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Alex Opoku Vian Ahmed Heather Cruickshank

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Leadership style of sustainability professionals in the UK construction industry

Alex Opoku

*Department of Built Environment, London South Bank University,
London, UK*

Vian Ahmed

*School of Built Environment, University of Salford, Salford,
Manchester, UK, and*

Heather Cruickshank

*Centre for Sustainable Development, University of Cambridge,
Cambridge, UK*

Abstract

Purpose – Leadership is a significant success factor in promoting sustainability practices in the construction industry. Sustainability is an integral part of the construction industry and affects all aspects of construction business operations. The purpose of this paper is to investigate if there is any particular leadership style associated with intra-organizational leaders within UK construction organizations charged with the promotion of sustainability practices. The paper therefore examines the effective leadership style of sustainability professionals responsible for developing sustainable construction strategies.

Design/methodology/approach – Qualitative data were collected through semi-structured interview with 15 leaders, followed by an industry-wide survey of 200 intra-organizational leaders in contractor and consultant organizations in the UK construction industry.

Findings – The results showed that while there is no one best leadership style for all situation, most leaders charged with the role of promoting sustainable construction are strategic in their style or behaviour.

Originality/value – Although leadership and sustainability has been widely covered as separate issues, little rigorous research has been done on the link between leadership and sustainability in construction management research. The findings could guide organizational leaders with the responsibility of promoting sustainability practices.

Keywords UK, Leadership style, Sustainability, Leadership, Construction organizations

Paper type Research paper

1. Introduction

Leadership is vital in the construction industry and a key success factor in the drive towards sustainability (Ofori and Toor, 2008). Construction organizations need leadership that provide the collective vision, strategy and direction towards society's common goal of a sustainable future. Organizational leaders should embed sustainability approaches in their organizational activities and make sustainable development part of their overall business strategy. The role of leadership in improving the performance and innovation in the construction industry has been receiving increasing attention in recent times (Bossink, 2007). However, less attention has been given to the capability of intra-organizational leadership in promoting construction organizations towards the delivery of sustainable construction projects. The issue of sustainability is growing ever more important and the construction industry has the



greatest impact on it than any other industrial sector, because the construction industry provides benefits to the society as well as causing negative impacts; making it a key sector in the fight for sustainable development (Sev, 2009).

The construction industry is a very important sector in achieving society's sustainable development goals; however, the change towards the adoption of sustainability practices is a process that presents a leadership challenge. Both Egan (1998) and Latham (1994) called on leaders to lead the quest for change in the construction industry. Leaders have an important role in guiding construction organizations towards sustainable practices and it is believed that such leaders require unique leadership styles. Leadership style is all about how people interact with those they seek to lead (Groetsch and Davis, 2006). However, Toor and Ofori (2008) believe that leadership is also about authenticity and not style. There has not been any evidence to show that one particular leadership style is the best (Vecchio, 2002; Giritli and Oraz, 2004). However, Bossink (2007), argue that strategic, charismatic, instrumental and interactive leadership styles influence an organization's innovativeness towards sustainability.

This paper therefore investigates the leadership style of intra-organizational leaders within UK construction organizations charged with the promotion of sustainability practices. The first part of the paper reviews relevant literature on leadership and the construction industry. The second part of the paper presents the research approach adopted for this study and the final part of the paper concludes with the analysis of findings from the interviews and survey.

2. Defining leadership and sustainability practices

According to Doh (2002), leadership is an executive position in an organization and that it is a process that has influence on others. However, Munshi *et al.* (2005) argue that leaders are essential at all levels of organization and can emerge at different levels within an organization (Newton, 2009). Leadership can be practiced by any individual at different levels within an organization (Riches, 1997) regardless of the position of hierarchy of that individual in the organization (Bass and Riggio, 2006). Leadership is also said to be concerned with the ability of an individual to influence the behaviour of others in order to deal with the desires of the leader (Fellows *et al.*, 2003). Ferdig (2007) describe leaders as those who inspire a shared vision, build consensus, provide direction and foster changes in beliefs and actions among followers needed to achieve the goals of an organization. Northouse (2010, p. 3), however, define leadership as:

A process whereby an individual influences a group of individuals to achieve a common goal.

From the definition of leadership above, anyone in an organization could potentially be a leader at some point in time if they are involved in a process of influence that involves encouraging and influencing sustainable practices (Taylor, 2008). Intra-organizational leadership sought to influence other individuals (subordinates, superiors, peers) within their organizations to achieve specific projects aim and objectives (Gattiker and Carter, 2010). This paper therefore defines leadership as: A process of influencing a group of individuals to accomplish a common goal and not necessary an executive position. It is therefore important to note that, all respondents who took part in this study are individuals who are in a position of organizational influence. These sustainability professionals are leading their respective construction organizations towards a common goal of achieving sustainability. The study therefore described them as leaders following Northouse's (2010) definition of leadership quoted above, irrespective of their job titles.

