
“Managing with my Heart, Brain and Soul”: The Development of the Leadership Intelligence Questionnaire

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Abstract

A new Swedish leadership theory of “leadership intelligence” (Ronthy, 2006; 2013) is characterized by a work integrated learning approach. This theory arose from analysis of the experiences of managers trained in performance appraisals, and describes the balance between being a leader and being a manager. A leader develops and uses, in an integrative good balance, leadership intelligence, which comprises emotional intelligence, rational intelligence and spiritual intelligence. The aim of this study was to further develop the Leadership Intelligence Questionnaire (LIQ) created by Ronthy (which has been developed to measure leadership intelligence), and to examine its reliability. Over 400 leaders, aged 21 to 69 years completed the 71-item LIQ. A shorter, 32-item version of the LIQ was developed by confirmatory factor analysis thorough excluding psychometrically “poor” items. The internal consistency measured by Cronbach’s alpha was high ($> .80$), and we conclude that leadership intelligence may be reliably measured with both versions of the questionnaire. Future studies should examine the internal and external validity of the LIQ before its introduction into education or into managerial practice.

Keywords: emotional intelligence, intelligence, LIQ, leadership intelligence, rational intelligence, spiritual intelligence

INTRODUCTION

The study of work integrated learning concerns all forms of learning and development at work, such as learning processes, conditions, content and consequences for individuals in the workplace, and the change in processes that may occur in different types of business. Our university offers several programs related to the education of leaders (such as Human Factors or Human Resource Development and Labor Relation), and several research teams carry out research and development to study and advance professional development in the workplace. Intelligence is a research topic shared by several disciplines, such as educational science, informatics, and psychology. Many people experience so bad leadership at the workplace that they decide to move, and it is thus important to study leadership intelligence. This article presents a new Swedish theory of leadership intelligence developed by organizational psychologist Marika Ronthy (2006; 2013) within a context of other intelligence theories, and examines the reliability of a questionnaire that is believed to measure this quality.

Definition of Intelligence

The study of intelligence is highly relevant to exercising leadership skills, because it comprises an outer and an inner understanding of the employees. The word “intelligence” is *intellegentia* in Latin, and has its origin in *intellegere*, which means “to discern, comprehend”, or literally “to choose between” (*legere*: “to choose”). Definitions of intelligence include the ability to carry out abstract thought, understanding, self-awareness, communication, reasoning, learning, having emotional knowledge, retaining information, planning and problem solving. A typical definition of intelligence is: “a person’s ability to adapt to the environment and to learn from experience” (Sternberg & Detterman, 1986). Sternberg (2011) emphasizes that intelligence is measured not only by the levels of different abilities, such as analytical, creative or practical abilities, a person possesses, but also by “(1) the ability to achieve goals in life, given one’s sociocultural context, (2) by capitalizing on strengths and correcting or compensating for weakness (3) in order to adapt to, shape, and select environments (4) through a combination of analytical, creative, and practical abilities” (pp. 504-505). Sternberg underlined the importance of wisdom, and the importance of positive ethical values, “towards a common good” (p. 505).

Emotional intelligence. Emotional intelligence has been defined as “the ability to monitor one’s own and others’ emotions, to discriminate among them, and use to the information to guide one’s thinking and actions” (Salovey & Mayer, 1990, p. 189).

Emotional intelligence is a predictor of academic performance, job performance, negotiating skills, leadership, emotional labor, trust, work-family conflict, and stress

Gardner’s (1983) concept of intrapersonal intelligence comprises the awareness of emotions. Goleman’s (1995) book on emotional intelligence has been a best-seller. This book summarizes also the idea of Salovey and Mayer that emotional intelligence may contribute to increasing the

well-being of people's life and society. Emotional intelligence is a predictor of academic performance, job performance, negotiating skills, leadership, emotional labor, trust, work-family conflict, and stress (e.g., Ashkanasy & Daus, 2002; Fulmer & Barry, 2004; Humphrey, 2002; 2006; Humphrey, Pollack, & Hawver, 2008; Jordan, Ashkanasy, & Hartel, 2002). Mayer, Salovey, Caruso, and Cherkasskiy (2011) provide a historical overview, and describe measurement models and recent research in emotional intelligence. O'Boyle Jr., Humphrey, Pollack, Hawver, & Story (2011) have recently reviewed research in emotional intelligence in relation to job performance, and shown that all methods of measuring emotional intelligence predict job performance equally well.

