



Historical, practical, and theoretical perspectives on green management

Perspectives on
green
management

An exploratory analysis

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Abstract

Purpose – The purpose of this paper is to provide a comprehensive definition of green management. In the quest to systematically develop an inclusive definition, it seeks to take an exploratory approach to investigate the existing literature on green management from three different perspectives: first, tracing the history of how this concept emerged over time; second, considering the practices in which green organizations actually engage, focusing specifically on one company that has been recognized and honored for its extraordinary efforts toward sustainability; and third, reviewing the current developments in critical theory related to environmental issues and business.

Design/methodology/approach – This exploratory review of the literature uses a tripartite approach to forge a sound definition and conceptualization of the term green management. Exploration of green management from the three angles mentioned revealed some commonalities and consistencies in the terminology and concepts. Factors common to the three perspectives were included in the proposed definition of green management.

Findings – The ultimate product of the review is a comprehensive definition of green management. The identification of several commonalities using a tripartite approach lends support to the proposed definition and indicates to both researchers and practitioners that certain factors should not be ignored when attempting to study or practice green management.

Originality/value – To the authors' knowledge, green management has never been collectively reviewed from these three perspectives and the systematic approach resulted in a comprehensive definition that can help coordinate future research efforts around a common conceptualization.

Keywords Ecology, Environmental management, History

Paper type General review

Introduction

The original premise of this paper was to systematically trace the history of green management. This proved to be a challenging endeavor, primarily due to the fact that a precise and consistent definition of the term "green management" eludes the literature. The complexity of the task was further compounded by the fact that individuals and organizations have adopted a myriad of conceptualizations regarding what it means to practice green management. Some view something as simple as the incorporation of a business-wide recycling program as green management. It is not our objective to trivialize such a program as inconsequential, but researchers in the field and some business leaders demand that much more rigorous objectives be achieved in order to be recognized as a green organization. Researchers' and practitioners' views of what green management truly entails can fall at any point along a continuum, ranging from simple



and basic environmentally-friendly programs that prevent further harm, to complex and demanding strategic initiatives that help to restore the environmental damage that has been done in the past. Therefore, the origin of green management may be recognized at different points in time, depending upon how the concept is defined and what types of practices we perceive as indicative of green management. Therefore, we felt it was necessary to shift the main objective of this paper from a strictly historical review of green management toward a systematic attempt to develop a sound definition and conceptualization of the term; the latter being an essential precursor to a valid historical account. In order to develop an adequate definition, we believe it is necessary to consider green management from a variety of critical angles. While we note that a truly systematic historical account is restricted at this point in time, we contend that history should not simply be ignored and that considering green management from a general historical perspective is one of the aforementioned critical angles. We believe that providing a basic timeline that traces how the need for green management emerged will help lay the foundation for the development of a definition. Beyond understanding how we arrived at our present-day need to practice green management, additional steps must be taken in order to decipher an adequate definition of the term and to fully grasp what it means to engage in green management. We will identify the current practices of an exemplary green organization and the developments in theory related to green management, as we believe that exploring these critical angles are also instrumental in arriving at a satisfactory definition of the term. The inadequacy of previous and related definitions of green management will also be addressed. Through this exploratory and tripartite approach to investigating green management from three different critical angles, we hope to converge upon a single, comprehensive, and complete definition of the term.

Defining and conceptualizing green management

A historical overview of the emergence of green management

The need for environmental awareness and green management evolves from a variety of wrongdoings that have transpired over time. The exact moment in history in which these environmental wrongdoings originated is a subject for debate. Some may argue that with every generation of mankind, the environment has been suffering the consequences of selfish and wasteful human behavior. For example, there is an ongoing debate as to whether the Native American Indians were environmental conservationists who lived in harmony with nature or wasteful individuals who left buffalo to rot and burned down forests to clear the land for farming (e.g. Anderson, 1997). Likewise, the pioneers have been accused of recklessly exploiting natural resources and destroying wildlife during the frontier days in the late nineteenth century (e.g. Udall, 1963; Buchholz, 1993). Further investigation into all populations that have inhabited the Earth could probably lead researchers to find fault with how humans have treated their natural surroundings throughout history.