Sustainability practices in this study refer to practices aimed towards achieving sustainable development in the delivery of construction projects. These practices are at both pre-construction, construction and post construction stages of construction project cycle and may include sustainable design, procurement, site waste management, materials and resources use, whole life costing, etc. This study is therefore not necessary about how construction organizations can save papers and cartridges but rather how to deliver sustainable construction projects. Throughout the context of this paper, the following terms are used interchangeably: “leadership” and “intra-organizational leadership”, and “sustainability” and “sustainable development”. Intra-organizational leadership means leadership within organizations and sustainability refers to the development that considers the “triple bottom line” of people, planet and profit.

3. Leadership theories and styles

The role of leadership is formally or informally developed within the group and it is the necessary role of the leader to organize, motivate and assign task in the group towards its achievement. The definition of leadership is continually shifting and difficult to define because it's very much contextual (Bryman *et al.*, 2002). There are over 350 definitions of the term leadership that have been developed so as to develop the fundamental theory of leadership (Daft, 2005). The most consistent definition of leadership is that of a process of influence and such influence can come from both internal and external stakeholders of the organization (Yukl, 2006). Leadership is now being considered as a process of influencing organizational direction and vision, occurring through the relationships between leaders and their followers (Taylor *et al.*, 2011). It is argued that, leadership is primarily about influencing individuals to go beyond their selfish short-term interests, to contribute to the long-term performance of the whole group (Northouse, 2010). However, Tabassi and Abu Bakar (2010) add that leadership is not just a process; but a process that involves influences, that occurs within a group context, involving personal discovery and development as well as involvement in goal attainment.

3.1 Leadership theories

All of the theories of leadership are correct in one way or other and such theories deal with a leader's move toward the business environment and the follower's opinion of a leader's performance (Northouse, 2010). Some leadership theories centre on the nature of the leader, their personality and traits; whereas other theories centre on identifying the different roles of leaders in terms of what leaders do rather than their characteristics. Some leadership theories also view leadership as specific to the situation based on the idea that different situations require different leadership styles (Dearlove and Coomber, 2005). Leadership theories identified by Munshi *et al.* (2005) include traits and styles; contingency; transformational/transactional; distributed and structuralist leadership theories. Different schools of leadership theory have evolved over the past several decades such as leadership traits and style, leadership behaviour, contingency approaches, leader-member exchange (LMX), great man leadership theory, transformational leadership, charismatic leadership theory and shared leadership (Bass and Avolio, 1994; Munshi *et al.*, 2005; DeChurch *et al.*, 2010; Yang *et al.*, 2011). A summary of the leadership theories is presented in Table I. The next section discusses the common leadership styles exhibited by leaders in organizations.

Table I.
Summary of
leadership theories

Leadership theory	Characteristics	Source
The trait approach	Individual leader's characteristics or approaches define the trait/style of leadership Trait leadership theories believe leaders are born and not made	Yukl (1998)
The behavioural theory	Deals with the styles adopted by the leaders for their particular task Detail specific behaviours related with effective leadership Believe that leaders are made, not born	Bryman (1992)
The contingency theory (situational theory)	It is about the appropriateness of different leadership styles in different leadership situations	Burns (1978)
The leader-member exchange (LMX)	Believes that leaders form differentiated patterns of relationships with their subordinates Deals with the direct relationship between leaders and followers	Yukl (2006)
Great man leadership	Believe that great leaders are born to lead; they are extraordinary and exceptional people	Bass <i>et al.</i> (2003)
Transformational leadership	Transformational is concerned for relationships while transactional is about concern for process; all aimed at improving leadership outcomes	Bass and Avolio (1993)

3.2 Leadership styles

There have been several studies on how leaders and their styles of leadership promote change (Bryman, 2004) and it is now believed that individual leadership style is a very important factor in innovation (Dess and Picken, 2000). Toor and Ofori (2006) describe leadership style as a combined outcome of the leader's self-related cognitive information, personality traits, the primary motives, and thoughts on operating situational variables. It is important that the overall leadership style adopted suit the organization's beliefs, values and assumptions. There are different types of leadership styles, each proving effective depending on the given circumstances, attitude, beliefs, preferences and values of the people involved. Tabassi and Abu Bakar (2010) add that effective leadership style is critical to all successful projects and organizations. Nicolaou-Smokoviti (2004, p. 410) defines leadership style as:

A stable mode of behaviour that the leader uses in his or her effort to increase his or her influence, which constitutes the essence of leadership.