Organizational spirituality. It has become popular in recent years to postulate the existence of organizational spirituality, and many organizations use this concept in order to improve employees' performances and organizational effectiveness (Karakas, 2010). "Spirituality" in organizations has been defined in about 70 different ways (such as "inner consciousness", "work feeling that energizes action", "self-enlightenment", "unique inner search for the fullest personal development through participation into transcendent mystery") (Karakas, p. 91). Zhurayleva-Todarello and More (2009) presented an evolutionary-frame perspective on the development of the construct of spirituality, and suggested that the origins of this construct are present in the longer evolution of organizational and management thought.

Spiritual intelligence. Zohar and Marshall (2000) describe spiritual intelligence as dealing with "What I am". It is the ability to access higher meanings, values and abiding purposes, and should be the ultimate component of intelligence in a visionary leader. Zohar and Marshall (2004) defined spiritual intelligence as "the intelligence with which

Spiritual intelligence is values driven, and enables us to understand people with very different points of view, sustain faith during challenging times, and recognize the voice of the "higher self"

we access our deepest meanings, values, purposes, and highest motivations" (p. 3), while Vaughan (2002) defined it as "a capacity for a deep understanding of existential questions and insight into multiple levels of consciousness. Spiritual intelligence also implies awareness of spirit as the ground of being or as the creative life force of evolution" (p. 19). She stated that "We rely on spiritual intelligence when we explore the meaning of questions such as 'Who am I?', 'Why am I here?', and 'What really matters?'" (p. 20).

Wiggleworth (2012) proposed that spiritual intelligence is "about how we behave and how we make decisions and act with other people and complex situations" (p.124); how to live one's life with a purpose. Spiritual intelligence is values driven, and enables us to understand people with very different points of view, sustain faith during challenging times, and recognize the voice of the "higher self". Wiggleworth believes that this kind of intelligence develops over time, and requires practice to develop. Zohar and Marshall (2004) described a set of principles (such as self-awareness, which they define as knowing what one believes in and what one's values are) that characterize spiritually

intelligent leadership. They suggested that spiritual intelligence makes people “whole” through a striving to achieve integrity. Spiritual intelligence allows one to hope and dream, to visualize, to connect to a purpose in life in order to seek meaning and a greater good by differentiating between good and evil. This involves asking fundamental questions. Lynton and Thøgersen (2009) found culturally specific techniques for reaching spiritual intelligence in western and Chinese leaders. Vaughan (2002) suggested that spiritual intelligence is related to emotional intelligence because “spiritual practice includes developing intrapersonal and interpersonal sensitivity” (p. 20). Spiritual intelligence is measured by self-reported scales, and research into the reliability and validity of such scales is at an early stage; the results have been presented in unpublished technical manuals and conference presentations to date, with one exception. The exception is a study of King, Mara and DeCicco (2012) that demonstrated a positive significant association between spiritual intelligence and two self-reported measures of emotional intelligence.

Ronthy’s Theory of Leadership Intelligence — the Three Kinds of Intelligence (Emotional, Rational and Spiritual) Viewed Together in a Good Balance between Being a Manager and Being a Leader

Ronthy’s theory of leadership intelligence (2006; 2013) has grown from her experiences in training more than 4,000 managers in how to conduct performance appraisals. The theory expresses a balance between being a leader and being a manager. It has been inspired to some extent by the concepts of intelligence described above. *Leadership intelligence* arises when one can manage one’s own and others’ emotions effectively (emotional intelligence), when one experiences a deeper desire and willingness to see the meaning of what one is doing (spiritual intelligence), and when one possesses advanced logical and analytical skills (rational intelligence). Spiritual intelligence belongs to the existential query field and answers the question “Why?”. A leader should possess all three intelligences and should be able to maintain them in an integrative good balance. Table 1 summarizes the model of leadership intelligence.

Table 1.