While wasteful and environmentally damaging human behavior can be identified in accounts that venture back centuries in history, the era known as the Industrial Revolution seems to stand out as a time period in which the most devastating environmental harm originated. Anderson (2004) supports this viewpoint, noting that present-day “restorative” organizations are now responsible for reinvesting in natural capital, restoring the biosphere, and ameliorating the nearly 300 years of damage that

transpired during the industrial age. Thoreau was critical of the Industrial Revolution and dismayed by the fact that man was becoming blinded by wealth and losing his ties to the land (Udall, 1963). While the following discussion touches solely upon the industrialization of Great Britain and the USA and the development of environmental awareness in the US, we do recognize that countries such as China are presently in the midst of an industrial revolution and that a host of other countries place a high value on the welfare of the environment. The Industrial Revolution originated in England in the late 1700s, soon made its way to North America, and persisted throughout the nineteenth century. While there seems to be some debate as to exact start and end dates for this time period and whether it was actually a revolution, all historians tend to document similar trends and events that define the era (e.g. Ashton, 1948; Hobsbawm, 1969). This time period marked a shift toward a capitalistic economy (Hobsbawm, 1975), where wealth and profit were the valued goals of individuals and corporations alike. Factories were built, machinery was developed, and new inventions flourished, all of which contributed to an increase in production, efficiency, and profit. There was also a substantial growth in the population and a rapid increase in the amount of land that was being cultivated. With the production benefits and increased efficiency that accompanied the new factories, advanced machinery, and novel inventions also came increases in air and water pollution. With the increase in the population came the side-effect of increased resource consumption and waste. With the cultivation of land came the negative effects of extensive deforestation. While human behavior prior to the Industrial Revolution was most likely wasteful and environmentally detrimental to some degree, the paramount changes that occurred during this timeframe drastically magnified this environmentally-unfriendly behavior. This magnifying glass by which we refer to as the Industrial Revolution multiplied the number and severity of the consequences of human behavior. While humans would have continued to utilize and waste nonrenewable resources and pollute the environment at a constant rate over time, the Industrial Revolution was the catalyst that exponentially increased the rate of that consumption, waste, and pollution, creating an undeniable urgency to take steps to cease and rectify the environmental damage.

During the latter years of the nineteenth century (e.g. Udall, 1963) and the early years of the twentieth century, the people of the USA began to enter the first stages of ecological consciousness with the development of environmentalism and the start of the conservation movement (Buchholz, 1993). This movement originated out of the need to reduce the careless exploitation of the environment indicative of the industrial time period and the need to utilize natural resources in a conscientious and efficient manner, by individuals and corporations alike (Buchholz, 1993). Writers, philosophers, historians, naturalists, and activists such as Henry David Thoreau, Ralph Waldo Emerson, Francis Parkman, William Bartram, and John James Audubon are considered to be the forerunners of the conservation movement due to their transcendental views of nature and their deep reflections upon and awareness of the wilderness in the 1800s (Udall, 1963). The Conservation Movement, spanning the decades between 1850 and 1920, included not only the insightful works and efforts of the aforementioned environmental activists, but also governmental intervention in the form legislation, such as the Forest Reserve Act of 1891 and the Rivers and Harbors Act of 1899.