Many styles of leadership have been proposed for organizational leaders including; transactional, transformational, charismatic, democratic, servant, autocratic, consultative, laissez faire, joint decision making, authoritative, participative, tyrant, task oriented, relationship oriented, production-oriented, employee-oriented, delegating, authority-compliance, impoverished management and team management, etc. (Toor and Ofori, 2006). It is suggested that different leadership styles are appropriate in different circumstances and the style of a leader has a major influence on the performance of their organization.

Transformational leadership motivate subordinates to perform beyond the expected levels of performance and can be identified with the goals and the interest of the organization (Bass and Avolio, 1994; Gardner and Avolio, 1998). Transformational leaders lead by example to influence followers moral, emotional, affective and cognitive

behaviour by showing positive qualities and ethics (Bass and Riggio, 2006; Zhu *et al.*, 2011). Such leaders therefore make decisions that promote ethical policies, procedures and processes in their organizations (Avolio, 2005; Zhu *et al.*, 2011). Brown and Trevino (2006) cited the seminal work of Burns (1978) which suggested that transformational leaders motivate their followers to think beyond self-interest and work together for a shared cause because of their moral qualities. It is argued that such qualities exhibited by transformational leaders support and promote innovations in organizations they lead.

Transactional leadership monitor performance and take the necessary corrective action. Transactional leaders can inculcate moral standards in an organization through effective ethical structures because they have a positive impact on the followers' moral personality (Zhu *et al.*, 2011). However, transactional leadership does not possess the same level of morality when compared with that of the transformational leadership (Bass and Steidlmeier, 1999). Charismatic leaders are very good at shaping the values of others (Brown and Trevino, 2009). They are regarded as visionary leaders who foster good relationships with their follows to achieve excellent performance of the organization's vision through personal characters and behaviours (Hayibor *et al.*, 2011). The charismatic leadership style communicates vision, energizes others and accelerates innovation processes such as sustainability.

Ethical leaders possess characteristics such as honesty, caring, and principles. Ethical leaders communicate with their followers on ethics, set clear ethical standards, use rewards and punishments and make fair and balanced decisions (Brown and Trevino, 2006). Riggio *et al.* (2010) define an ethical leader as the one who demonstrates prudence, temperance, fortitude and justice in their personal characteristics and actions.

Authentic leadership has recently emerged as another form of leadership which compliments the work on ethical and transformational leadership (Avolio and Gardner, 2005; Avolio *et al.*, 2004). Authentic leaders are not necessarily transformational, visionary or charismatic leaders (May *et al.*, 2003), however, they incorporate transformational and ethical leadership qualities (Avolio *et al.*, 2004), demonstrate a higher moral ability and are guided by a set of ideals (Lloyd-Walker and Walker, 2011). Visionary leaders (transformational, charismatic) create a strategic vision of some organizational future to achieve high levels of cohesion, commitment, trust, motivation and hence performance in the new organizational environments (Zhu *et al.*, 2011). Avery (2004) describes visionary leaders as people who employ a collaborative style for making decisions, share problems with their followers and seek consensus before the leaders make the final decision.

Strategic leadership theory is thought to be similar to the trait theories, it is, however, different as it focuses on individuals at the top of an organization and their effect on strategic processes and results (DeChurch *et al.*, 2010). Strategic leadership style is believed to be the most appropriate leadership style for organizations implementing corporate social responsibility strategies.

Laissez-faire leadership represents a leadership style in which the leader avoids making decisions, uses their authority and relinquishes responsibility. A laissez-faire leader chooses to avoid taking action and avoid leading. It is believed to be the most passive and ineffective form of leadership (Antonakis *et al.*, 2003). Understanding the characteristics exhibited by each style/behaviour of leadership enhance the interview process and the design of the multifactor leadership questionnaire (MLQ).

