larrinaga, C. (2019). Progress: engaging with organizations in pursuit of improved sustainability accounting and performance, *Accounting, Auditing & Accountability Journal*, 32(8): 2367-2394. <https://doi.org/10.1108/AAAJ-03-2018-3399>

- 3) Alsaifi, Kh., Elnahass, M., Salama, A. (2021). Market responses to firms' voluntary carbon disclosure: Empirical evidence from the United Kingdom, *Journal of Cleaner Production*, 262(3): 94-133. <https://doi.org/10.1016/j.jclepro.2020.121377>
- 4) Baharloo, R., Moeinadin, M., Heyrani, F. (2020). Explaining environmental Criteria in companies with a phenomenological approach (Case Study: Cement, Lime & Waste Industry). *Management Accounting*, 13(45): 43-61. (In Persian)
- 5) Boyd, J. (1998). The Benefits of Improved Environmental Accounting: An Economic Framework to Identify Priorities, Resources for the Future, Available at: www.rff.org. [Online] [05 February 2014].
- 6) Brulle, R. J. (2000). Environmental Discourse and Social Movement Organizations: A Historical and Rhetorical Perspective on the Development of U.S. Environmental Organizations, *Sociological Inquiry*, 66(1): 58-83. <https://doi.org/10.1111/j.1475-682X.1996.tb00209.x>
- 7) Capper, J. L. (2013). The environmental and economic impact of steroid implant and beta-adrenergic agonist use within U.S. beef production, Conference: ADSA-ASAS Joint Annual Meeting At: Indianapolis, IN, USA
- 8) Chang, S.H.; Huang, S.Y.; Lin, Y.C. (2012). Study on Environmental Accounting Construction Process of Small and Medium Enterprises: Using Film Coating Company as an Example. *J. Environ. Manag*, 12, 1–25.
- 9) Choi, S. and Szweczyk, S. (2018). Corporate governance structure and strategic change: evidence from major acquisitions, *Managerial Finance*, 44(2): 222-240. <https://doi.org/10.1108/MF-05-2017-0169>
- 10) Dai, D., Liu, J. (2012). Tackling global electricity shortage through human power: Technical opportunities from direct or indirect utilizations of the pervasive and green human energy, *Frontiers in Energy*, 6(2): 210-226. <https://doi.org/10.1007/s11708-012-0200-3>
- 11) Ding, X.F. (2009). A Study of the Influences of Environmental Accounting and Environmental Protection to Financial Performance. Master's Thesis, National Taiwan Ocean University, Keelung City, Taiwan, 2009.
- 12) Feger, C. and Mermet, L. (2017). A blueprint towards accounting for the management of ecosystems, *Accounting, Auditing & Accountability Journal*, 30(7): 1511-1536. <https://doi.org/10.1108/AAAJ-12-2015-2360>
- 13) Gauthier, J. and Zhang, Z.(J). (2020), "Green knowledge management and strategic renewal: a discursive perspective on corporate sustainability", *International Journal of Productivity and Performance Management*, Vol. 69 No. 8, pp. 1797-1811. <https://doi.org/10.1108/IJPPM-10-2019-0489>
- 14) Hannigan, J. A. (1995). *Environmental Sociology: A Social Constructionist Perspective*, London: Routledge.
- 15) Herndl, C. G., & Brown, S. C. (Eds.) (1996). *Green culture: Environmental rhetoric in contemporary America*. Madison: University of Wisconsin.
- 16) International Federation of Accountants website. Available online: <http://www.ifac.org/>(accessed on 15 January 2015).
- 17) Li, Sh., Niu, J., Tsai, S. B. (2018). Opportunism Motivation of Environmental Protection Activism and Corporate Governance: An Empirical Study from China, *sustainability*, 10(2): 1725-1741. 10.3390/su10061725
- 18) Maleki, A., Salehi, S., Rabie, A., Yazarloo, R. (2016). Using Fairclough Model in the Typology of Environmental Discourses in Iran (Discourses of Justice, Protection, Risk and Modernization). *Environmental Education and Sustainable Development*, 5(2): 59-76. (In Persian)
- 19) Mantizadeh, M., Karimi Goghari, H. (2016). Critical Analysis of Environmental Ethical Theories: Presenting Islamic Ethical Theories, *Quarterly Journal of Bioethics*, 6(20): 127-100. (In Persian)
- 20) Marrone, M., Linnenluecke, M. K., Richardson, G. and Smith, T. (2020). Trends in environmental accounting research within and outside of the accounting discipline, *Accounting, Auditing & Accountability Journal*, 33(8): 2167-2193. <https://doi.org/10.1108/AAAJ-03-2020-4457>
- 21) Mehrabanpour, M, R., Jandaghi Qomi, M., Aghdam, R., Ghorbani, H. (2016). Environmental Accounting, *Quarterly Journal of Accounting and Auditing Studies*, 18(2): 32-47. (In Persian)
- 22) Ministry of the Environment Government of Japan. *Environmental Reporting Guidelines*; Environment Agency Japan: Tokyo, Japan, 2005.