While earlier efforts were made to conserve natural resources and protect the environment, it is suggested that the true environmental movement originated in the mid-1960s and developed rather rapidly over the following decades (Buchholz, 1993). In addition to the societal changes that had profound negative repercussions on the environment during this period, society itself became aware of these repercussions and started expecting businesses to bear much of the responsibility for the planet's environmental problems (Buchholz, 1993). With being blamed for much of the environmental ills plaguing the world, as well as being held responsible for finding solutions to these problems, organizations had little choice but to attempt to incorporate green management initiatives into all of their business functions. Nattrass and Altomare (1999) discussed the development of industrial sustainability, or what may be considered green management, and maintained that organizations encountered a steep learning curve process when adopting green management practices. Specifically, they constructed a model of organizational adoption of green management practices by which organizations obtained knowledge, responded to environmental issues, and set goals for environmental protection and restoration.

Following approximately a century of environmental neglect, the first official era of environmental awareness spanned the 1970s and marked the creation of Earth Day and the first United Nations Environmental Conference (Nattrass and Altomare, 1999). These historical events signified a growing concern for the welfare of the environment. During this era, there was also an increase in environmental legislation that went into effect, among some of the most paramount being the National Environmental Policy Act (NEPA) and the five legal mandates of the Conservation and Stewardship legislation. The Environmental Protection Agency (EPA) was also established in 1970. Each of these legal measures embodied the overarching goal of establishing and maintaining standards for preventing environmental pollution. The goal of the government legislation was reflected in the goal of all industry at that time – compliance with regulatory standards. However, the corporate response to environmental concerns needed to be more proactive in nature. The unimaginable events of Love Canal in 1978 and Three Mile Island in 1979 no doubt helped to usher in a new decade where it was understood that merely complying with the law no longer made you a good corporate citizen.

The second era of environmental awareness identified by Nattrass and Altomare (1999) spanned the 1980s. The preceding decade had ended with drastic environmental harm and human suffering and this decade was likewise plagued with its own devastation, with the Union Carbide incident in 1984 and the *Exxon Valdez* oil spill in 1989. It was also during this decade that scientists, climatologists, and policymakers confirmed that the greenhouse effect was a real phenomenon and would eventually have a substantial and negative impact on the climate and environment (e.g. Buchholz, 1993). Such tragic environmental events, as well as the increasing deterioration of the environment due to climate change, were painful but clear warning signs that companies needed to go beyond legal compliance in order to be considered good corporate citizens. Not only did the travesties and phenomenon harm environmental and human welfare, but they also hurt the affiliated companies' financial standings. In order for companies to avoid such enormous costs, the individuals running these companies started to adopt new strategies to help them anticipate and be better prepared to deal with such tragedies in the future.

The decade of the 1990s constitutes the third era of environmental awareness (Natrass and Altomare, 1999). This era was defined by a proactive corporate response to environmental issues and a revelation that companies could actually profit from being environmentally conscious and emphasizing continuous improvements regarding environmental issues. It was during this decade that the term “eco-efficiency” was coined and that companies developed strategies that went beyond pollution prevention and the reduction of environmental harm. Instead, organizations pressed their members to find innovative ways to improve the manner in which materials were used and products were produced (Natrass and Altomare, 1999). During the 1990s, organizations began to realize that maintaining the status quo would not lead to a successful future. Some organizations even had the foresight to conceive the idea that making changes to be more environmentally conscious could not only improve their financial outcomes and help them sustain over time, but could also help them gain an advantage over their competitors (e.g. Porter and van der Linde, 1995).

The final and current era of environmental awareness is the new millennium (Natrass and Altomare, 1999). To date, the response of corporations operating in the year 2000 and beyond is that of high integration. Instead of separating the goals of the company and the environment into two entities, organizational leaders are realizing that company and environmental goals should be one in the same. All organizations need to make environmental issues a major concern in all of their business functions in order to actively join in the noble effort of rescuing this planet that is in peril. While adopting environmentally conscious strategies and practices helps companies remain competitive in their respective markets, the increased environmental concern during this era is also driven by the motive to be socially responsible and to do what is morally right. Natrass and Altomare (1999) also note that organizations that are trying to become green need to integrate sustainability initiatives at both strategic and operational levels. Additionally, they have to become learning organizations with an organic organizational structure in order to adequately and effectively respond to an environment that is in constant flux (Natrass and Altomare, 1999).