3.3 Multifactor leadership and sustainable leadership questionnaires (SLQ)

The MLQ was first developed in 1985 to measure transformational and transactional leadership but has been revised several times since its inception (Bass, 1985); MLQ Form 5X is the most recent version that measures a full range of leadership styles (Bass and Avolio, 2000). The most widely used survey instrument to assess the multifactor leadership theory has been the MLQ that covers a range of leadership behaviours (Avolio and Bass, 2002; Lowe and Gardner, 2000; Antonakis *et al.*, 2003). The MLQ Form 5X consists of 45 items with 12 constructs that measure the following four dimensions: transactional leadership, transformational leadership, non-transactional leadership and outcomes of leadership (Bass and Avolio, 2000). SLQ instrument was developed by McCann and Holt (2010) to define sustainable leadership and ensure organizations can determine the quantifiable level of sustainable leadership from employees' perspectives. The SLQ consist of 15 statements used to measure employees' perception of leadership sustainable behaviour. The MLQ and SLQ both use a five-point likert scale ranging from 0 to 4 (where 0 = not at all; 1 = once in a while; 2 = sometimes; 3 = fairly often; and 4 = frequently, if not always) providing a score average for all the items in the scale. The results show self-perceived leadership style/behaviour as a score that indicates how frequently each survey component is used by the respondent (Bass and Avolio, 2000; McCann and Holt, 2010). This paper produced a leadership style questionnaire consisting of 18 descriptive statements covering six leadership styles in order to establish styles/behaviours associated with intra-organizational leaders promoting sustainable construction practices in the UK construction industry.

4. Methodology

Leadership research is mainly associated with a quantitative research approach that is epistemologically guided mainly by positivistic assumptions (Ospina, 2004; Bryman, 2011). However, literature evidence shows that several researchers have combined qualitative and quantitative approaches in their studies to achieve their research objectives (Toor and Ofori, 2008b). Leadership research in the construction industry mostly uses quantitative methodologies, using survey questionnaires to collect data whilst there is also some use of qualitative methodologies based on interviews and case studies (Toor and Ofori, 2008b). Finally, Bryman (2011) argues that, leadership is best understood through diverse theoretical positions, research methods and the examination of a great variety of research contexts and settings.

This study therefore adopts a mixed methods research approach that provides both qualitative and quantitative evidence which gives a more complete picture of the engaged sustainability practices in UK construction organizations. Mixed methods research aims at drawing from the strengths of each research approach and minimizing the weaknesses of any single research studies (Johnson and Onwuegbuzie, 2004). Whilst the use of qualitative studies provide an in-depth insights through subjective interpretations of experiences, adopting mixed methods allow researchers to minimise and reduce the over-dependence on statistical data to explain a social occurrence and experiences which are mostly subjective in nature (Jogulu and Pansiri, 2011). Creswell (2003) identified that, using mixed methods research provides strengths that offset the weaknesses of both quantitative and qualitative research. It also provides more comprehensive evidence for studying a research problem than either using quantitative or qualitative research alone.

4.1 *Data collection and analysis*

The selection of the most suitable data collection method depends largely on the intention of the research objectives and the type of data needed for the research. A mixed method data collection approach using both interview and questionnaire research techniques was adopted to achieve the research aim. The interviews were aimed at obtaining detailed information, perceptions and opinions from leaders within UK construction organizations charged with the promotion of sustainability practices on how their organizations are actively engaged in sustainability practices in the delivery of construction projects. Questionnaires were used to eliminate bias associated with interviews and also to obtain more superficial and wider views of respondents from the UK construction industry (Yin, 2003).

4.1.1 *Qualitative data collection and analysis.* The interview sample were selected from both contractor and consulting organizations in the UK construction industry. Semi-structured interviews were carried out with 15 intra-organizational leaders from the UK construction industry charged with the promotion of sustainable construction project delivery. This purposeful sample was developed by initially contacting the top 150 consultants and contractor organizations operating in UK as published in the September 2010 edition of the Building Magazine. This process was to ensure that the interview participants cover a wide range of intra-organizational leadership with direct experience and knowledge in sustainable construction. These leaders were responsible for promoting and implementing environmental, social and economic sustainability issues in their respective organizations. Even though there are variations in the job titles of the interviewees, all were responsible for driving forward the agenda relating to sustainable practices in construction project delivery in their organizations. All interviews were held in confidentiality and recorded with participant permission. The interviews lasted between 45 and 60 minutes. Qualitative data were collected through in-depth semi-structured interviews were carried out with eight intra-organizational leaders from consultant organization. These consultant organizations include project management, cost management, structural and architectural firms. During the second stage of the interviews, seven intra-organizational leaders from contracting organizations charged with the promotion of sustainability practices were interviewed. The profile of leaders (sustainability professionals) within UK construction organizations who were interviewed included sustainable construction manager, head of sustainability, senior sustainability consultant, corporate sustainability manager, principal sustainability engineer, associate head of sustainability, associate: sustainability manager, sustainability consultant, senior sustainability manager, environmental manager, head of sustainable development, sustainability manager, director of environment, principal sustainability consultant and environmental manager/advisor. Despite the variation in job titles, all the above intra-organizational leaders interviewed have responsibilities within their respective construction organizations to promote sustainability practices in the delivery of construction projects.