The three types of intelligence that form leadership intelligence

(Ronthy, 2006; 2013)

Kind of intelligence	Ability
Emotional (<i>how</i>)	<p>To acquire a good self-knowledge.</p> <p>To manage one’s emotions and those of others.</p> <p>To achieve empathy by using one’s heart.</p> <p>To manage relationships with others (social skills).</p> <p>To deal with relationships with others.</p> <p>To reflect the information of others’ emotions on their relationship with oneself (i.e. introspection of emotions).</p>
Rational (<i>what</i>)	<p>To apply logical and analytical skills.</p> <p>To achieve one’s goal, to solve the task, in other words, to determine <i>what</i> is to be done, mainly using one’s intellect, logical capacity and problem-solving skills.</p>
Spiritual (<i>why</i>)	<p>To deal with vision and positive ethical values.</p> <p>To find a sense of purpose and meaning at work.</p> <p>To discover context by taking a comprehensive view.</p> <p>To answer the question <i>why</i>, using one’s soul, in the process of adapting to, shaping and selecting from and within environments.</p> <p>To achieve self-awareness. (Self-awareness means more than “simply” self-knowledge.)</p>

Ronthy (2006; 2013) claims that managers today focus on *what* they have to do, and rarely on *why* or *how*. This means that they focus too much on the task, and too little on relationships with the coworkers and too little on the “relationship” within themselves (introspection of values and ethics). Ronthy visualizes the process of developing good leadership skills in a conceptual model, which she denotes “the comfort border” (a line that is visualized between rational intelligence on one hand, and emotional and spiritual intelligences on the other hand) (Ronthy, 2006). A manager can develop good leadership intelligence by crossing the comfort border. A leader who desires to maintain high-quality leadership faces a complex task of handling his or her own comfort border, and the comfort borders of others. It is a tempting easy way out to fail to cross the comfort border, and focus solely on the task, objectives and results (the “what” questions, Table 1). Further, this strategy does not require the investment of much time. A focus on the “why” and “how” questions, in contrast, may be time consuming, and sometimes complex, and requires higher levels of emotional intelligence and spiritual intelligence, according to Ronthy. A manager uses a lot of rational intelligence, which is necessary, but if one wants to include all the personnel in the organization and ensure that everything works when needed, it is necessary for the leader to possess both emotional and spiritual intelligence.

The Aim of This Study

The aim of this study was to further develop the Leadership Intelligence Questionnaire (LIQ) created by Ronthy (which is believed to measure leadership intelligence), and to examine its reliability. We have concentrated on developing a relatively short, practical, and reliable self-reported measure of leadership intelligence.

METHOD

Participants

Participants were 425 managers (33% men) in various positions (36% CEOs, 29% middle managers, and 35% other managers), aged 20 to 69 years ($M = 45$, $s = 9$), from service providers, local government, governmental agencies (such as prisons, municipalities, universities and other educational organizations), and industrial companies. The demographic variables of men and women did not differ significantly.

The Instrument

Leadership intelligence was measured using a self-reported questionnaire, the LIQ, created by Ronthy (2006; 2013). The majority (43) of the 71 items had been adopted and rewritten from an existing instrument, based mainly on the transformational leadership model (Bass, 1999), and validated in Sweden by Larsson (2006) and by Larsson, Carlstedt, J. Andersson, L. Andersson, Danielsson, A. Johansson, E. Johansson, and

Robertsson (2003) in a population of military managers. We believed that the items selected were appropriate (after rewriting), because, according to Bass (1999), transformational leaders “uplift the morale, motivation, and morals” of their coworkers (p. 9), and because such a style of leadership elevates the coworker’s “level of maturity and ideals as well as concerns for achievement, self-actualization, and the well-being of others, the organization, and the society” (p. 11). We believed that the items cover some aspects of leadership intelligence, as defined by Ronthy. The remaining 28 items were written for the LIQ by Ronthy (see Appendix). The 71 items of the scale measure (1) *emotional intelligence* (22 items), examined by such items as: “I demonstrate understanding of the needs of others”; (2) *rational intelligence* (18 items), such as: “I specify strategies to achieve the goals set”; and (3) *spiritual intelligence* (31 items), such as: “I demonstrate a moral approach”. Responses were given on a seven-point scale ranging from 1 (*Strongly disagree*) to 7 (*Fully agree*). Three items are reversed. The items are presented in randomized order.