Based on a careful examination of this review and the corresponding body of literature documenting the progression of environmental concern from the Industrial Revolution to the present day, several terms related to the concept of green management have prominently emerged. In response to industrialization, the concepts of ecological consciousness, conservation, and environmentalism emanated, along with a call to decrease resource consumption, waste, and pollution. While these ideas and practices are necessary and basic requirements of any green management initiative, they are not sufficient. The review proceeds to recount the progression of environmental awareness from basic legal compliance in the 1970s to being proactive, gaining a competitive advantage and profit from environmental initiatives, fostering innovation, and achieving sustainability in the 1990s. Present-day, green organizations have transformed into socially responsible, learning organizations and have taken the aforementioned environmental performance initiatives aimed at achieving competitive advantage, financial profit, increased innovation, and sustainability and have fully integrated these initiatives into the overall goals and strategies of their organizations. We feel these fully integrated goals of modern-day green organizations and the concepts of continuous learning and social responsibility should be inherent components of any comprehensive definition of green management.

Practices of green organizations: the case of Interface, Inc.

Green management might best be defined by the environmentally conscious practices of “green” organizations. While researchers and authors have failed to develop a clear definition of the specific term “green management”, several accounts of what “green” managers actually do to manage their organizations in an environmentally conscious way have been documented in the literature. Interface, Inc. is a stellar example of a “green” organization that engages in practices indicative of rigorous and true green management.

Presiding as CEO over a carpet manufacturing company in the commonly-viewed environmentally negligent textile industry, it may seem unfathomable that you would ever be recognized for outstanding contributions to sustainable development. Ray Anderson, founder and CEO of Interface, Inc., accomplished this feat when he was awarded the George and Cynthia Mitchell International Prize for Sustainable Development in 2001 (*IIE Solutions*, 2001). Anderson credits his transformation into a “born again green industrialist” (Kinkead, 1999) to an epiphany he experienced in 1994 when reading Paul Hawken’s book, *The Ecology of Commerce* (Woestendiek, 1998). Anderson harkened to Hawken’s call for a restorative economy that would unite ecology and commerce (Hawken, 1993). He set a goal to become a sustainable and restorative organization (Woestendiek, 1998). His first efforts directed at sustainability focused on waste reduction and developed into a company-wide program entitled the QUEST (quality utilizing employee suggestions and teamwork) incentive plan (DuBose, 2000). Not only did the QUEST program help the environment, but it also resulted in improved productivity, teamwork, motivation, and commitment among employees (Romm, 1994), and the company saved over \$50 million in waste elimination in just a three-year time period (Woestendiek, 1998; DuBose, 2000). Interface is also exploring new innovations in recyclable materials and utilizing alternative energy sources such as solar panels (Anderson, 2004). Additionally, the creation of their “Trees for Travel” program is helping Interface close in on their goal of climate neutral transportation. By planting a tree for every 1,500 miles an employee flies on a commercial jet, Anderson (2004) rationalizes that the environmental cost for that trip can be recouped in roughly 200 years.

In his effort toward achieving sustainability as an organization, Anderson has also partnered with the Natural Step, a non-profit environmental education organization. The Natural Step encourages the companies it works with to engage in sustainable practices by finding ways to decrease their dependence on:

- (1) materials from the Earth’s crust;
- (2) unnatural substances;
- (3) activities that harm nature; and
- (4) unnecessarily large amounts of resources that do not yield an equivalent human value (e.g. Bradbury and Clair, 1999).