4.1.2 *Quantitative data collection and analysis.* An analysis of the survey data shows that a response rate of 63 per cent was achieved representing 126 responses out of 200 questionnaires sent. However, 10 per cent of responses were discarded as not being fully complete. This result can be considered as being excellent, according to Golland (2002) who suggested that, for a postal survey, a response rate of 30-40 per cent is considered good, and one over 50 per cent is considered excellent. However,

Archer (2008) argued that, the response rate for a web-based survey varies based on the survey type. The overall average response rate for a web-based survey is 48.3 per cent as evidenced by the results of a research involving the calculated response rates of 84 web-based surveys deployed over 33 months. To increase the response rate of the survey for this study, respondents were contacted by telephone to obtain personal e-mails before sending the surveys out; follow-up reminder e-mails were sent two weeks after the initial distribution.

Respondents' organizational type, size and job title. The results of the survey show that, 49 per cent of respondents are from contractor organizations while, 51 per cent of respondents are from consultant organizations in the UK. There was a slight difference in the number of respondents who responded in terms of their principal business activities. Respondents from consultant organizational background were 2 per cent more than that of respondents from contractor organizations. The respondents to the questionnaire were asked to classify their construction organizations in terms of the size of employees. The respondents ranged from small to large construction organizations. However, most respondents were situated in large sized organizations; having over 250 employees. This equated to almost 54 per cent of overall respondents. Small size organizations employing up to 50 people form 17 per cent of the respondents. The result also shows that, 29 per cent of respondents belong to construction organizations employing 50 to 250 people.

5. Findings and discussions

5.1 *Interview findings and discussions*

The main aim of this paper is to establish the leadership styles of intra-organizational leaders who are leading the sustainability agenda. Leadership questionnaires were used during the interviews to help understand the leadership styles associated with the interview participants. The leadership styles identified among the intra-organizational leaders interviewed were strategic, democratic, charismatic and transformational. The interview was guided by the use of the Multifactor leadership and SLQs. Strategic leadership style was the most commonly identified style among the intra-organizational leaders in UK construction organizations as shown in samples quotes from interviewees below. Most intra-organizational leaders interviewed described themselves as strategic and influential in the development and implementation of sustainability strategies. As interviewee "D" observed:

I am in a strategic role, active in the development of our sustainability strategy. I continue to influence the direction of the company in relation to sustainability and to help drive the ethos within the company through various mediums including engagement with stakeholders.

Also, interviewee "J" reflected on his leadership style by saying:

I would say it was strategic, but also practical. Everything we do when collecting data, complying with legislation, etc. must be easy and practical to achieve.

Furthermore, interviewee "B" put it simply by saying:

My style is strategic; outcome driven and influential.

Finally, interviewee "A" described his style of leadership by pointing out that, he is:

Transformational, and focused on creating opportunities. I am also strategic; all power of influence with very little power due to position of authority.

The discussions from the interviews show various leadership styles employed by intra-organizational leaders in UK construction organizations; however, Figure 1 shows words frequently used by leaders when describing their style of leadership.

The process of essential change such as a change towards sustainability begins with a strategic vision that leaders have for their organization. An intra-organizational leadership style could influence the successful implementation and integration of sustainability practices within an organization. Most leaders describe their style as strategic influencing on the sustainability strategies within their organizations as evidence in the word frequency diagram above.

The following items provides a description of *leadership style or behaviour*. Respond to each item according to the way you are most likely to act as leader. The word "other" may mean your subordinates, clients, or company employees. Tick one of the options to the right of each item to indicate your response KEY: 0 = *Never* 1 = *Once in a while* 2 = *Sometimes* 3 = *Fairly often* 4 = *Frequently, if not always**

	0	1	2	3	4
I go beyond self-interest for the good of the organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The best decision will be the one with the largest consensus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I make decisions without consultation others due to time pressures upon the task at hand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I make clear what one can expect to receive when performance goals are achieved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I avoid making decisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I tend to overcome barriers to reach goals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I consider the moral and ethical consequences of my decisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I welcome others to constantly challenge my ideas and strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I rarely back down when I am truly passionate about something	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I provide recognition/rewards when others reach their goals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Whatever others want to do is ok with me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I'm good at finding practical solutions to problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I help others to develop their strengths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I try to delegate as many tasks as possible in their complete entirety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I need to push half of the people into completing work to a higher standard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I keep track of all mistakes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I ask no more of others than what is absolutely essential	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have a clear focus on what we need to do as organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 1.
Copy of leadership
style questionnaire
used in the survey