Procedure

Visitors to the company website of the second author were invited to participate in the study by completing the questionnaire and providing some demographic data. They were told that the information was being collected within a scientific project, and would be used for research purposes. The first sub-sample of 121 managers comprised the second author’s personal social networks (colleagues, friends, participants taking further education in management, and other managers who had expressed interest in the instrument). Our aim was to administer the questionnaire to a sample that was sufficiently large to allow us to conduct a confirmatory factor analysis. Subsequently, replies from a further 185 managers, were collected via the same homepage. Replies from a further 125 managers who were participants in a study of managers taking further education in management were collected by the third author. Data from six persons who completed the questionnaire were excluded, because they stated that they were not managers.

Data Analysis and Statistics

We aimed to identify as low a number of items as possible for each domain of intelligence content, and used well-established methodology for this (Eysenck, 1958; Lewis, Francis, Shevlin, & Forrest, 2002). One latent factor for each domain was generated using Structural Equation Modelling (SEM) analysis. Confirmatory factor analysis (CFA), a SEM technique, was then carried out. Mplus (Muthén & Muthén, 1998-2010), with maximum-likelihood estimation, was used for the analyses. We considered items that met the following criteria across the sample to be candidates for the short version of the questionnaire: (a) loaded relatively strongly (defined as a loading factor greater than .50; McDonald, 1999; Tabachnick & Fidell, 2012) on the common “broad intelligence” factor (e.g., in order to include the “best” emotional intelligence items among the 22 items that most strongly measured the “broad emotional intelligence” factor and to justify

summing the items that were included to yield a total score for Emotional Intelligence); (b) had an estimated R squared of at least .25, indicating outstanding performance; and (c) were not synonymous (reworded) items (to increase the diversity of the content). Measures of internal consistency were computed for each intelligence measure from the Cronbach (1951) alpha reliability coefficient (for which values above .70 are generally considered acceptable). Homogeneity was determined by examining the mean inter-item correlations (for which values above .30 are generally considered acceptable (while some researchers (such as Briggs & Cheek, 1986) consider a value of .20 to be acceptable).

Ethics

All data collected during the study was obtained in compliance with general ethical regulations. The participants were informed of the ethical issues associated with the study (confidentiality, voluntary participation) before the study was carried out. This information was given in writing, and the participants gave their written consent that the results of the study may be used for research purposes.

RESULTS

Cronbach's alpha for the total 71-item LIQ was .93. Cronbach's alpha for the items related to the three types of intelligence were: (a) .86 for emotional intelligence; (b) .80 for rational intelligence; and (c) .87 for spiritual intelligence. The mean inter-item correlations for the three intelligences ranged between .19 and .25, which suggests that some items were not adequately correlated to the respective intelligence factor.

The short version of the LIQ was developed by excluding “poor” items from the long version. Table 2 (*next page*) presents the short version of the questionnaire, along with item statistics.

Table 2.

**Items and their estimated standardized factor loadings
in the short version of the LIQ**

Item No.	Emotional	Rational	Spiritual
Emotional intelligence			
2	.50		
5	.55		
6	.54		
9	.60		
10	.58		
12	.67		
13	.65		
14	.70		
15	.54		
19	.62		
21	.66		
22	.63		
Rational intelligence			
26		.55	
28		.60	
31		.62	
32		.59	
33		.68	
34		.59	
37		.55	
39		.58	
Spiritual intelligence			
43			.62
44			.55
45			.51
46			.53
49			.58
50			.50
51			.51
55			.59
56			.52
57			.51
59			.56
63			.60

The items are listed in the appendix.

Table 2 shows that the reliability estimates indicate high internal consistency, and that the numbers of items in the different kinds of intelligence are more balanced in the short version than in the full version. Cronbach's alpha for the total 32-item short-version LIQ was .92. Cronbach's alpha for the items related to the three types of intelligence were: (a) .87 for emotional intelligence; (b) .81 for rational intelligence; and (c) .84 for spiritual intelligence. The mean inter-item correlation coefficients were higher than those in the full version, ranging between .31 and .36.

DISCUSSION

The aim of this study was to further develop the LIQ and to examine its reliability. This instrument is based on a new leadership theory of “leadership intelligence”, characterized by a work integrated learning approach. We have shown that Ronthy's theory (Table 1) has some conceptual similarities with other theories with established definitions of intelligence, and with other, validated, theories of different kinds of intelligence. We have shown that the concept of leadership intelligence can be reliably measured by the LIQ. The questionnaire has high internal consistency and homogeneity, and is adequate for research purposes.