Based on these principles and his knowledge and experience in the field and his industry, Anderson proposed an interrelated, seven-step process that he believes his company must engage in, in order to emerge as a restorative and sustainable organization (McClenahan, 1998; Anderson, 2004). The first step focuses on the lofty goal of zero waste. While this goal might be considered impossible to achieve, it is the

only option that fully aligns with the principles indicative of sustainability. The next three steps focus upon the production process itself and require the organization to uncover ways to eliminate harmful emissions, create and utilize renewable energy, and redesign products and processes for recycling (McClenahan, 1998; Anderson, 2004). Rising to meet these three challenges will help the organization to operate in a clean and environmentally-friendly way and become sustainable, but requires the company to make some major changes regarding the organization's strategy, processes, and structure. Anderson also realizes that transporting raw materials to and finished products from manufacturing plants and employee travel all have a negative impact on the environment (McClenahan, 1998; Anderson, 2004). The fifth step, resource-efficient transportation, is necessary in reducing the resulting pollution and strategic factory location, driving hybrid cars, and the "Trees for Travel" program can all help reduce the pollution caused by travel (Anderson, 2004). The sixth step implores the organization to be socially responsible by creating a community that comprehends how natural systems function and how they are impacted by humans (McClenahan, 1998; Anderson, 2004). The crusade for green management should not be the responsibility of a solitary organization. Its success depends on the society at large to be involved and concertedly join in the effort. Environmental education organizations such as the Natural Step and environmental management standards such as ISO 14001 can help with this agenda (Anderson, 2004). The final stage involves the redesign of commerce to emphasize the delivery of value, as opposed to the delivery of end products (McClenahan, 1998; Anderson, 2004). Consumers must be convinced that there is an enhanced value and quality of a product if it is manufactured and delivered in an environmentally conscious manner. These steps coincide with Hart's (1995) natural-resource-based view of the firm, as well as other environmentally-based theories of management, which will be addressed in the next section. By conquering these challenges and helping others to become sustainable, Interface can return more to the world than it takes, thereby becoming a truly restorative organization (Birchfield, 2002) and a model of veritable green management.

Critical theory underlying green management

On review of the literature, and in accordance with active researchers in the field (e.g. Banerjee, 2002a,b), it appears as if the development of theories underlying sustainability and green management is in its infancy. A variety of researchers are taking different approaches toward the theoretical development and corresponding empirical investigation of green management concepts. Banerjee (2002a) suggests that the different theoretical positions by which researchers approach their study of corporate environmentalism, or what we refer to as green management in this paper, include framing it as a paradigmatic shift, stakeholder issue, or strategic issue.

As researchers argue the flaws of traditional management paradigms (e.g. Gladwin *et al.*, 1995; Shrivastava, 1995), the search for and development of new paradigms that recognize the importance of environmental issues is underway (Banerjee, 2002a). Gladwin *et al.* (1995) have proposed a shift toward a "sustaincentric" paradigm and promote it as a compromise between the traditional "technocentric" and more recent "ecocentric" paradigms. The conventional and dominant "technocentric" approach touts that humans are superior to nature and encourages limitless growth, suggesting that science and technology will solve any environmental problems that arise from this growth. On the other end of the spectrum, the "ecocentric" perspective suggests that

humans are inferior to nature, they will not be able to miraculously fix all environmental problems, and therefore there should be limits to growth so that we do not exceed the earth's capacity to sustain life. While the first perspective fails to establish guidance toward true sustainability, the latter is too radical to be openly accepted by most modern-day organizations. The sustainability paradigm proposed by Gladwin *et al.* (1995) is integrative, uniting approaches of uninhibited growth and no growth and recognizing humans as interconnected with nature, not superior or inferior to it. The strategies and practices of green organizations such as Interface appear to be rather consistent with this new management paradigm, as such organizations recognize the importance of the natural environment and make environmental concerns integral to their corporate goals, practices, and strategies.