5.2 Survey findings and discussions

The leadership styles and behaviours of intra-organizational leaders were measured in this study using a questionnaire designed from the current version of the MLQ, form 5X revised (Avolio and Bass, 2002) and the sustainability leadership questionnaire (SLQ) (McCann and Holt, 2010). A copy of the leadership questionnaire used in the survey is shown in Figure 2. The survey consists of 18 descriptive statements covering six leadership styles: transformational, democratic, autocratic, transactional, laissez fair and strategic leadership styles. Respondents were asked to judge how frequently each statement matched their style of leadership. To determine each leadership style, the score of three specific items on the questionnaire was added as detailed below:

- transformational leadership style (1, 7, 13)
- democratic leadership style (2, 8, 14)
- autocratic leadership style (3, 9, 15)
- transactional leadership style (4, 10, 16)
- laissez fair leadership style (5, 11, 17)
- strategic leadership style (6, 12, 18)

Each item is given a score of 0 to 4, where 0 = “never”; 1 = “once in a while”; 2 = “sometimes”; 3 = “fairly often”; and 4 = “frequently, if not always”. A total score of 9-12 shows a high level, a moderate level has a score of 5-8 and a score of 0-4 shows a low level of style or behaviour.

A detail statistical result of the survey is presented in Table II and illustrated graphically in Figure 3. Taken as a whole, the total mean for strategic leadership style was 9.85. The average mean for the three items under this style of leadership was 3.28 with a standard deviation of 0.77. With a potential score of 0 to 4, it can be seen that a score of 3.28 which is above the middle score of 2.00 portrays a “fairly often” act by leaders promoting sustainability practices. The above shows that, most of the survey respondents are likely to act *strategically* in terms of their leadership style when dealing with the implementation of sustainability practices. This result supports the findings of the interview that, most leaders when charged with the role of promoting sustainable construction are strategic in their style or behaviour. Strategic leaders inspire others to



Figure 2.
Word frequency
query of
interviewees' style
of leadership

BEPAM
5,2

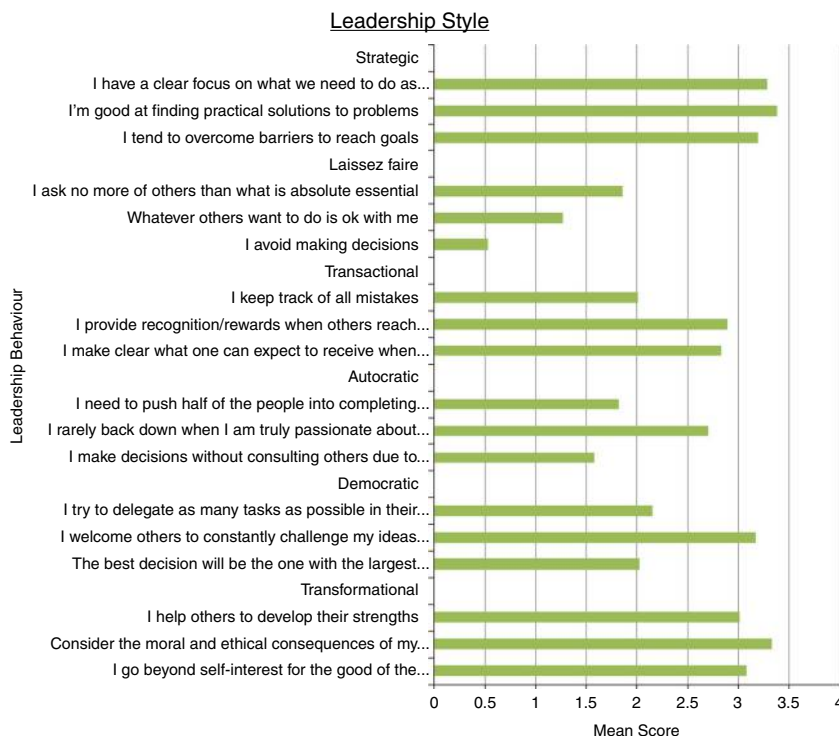
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Table II.
Score of respondents' leadership style or behaviour