The Short Version of the LIQ

It is an established tradition in psychology to develop short versions of questionnaires (e.g., Lewis et al., 2002), and we have psychometrically developed the 32-item short version of the LIQ in the present study. We have concentrated on developing a relatively short, practical, and reliable self-reported measure of leadership intelligence, whose validity in industrial and applied workplaces can be examined in more detail. The short version is a reliable measure and has relatively high values of homogeneity. The number of items used to measure each of the types of intelligence is more balanced in the short form than in the full questionnaire.

Discussion of Method — Strength and Shortcomings of the Study

The strength of the work presented here is that we have applied an academic approach to examine empirically a theory that had been derived by a practitioner. This work is different from the huge body of non-science based management literature.

The study is subject to some limitations. We have shown that the questionnaire is reliable, but not that it is valid. This study could have been improved by measuring the cognitive abilities of the participants and relating these to their measured rational intelligence. Further studies should include already validated instruments of related concepts. We had, for example, no data from which we could estimate relationships among personality variables, nor to estimate cognitive ability and job performance. Intelligence is not related to personality. Ekegren (2011) has used the LIQ and shown that there are no significant correlations between scores obtained by the questionnaire and the majority of personality traits.

We have used only an objective self-reported questionnaire, which Ronthy had developed on the basis of a new theory. We have not used it in combination with peer-reported measures, nor with other ability-based measures (such as measures based on the “four branch” model of emotional intelligence, or measures based on “mixed models” of emotional competencies (Mayer et al., 2011; O’Boyle Jr. et al., 2011)). O’Boyle Jr. et al. have shown that the overall validity of emotional intelligence is good independently of the measures used, and this leads us to believe that the validity of our measure is also good.

We have not assessed the predictive validity of leadership intelligence. It is possible, however, that such a prediction would have been affected by range restriction (our study probably includes only very skillful persons, which may have led to low variance in the test scores, where almost all participants scored high) and by measurement error. Such an analysis, consequently, would require correction for both the restriction of range and measurement error (Guilford, 1950).

Another limitation is a possible risk of using a biased sample. The majority of participants have all indicated an interest in this way of defining leadership intelligence by voluntary visiting a certain home page. Others comprised participants taking further education in management. It is possible that this sample is not representative of managers. We don’t believe that this possible risk of a biased sample influenced our results, because reliability of the LIQ is high.

New Findings and What they Mean for Education and Practice

We believe that the theory and measure described in the present study can contribute to leadership research within a work integrated ideology. Working life is continuously changing, and education must also change. It is very important to integrate work-related experiences in the development of new theories, to examine these theories within research projects by allowing students to sample data in real environments, and to stimulate them in this way to critical reflection on the real conditions of working life. Students have already used the LIQ in work presented as B. Sc. and M. Sc. theses, and have investigated it using data collected in real environments. Students have also reflected on the relationship between their academic knowledge and reality (Bäckman & Ekegren, 2010; Ekegren, 2011; Frändesjö & Johansson, 2013; Gustafsson, & Ronæss, 2012). These studies have confirmed the findings presented here of the reliability of the LIQ. Preliminary validation results, using internationally validated instruments (Cliffordson, 2002; Dåderman & Basinska, 2013), are theoretically sound. A short, user-friendly and practical measure is now available to measure the emotional and social skills of leaders and managers, from which strategies to develop these properties can be proposed.

We believe that the theory and measure described in the present study can contribute to leadership research within a work integrated ideology.

Conclusion and Next Steps

This study is the first quantitative study to investigate the reliability of the LIQ. We conclude that leadership intelligence can be measured reliably with both the long and the short versions of the questionnaire, but more validation studies are needed in order to examine whether the intelligence concepts are one-dimensional or not. Future studies should examine the internal and external validity of the measure that has been developed, before it is implemented into education or into managerial practice with the aim of developing leaders. We recommend that the questionnaire is used for research purposes in order to examine its validity and factor structure in different populations and cultures.