Banerjee (2002a) suggests that a second theoretical position of corporate environmentalism involves framing it as a stakeholder issue. Researchers suggest that the concept of being a "stakeholder" must extend beyond human entities to include the natural environment as a major stakeholder in organizations (Starik, 1995). The traditional views of social responsibility (e.g. Friedman, 1970) suggest that a company's primary responsibility is to generate as much money as possible for its shareholders and seem to consider such shareholders as the only important stakeholders in the organization. Such traditional views are being questioned by those who argue that there are a variety of organizational stakeholders, and the natural environment is one of them (e.g. Starik, 1995; Driscoll and Starik, 2004). Shrivastava (1995) contends that nature is the stakeholder that suffers the most risk from industrial activities, and since all life is dependent upon nature, it should be the most imperative and central variable in all organizational concerns and management paradigms. Based on the stakeholder perspective of corporate environmentalism, environmental concerns should not only be recognized as important, but should also be translated into strategic actions that will help the firm improve its environmental performance (Banerjee, 2002a). Considering these more contemporary perspectives on the stakeholder view of the firm, it is evident that it is imperative organizations recognize the importance of environmental issues and find ways to incorporate these issues into their business strategies, just as companies such as Interface have done.

The third way in which the theoretical underpinnings and research streams associated with corporate environmentalism can be framed is as a strategic issue (Banerjee, 2002a). Exploring green management as a strategic issue involves consideration of how it affects the competitiveness and profitability of a firm (Banerjee, 2002a) and how it can be integrated into the firm's strategic planning processes (Judge and Douglas, 1998; Banerjee, 1999). One of the predominant theories addressing the role that the natural environment can play in an organization's competitiveness and success is the natural-resource-based view of the firm (Hart, 1995). Building upon the original resource-based view of the firm (e.g. Wernerfelt, 1984; Barney, 1991), which contends that a firm's unique resources and capabilities are the main sources of sustainable competitive advantage, Hart (1995) proposes that a company's competitive advantage is based upon its relationship with the natural environment. The conceptual framework for this theory is comprised of the interconnected strategies of pollution prevention, product stewardship, and sustainable development. As mentioned in the previous section, such strategies are being used by green organizations such as Interface. Empirical evidence also lends support to this theory, finding that unique

organizational capabilities that lead to a competitive advantage can be obtained via proactive responsiveness to ecological issues (Sharma and Vredenburg, 1998).

There are other theoretical concepts that address how business strategy can be linked to the natural environment. Extending the strategy of total quality management (TQM) to include environmental concerns, total quality environmental management (TQEM) strives toward improving the environmental performance of an organization through the consideration of environmental costs associated with all organizational processes (e.g. Banerjee, 2002a). TQEM also emphasizes the need to incorporate environmental issues into organizational strategies in order to remain competitive in today's market (Borri and Boccaletti, 1995). In accordance with the manner in which researchers suggest that there is a need to go beyond TQM in order to continuously expand and improve a firm's capabilities (e.g. Luthans *et al.*, 1995), becoming a learning organization with respect to environmental issues also seems necessary. Building upon the theoretical framework of organizational learning, Banerjee (1998) proposes that organizations can gain a competitive advantage by learning how to integrate environmental issues with their business strategies and corporate goals. Many business leaders have transformed their companies into learning organizations in order to gain the flexibility needed to deal with turbulence and uncertainty, to solve problems, and to continuously improve (e.g. Daft, 2007), all of which are issues inherent in the practice of green management. Both TQEM and corporate environmental (organizational) learning introduce the importance of integrating environmental issues into organizational strategies in order to gain a competitive advantage (Banerjee, 1998, 2002a), and companies like Interface have transformed into learning organizations in order to deal with the complexity of conducting business in an environmentally-friendly manner. We would also like to point out the central role that innovation plays in the development of competitive organizational strategies aimed at environmental improvements (e.g. Porter and van der Linde, 1995). Others offer similar sentiments about the importance of innovation (e.g. Natrass and Altomare, 1999; Banerjee, 2001) and many of the practices of green organizations (i.e. Interface) can be described as nothing short of truly innovative.