Ref.	Leadership behaviour/style	<i>n</i>	Sum	Mean	Average mean	SD
<i>Transformational</i>					3.14	
1	I go beyond self-interest for the good of the organization	106	326	3.08		0.847
7	Consider the moral and ethical consequences of my decisions	106	353	3.33		0.752
13	I help others to develop their strengths	106	319	3.01		0.697
			998	9.42		2.296
<i>Democratic</i>					2.45	
2	The best decision will be the one with the largest consensus	106	214	2.02		0.828
8	I welcome others to constantly challenge my ideas and strategies	106	336	3.17		0.878
14	I try to delegate as many tasks as possible in their complete entirety	106	228	2.15		1.031
			778	7.34		2.737
<i>Autocratic</i>					2.03	
3	I make decisions without consulting others due to time pressures upon the task at hand	106	167	1.58		0.904
9	I rarely back down when I am truly passionate about something	106	286	2.7		1.034
15	I need to push half of the people into completing work to a higher standard	106	193	1.82		0.984
			646	6.1		2.922
<i>Transactional</i>					2.58	
4	I make clear what one can expect to receive when performance goals are achieved	106	300	2.83		0.941
10	I provide recognition/rewards when others reach their goals	106	306	2.89		0.797
16	I keep track of all mistakes	106	213	2.01		1.065
			819	7.73		2.803
<i>Laissez faire</i>					1.22	
5	I avoid making decisions	106	56	0.53		0.771
11	Whatever others want to do is ok with me	106	135	1.27		0.911
17	I ask no more of others than what is absolute essential	106	197	1.86		0.97
			388	3.66		2.652
<i>Strategic</i>						
6	I tend to overcome barriers to reach goals	106	338	3.19	3.28	0.732
12	I'm good at finding practical solutions to problems	106	358	3.38		0.71
18	I have a clear focus on what we need to do as organization	106	348	3.28		0.778
			1,044	9.85		2.22

take the appropriate action, with the best interests of the business, the people and the planet in mind, strategic leaders motivate others to take the initiative to improve their input into the organization and encourage employees to best prepare the company for the future (Ireland and Hitt, 1999; Zaccaro, 1996).

The second leadership style to be rated was transformational with an average mean value of 3.14. This results also portrays a "fairly often" act by respondents who scored this style. A transformational leader creates a vision, empowers followers, develop a spirit of cooperation based around a leadership role model with high values to help others contribute to the organization acting as a change agent



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Figure 3.
Respondents
leadership style/
behaviour

(Northouse, 2010). The third prevailing leadership style was transactional with an average mean of 2.58 which is more closer to 3; “fairly often” behaviour. Transactional leaders tell others what to do in order to be rewarded and recognise their accomplishment (Bass and Steidlmeier, 1999). The least popular leadership style among intra-organizational leaders in UK construction organizations is the laissez-faire approach with an average mean of 1.22. The laissez-faire leadership require little of others, are content to let things ride and let others do their own thing (Antonakis *et al.*, 2003).

An analysis was carried out to determine the strength of the relationship among the variables (behavioural statements), based on correlation coefficients of the variables. Table III shows the correlation matrix table for the leadership style or behaviour variables/statements for SLQ questionnaire. The results show that correlation coefficient exists between some variable and no association also exists among other variable. This was because of the similarity and differences in the nature of the leadership styles these factors were addressing.

6. Conclusions

Leadership styles identified through literature and interviews included transformational, democratic, strategic, charismatic, transactional and laissez-faire leadership styles. Different leadership styles lead to different behavioural consequences and there is no style that is best in all situations. Leaders should, however, be flexible and match their style with each different situation. A strategic leader inspires others