- 23) Petera, P., Wagner, J., Pakšiová, R. (2021). The Influence of Environmental Strategy, *Environmental Reporting and Environmental Management Control*

- System on Environmental and Economic Performance, *Energies*, 14(1): 46-72. <https://doi.org/10.3390/en14154637>
- 24) Pickering, M. C., Norman, P. (2020). Assessing discourses about controversial environmental management issues on social media: Tweeting about wild horses in a national park, *Journal of Environmental Management*, 275(1): 1-23. <https://doi.org/10.1016/j.jenvman.2020.111244>
- 25) Procter, L., Angus, D. J., Blaszczyński, A., Gainsbury, S. M. (2019). Understanding use of consumer protection tools among Internet gambling customers: Utility of the Theory of Planned Behavior and Theory of Reasoned Action, *Addictive Behaviors*, 99(3): 100-156. <https://doi.org/10.1016/j.addbeh.2019.106050>
- 26) Roozenburg, N.F.M.; Eekels, J. (1995). *Product Design: Fundamentals and Methods*; John Wiley & Sons Ltd.: Hoboken, NJ, USA, 83-105.
- 27) Rozema, J. G., Bond, A. J., Cashmore, M., Chilvers, J. (2012). An investigation of environmental and sustainability discourses associated with the substantive purposes of environmental assessment, *Environmental Impact Assessment Review*, 33(1): 80-90. <https://doi.org/10.1016/j.eiar.2011.11.003>
- 28) Saneii, D., Sokhanvar, J. (2017). Cultural-environmental Discourse in Margaret Atwood's *The Handmaid's Tale*. *Critical Language and Literary studies*, 14(19): 209-232. (In Persian)
- 29) Schnaiberg, A. (1980). *The Environment: From Surplus to Scarcity*. Oxford University Press.
- Seyed Javadin, Seyed Reza., Roshandel Arbatani, Taher., Nobari, Alireza. (2016). Green Human Resource Management An Investment and Sustainable Development Approach, *Investment Knowledge*, 5(20): 297-327. (In Persian)
- 30) Shafiee, H., Khodami Pour, A., Dastgir, M. (2016). A Survey on the Relation between Changes in Level of Social and Environmental Issues Disclosure and Profitability Indexes by Using KLD Index. *Financial Accounting Knowledge*, 3(4): 43-64. (In Persian)
- 31) Siddique, M. A., Akhtaruzzaman, M., Rashid, A., Hammami, H. (2021). Carbon disclosure, carbon performance and financial performance: International evidence, *International Review of Financial Analysis*, 75(3): 118-143. <https://doi.org/10.1016/j.irfa.2021.101734>
- 32) Singh, S. K. (2019). Sustainable business and environment management, *Management of Environmental Quality*, 30(1): 2-4. <https://doi.org/10.1108/MEQ-01-2019-213>
- 33) Solovida, G., Latan, H. (2017). Linking environmental strategy to environmental performance: Mediation role of environmental management accounting", *Sustainability Accounting, Management and Policy Journal*, 8(5): 595-619. <https://doi.org/10.1108/SAMPJ-08-2016-0046>
- 34) Tu, J. Ch., Huang, H. Sh. (2015). Analysis on the Relationship between Green Accounting and Green Design for Enterprises, *Sustainability*, 7(2): 6264-6277. <https://doi.org/10.3390/su7056264>
- 35) U.N. Division for Sustainable Development website. Available online: <http://www.un.org/esa/sustdev/index.html> (accessed on 15 January 2015).
- 36) U.S. Environmental Protection Agency website. Available online: <http://www.epa.gov/oppt/library/pubs/archive/acct-archive/resources.htm> (accessed on 15 January 2015).
- 37) Van Koppen, C.S.A. (2002). *Environmental discourse and the state: A social analysis of debates on transport and environment in Portugal and the Netherlands*, Mol, A.P.J. and Buttel, F.H. (Ed.) *The Environmental State Under Pressure (Research in Social Problems and Public Policy, Vol. 10)*, Emerald Group Publishing Limited, Bingley, 121-146. [https://doi.org/10.1016/S0196-1152\(02\)80010-2](https://doi.org/10.1016/S0196-1152(02)80010-2)
- 38) Walls, J. L., Berrone, P. (2017). The Power of One to Make a Difference: How Informal and Formal CEO Power Affect Environmental Sustainability, *Journal of Business Ethics*, 145(1): 293-308. <https://doi.org/10.1007/s10551-015-2902-z>
- 39) Zandi, Anahita. (2020). Testing the effectiveness of environmental management accounting on the quality of carbon information disclosure, management accounting and auditing knowledge, *9(35): 207-220*. (In Persian)