Challenges in defining green management

One of the primary reasons why it is difficult to decipher a consistent and comprehensive definition of green management is that it is a relatively new term. Database searches yield relatively few works addressing the exact term "green management" and the majority of such works focus on environmental management and environmental management systems (EMS) as ways to improve environmental and business performance (e.g. Florida and Davison, 2001; Darnall *et al.*, 2008). While both improved environmental and business performance are basic goals of green management, we believe that a more specific and extensive conceptualization is warranted. When definitions of the exact term "green management" are found in the literature, they often appear either too vague or incomplete. One of the most recent studies on green management defined the term as practices that produce environmentally-friendly products and minimize the impact on the environment through green production, green research and development, and green marketing (Peng and Lin, 2008). With no mention of factors such as strategic integration or sustainability, we feel that this definition falls short of what it means to embrace true

green management, but recognize that developing a definition of the term was not the purpose of these authors. While researchers have made valiant attempts to develop conceptualizations and typologies, arriving at a widely-accepted definition of green management does not appear to have been a priority.

Since it is a new term and there is not a clear and consistent definition of it, researchers and practitioners interpret green management in a variety of ways and this compounds the problems associated with defining and conceptualizing it. Some may view compliance with regulatory standards or a simple initiative to reduce paper consumption (i.e. requiring that all photocopying be double-sided) as green management. Others may feel that green management entails new corporate strategies, organizational restructuring, or a complete overhaul of manufacturing processes. The range separating these two viewpoints is vast, suggesting that there is a broad continuum or spectrum along which a variety of “green” business practices can fall, from the simple and easy to the complex and challenging. Banerjee (2001) suggests that the range of an organization’s environmentally-based strategies progresses from reactive to proactive; that organizations can resist or merely comply with environmental standards, or they can view environmental concerns as an opportunity to be innovative and gain a competitive advantage. Other researchers have also identified similar continuums of environmental strategies, models, typologies, and classifications (e.g. Hass, 1996; Freeman *et al.*, 2000). With most organizational strategies, behaviors, and attitudes, researchers measure variables of interest with scales that indicate high, moderate, and low levels of such variables along some sort of continuum. For example, organizational commitment can be defined as “the degree to which an employee identifies with a particular organization and its goals and wishes to maintain membership in that organization” (Robbins and Judge, 2009, p. 79), and it can be measured using a questionnaire (e.g. Meyer and Allen, 1991). Each employee’s level of organizational commitment will vary along a continuum from low to high commitment. In a similar fashion, green management can be viewed, defined, and measured as any other variable related to organizational behavior. We believe that organizations will vary along a continuum ranging from low to high levels of green management, based on a definition that fully encapsulates the concept of green management. As research efforts progress our understanding of green management, we may find that one basic definition is not sufficient to describe the concept in its entirety and that it may actually be composed of different types of green management. Returning to the previous example of organizational commitment, researchers have identified three subcomponents:

- (1) affective commitment;
- (2) continuance commitment; and
- (3) normative commitment (e.g. Meyer and Allen, 1991; Meyer *et al.*, 1993).

Perhaps over time, through empirical research and scale development, we will see subcomponents such as zero waste, renewable energy, and socially responsible green management, based upon proposals and processes offered by researchers and practitioners (e.g. Anderson, 2004), emerge in the literature. However, before we attempt to derive subcomponents and multi-dimensional scales to measure green management, we need a general and comprehensive definition to serve as a common starting point.

In addition to green management being a rather new term, the lack of a comprehensive and specific definition, and the confusion surrounding the range of practices that actually constitute green management, another obstacle in determining a solid definition of the term is that green management is typically labeled with a different nomenclature such as corporate environmentalism, environmental management, or corporate sustainability. Not only are there different terms by which we label green management, but each of these terms are defined and interpreted in a variety of ways by a diverse group of researchers and practitioners. For example, some suggest that the concept of corporate environmentalism revolves around the objective of reducing waste, which in turn contributes to the organization's ultimate goal of making money (Costello, 2008). However, others define corporate environmentalism as something much more broad and profound than financial returns derived from waste reduction. For instance, one working definition of the term identifies corporate environmentalism as "the organization-wide recognition of the legitimacy and importance of the biophysical environment in the formulation of organization strategy, and the integration of environmental issues into the strategic planning process" (Banerjee, 2002a, p. 181). While this definition stresses the importance of environmental issues and the need to integrate these issues into the strategy of the organization, some factors that we believe are critical to the practice of green management seem to be missing or need to be specified; factors such as continuous improvement, sustainability, and innovation.