Table III.
Correlation matrix
for the leadership
style or behaviour
factors

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 I go beyond self-interest for the good of the organization	1	0.044	0.07	0.17	-0.051	0.111	0.178	0.124	0.034	0.334**	-0.262**	0.225*	0.163	0.044	-0.017	-0.087	-0.099	0.156
2 The best decision will be the one with the largest consensus	0.044	1	-0.032	0.127	-0.14	0.224*	0.137	0.184	0.163	0.07	0.082	0.08	0.078	0.091	0.102	0.064	-0.01	-0.025
3 I make decisions without consulting others due to time pressures upon the task at hand	0.07	-0.032	1	-0.049	0.057	-0.08	-0.210*	-0.059	0.045	0.175	0.132	-0.073	0.142	0.107	0.184	-0.128	-0.076	0.044
4 I make clear what one can expect to receive when performance goals are achieved	0.17	0.127	-0.049	1	-0.315**	0.380**	0.335**	0.359**	0.176	0.369**	-0.095	0.343**	0.303**	0.111	0.02	0.138	0.107	0.392**
5 I avoid making decisions I tend to overcome barriers to reach goals	-0.051	-0.14	0.057	-0.315**	1	-0.269**	-0.105	-0.287**	-0.12	-0.054	0.063	-0.384**	-0.247*	-0.223*	-0.173	0.017	0.13	-0.391**
6 I consider the moral and ethical consequences of my decisions	0.111	0.224*	-0.08	0.380**	-0.269**	1	0.406**	0.368**	0.153	0.254**	0.039	0.325**	0.298**	0.017	0.187	0.102	0.13	0.295**
7 I welcome others to constantly challenge my ideas and strategies	0.178	0.137	-0.210*	0.335**	-0.105	0.406**	1	0.384**	0.097	0.287**	-0.276**	0.145	0.240*	0.084	-0.092	0.099	0.136	0.062
8 I rarely back down when I am truly passionate about something	0.124	0.184	-0.059	0.359**	-0.287**	0.368**	0.384**	1	0.202*	0.172	-0.081	0.121	0.159	0.073	0.126	0.152	-0.053	0.211*
9 I provide recognition/rewards when others reach their goals	0.034	0.163	0.045	0.176	-0.12	0.153	0.097	0.202*	1	0.212*	0.062	0.191*	0.195*	0.166	0.242*	0.079	0.099	0.202**
10	0.324**	0.07	0.175	0.369**	-0.054	0.254**	0.287**	0.172	0.212*	1	-0.181	0.270**	0.330**	0.025	-0.086	0.047	0.079	0.206**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
11 Whatever others want to do is ok with me	-0.262**	0.082	0.132	-0.095	0.063	0.039	-0.276**	-0.081	0.062	-0.181	1	-0.141	-0.154	0.022	0.068	-0.021	-0.007	-0.09
12 I'm good at finding practical solutions to problems	0.225*	0.08	-0.073	0.343**	-0.384**	0.325**	0.145	0.121	0.191*	0.270*	-0.141	1	0.430**	0.118	0.116	0.049	0.028	0.353**
13 I help others to develop their strengths	0.163	0.078	0.142	0.303**	-0.247*	0.298**	0.240*	0.159	0.195*	0.330**	-0.154	0.430**	1	0.238*	0.325**	0.053	0.185	0.381**
14 I try to delegate as many tasks as possible in their complete entirety	0.044	0.091	0.107	0.111	-0.223*	0.017	0.084	0.073	0.166	0.025	0.022	0.118	0.238*	1	0.333**	0.085	0.196*	0.12
15 I need to push half of the people into completing work to a higher standard	-0.017	0.102	0.184	0.02	-0.173	0.187	-0.092	0.126	0.242*	-0.086	0.068	0.116	0.325**	0.333**	1	0.103	0.225*	0.086
16 I keep track of all mistakes	-0.087	0.064	-0.128	0.138	0.017	0.102	0.069	0.152	0.079	0.047	-0.021	0.049	0.053	0.085	0.103	1	0.267**	0.06
17 I ask no more of others than what is absolute essential	-0.099	-0.01	-0.076	0.107	0.13	0.13	0.136	-0.053	0.069	0.079	-0.007	0.028	0.185	0.196*	0.225*	0.267**	1	-0.04
18 I have a clear focus on what we need to do as organization	0.156	-0.025	0.044	0.392**	-0.391**	0.295**	0.062	0.211*	0.202*	0.206*	-0.09	0.353**	0.381**	0.12	0.086	0.06	-0.04	1

Notes: **Correlation is significant at the 0.01 level, *0.05 levels (two-tailed), respectively

to take the appropriate action, with the best interests of the business, the people and the planet in mind. A transformational leader creates a vision, empower followers and develop a spirit of cooperation while transactional leaders tell others what to do in order to be rewarded and recognise their accomplishment. However, the laissez-faire leadership require little of others, are content to let things ride and let others do their own thing.

Intra-organizational leaders charged with the promotion of sustainable construction practices in the UK construction industry adopt different styles in their desire to embed sustainability practices in their organizations. However, the strategic leadership style was the most common style/behaviour among intra-organizational leaders promoting sustainability practices in the UK construction industry. The findings of this study could help organizational leaders who seek to promote sustainability practices adopt and shape their style of leadership in order to achieve the desired outcome. This paper therefore bridges the gap in literature on the link between leadership and sustainability in construction management research. The study also provides the bases for further research into the leadership style of sustainability professionals in the UK construction industry. A further investigation into the reason why intra-organizational leaders are describing their style as strategic and its effectiveness for the promotion of sustainability practices in the UK construction industry would be essential.

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About the authors

Dr Alex Opoku is a Senior Lecturer in Quantity Surveying at the Department of Built Environment, London South Bank University. Dr Alex Opoku is the corresponding author and can be contacted at: opokua@lsbu.ac.uk

Vian Ahmed is a Professor in the Built Environment, Director of Postgraduate Research Studies at the School of the Built Environment, University of Salford.

Dr Heather Cruickshank is a University Lecturer at the Centre for sustainable Development, University of Cambridge.

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