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Appendix

*LEADERSHIP INTELLIGENCE QUESTIONNAIRE (LIQ)**

Emotional intelligence

1. I value feelings more than logic.
2. I find it easy to talk to people.
3. I am a person with many ideas.
4. I find it easy to socialise in any situation.
5. I demonstrate understanding of the needs of others.
6. I take the time to listen to my colleagues when this is necessary.
7. I always listen to the opinions of my colleagues.
8. I can interrupt a conversation in order to present my ideas (reversed).
9. I give constructive feedback to others.
10. I regularly provide feedback to my colleagues.
11. I can manage awkward people.
12. I create enthusiasm for a task.
13. I inspire others to be creative.
14. I make others feel significant.
15. I find it easy to make contact with people.
16. I always take action when something goes wrong.
17. I can disagree with others without being unpleasant.
18. I am flexible in my dealings with others.
19. I make others feel responsibility for the development of the group.
20. I can act in an insensitive manner (reversed).
21. I inspire others to try new ways of working.
22. I contribute to job satisfaction in the group.

* This questionnaire has been developed by Marika Ronthy, and translated into English by George Farrants. Requests for permission to use the questionnaire for research purposes should be addressed to Marika Ronthy, E-mail: m.ronthy@gmail.com

Rational intelligence

23. I value logic more than feelings.
24. I am a practical person.
25. I have expertise within my field.
26. I set measurable goals.
27. I keep up-to-date in my field.
28. I follow up how the goals of the operations are met.
29. I make sure that my colleagues are kept informed.
30. I reward only colleagues who carry out the tasks we have agreed on.
31. I structure operations in an effective manner.
32. I complete tasks that I start.
33. I always have a plan to achieve the goals set.
34. I specify strategies to achieve the goals set.
35. I accept only goals that are compatible with the operations.
36. I use our budget as an instrument to motivate my colleagues.
37. I always deliver on the schedule specified by the goals set.
38. I have difficulty in achieving my goals (reversed).
39. I always follow up agreements.
40. I can usually find a solution to problems that arise.

Spiritual intelligence

41. I can keep calm in stress-filled situations.
42. I am satisfied with myself.
43. I take responsibility for the operations, also when the going is tough.
44. I find it easy to promote others.
45. I am prepared to learn from my mistakes.
46. I am prepared to reconsider my thoughts and ideas.
47. I aspire to use long-term working methods.
48. I obtain inspiration from fields outside of my work.

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49. I enable colleagues to understand how the various parts of the organisation are related.
 50. I lead in an exemplary manner.
 51. I am receptive to feedback from others.
 52. I am aware of my strengths.
 53. I am aware of my weaknesses.
 54. I acknowledge my mistakes without trying to explain them away.
 55. I demonstrate an ethical approach.
 56. I demonstrate a moral approach.
 57. I act in accordance with my values.
 58. I always allow time for reflection before important decisions.
 59. I am a good example for my colleagues.
 60. I act in accordance with my opinions.
 61. I believe that I determine what happens in my life.
 62. I can balance my professional life and my private life.
 63. I encourage colleagues to understand how the company or organisation works in its entirety.
 64. I am prepared to fight for my opinions.
 65. I aspire to measurable beliefs that are part of the psychosocial work environment.
 66. I aspire to promote compassionate values as a component of success.
 67. I do not allow myself to be controlled by the opinion of the majority.
 68. I have the ability to see the whole picture.
 69. I encourage others to express their individuality.
 70. I listen to the opinions of all others and consider these before taking a decision.
 71. I contribute to the company or organisation that I belong to taking social responsibility.

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RICHARD PARSONS, Bleaneu Gwent County Borough Council, Great Britain
SILVANA DI BONO, Università Degli Studi di Palermo, Italy
ANTONIO BATTIPAGLIA, Istituto Professionale di Stato per i Servizi Alberghieri, Italy
JONAS JOCIUNAS, Kasiadorys Technology and Trade School, Lithuania
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MANUSCRIPT FORMAT

Research reports should contain the following:

- Statement of the Problem
- Introduction, review of relevant literature, context for inquiry
- Description and justification for methodology employed
- Description of research finding
- Discussion of the finds, implications for practitioners
- Conclusion and suggestions for further research

Theory/practice manuscripts should contain the following:

- Statement of the topic or issue to be discussed
- Reference to relevant literature
- Discussion to include development of argument/examples of practice
- Implications for practitioners
- Conclusion and next steps

Final manuscripts must include:

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- Total length should be approximately 3,000 but no more than 5,000 words.
- Keywords, 5 to 10, listed alphabetically

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- Literature Review: Does the manuscript provide a discussion of recent literature?
- Research Methodology (as appropriate): Does paper employ the appropriate design and accurate analysis of the data that is sound and supported?
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