Environmental management and corporate sustainability are also terms that have been used in close conjunction with or as a substitute for green management. Both concepts seem to extend beyond simply reducing waste, and therefore more accurately embrace the ideal of green management than the description of corporate environmentalism offered by Costello (2008). Environmental management focuses on continuous improvement and environmental management systems have been looked upon with much favor by large organizations, policy makers, consultants, and researchers as an effective approach for proactively dealing with environmental issues (Kautto, 2006). However, we should note that some have defined environmental management simply in terms of economic profit (e.g. Denton, 1994). Corporate sustainability also stretches beyond waste reduction and requires continuous improvements to achieve its challenging objectives. In order for sustainability to be possible, according to Daly (1996), our economy must radically shift from a focus on growth to a steady-state economy, which requires that rates of consumption do not exceed rates of regeneration, rates of non-renewable resources do not exceed the rate at which sustainable renewable substitutes are developed, and the rates of pollution emissions do not exceed the assimilative capacity of the environment (Daly, 1991). Hawken (1993, p. 139) applies an economic golden rule to define what it means to be sustainable when he advises everyone to "leave the world better than you found it, take no more than you need, try not to harm life or the environment, [and] make amends if you do." Borrowing from the basic premises of these terms, we feel the need to incorporate ideas such as continuous improvement and sustainable processes into the definition of green management.

A comprehensive definition of green management

Following careful examination of the preceding review and the additional historically-based, practitioner-based, and theoretically-based literatures concerning

green management, several recurring concepts were identified. The recurrence of similar concepts across three different perspectives solidified the importance of their inclusion in the following definition of green management:

Green management is the organization-wide process of applying innovation to achieve sustainability, waste reduction, social responsibility, and a competitive advantage via continuous learning and development and by embracing environmental goals and strategies that are fully integrated with the goals and strategies of the organization.

Contributions, implications, and future research

The main contribution of this article is the proposal of a new and comprehensive definition of the term green management. Through the exploratory analysis of the literature addressing historical, practical, and theoretical viewpoints, certain concepts emerged across all three perspectives, signaling the need for their inclusion in the definition. We believe that developing the definition via the examination of green management from multiple critical angles was a sound and thorough approach. However, we do not claim that the proposed definition is perfect, nor do we imply that it should automatically be accepted by all researchers in the field. We call upon such researchers to add their insights and engage in efforts to validate a definition that experts in the field will approve of and accept. If we aspire to do more meaningful and systematic research in the field, it is beneficial for everyone to study and measure green management within the same frameworks and using the same definitions and conceptualizations. Also, the information provided in this archival review and the progression toward a comprehensive definition may prove useful to the development of scales and questionnaires that measure green management. Currently, researchers define and measure green management in a wide variety of ways. While one study may measure green management in terms of the development and application of alternative energy sources, another study may measure green management in terms of recycling programs. It is difficult to meaningfully compare the results of these two studies because the green management variables are so different. Therefore, a comprehensive scale that includes the full spectrum of possible green management initiatives would be useful in helping researchers determine an organization's level (or score) of green management and be able to meaningfully compare results and draw conclusions across studies. In conclusion, we hope that the proposed definition helps researchers and practitioners get on the same page when it comes to conceptualizing green management. We also hope that it initiates efforts toward further conceptual development and the creation of green management measures that can be validated and meaningfully utilized in the future.

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