1st International Conference on Sustainable Infrastructural Development
IOP Publishing
IOP Conf. Series: Materials Science and Engineering 640 (2019) 012018
doi:10.1088/1757-899X/640/1/012018

Mapping out research focus for emotional intelligence in human resource management in the construction industry

L Ngwenya, C Aigbavboa and W Thwala
SARChi in Sustainable Construction Management and Leadership in the Built Environment, Faculty of Engineering and the Built Environment, University of Johannesburg
Email: leraton@uj.ac.za

Abstract. Emotional intelligence (EI) plays a significant role in the delivery of better performance by individuals and organisations. Evidence of its influence can be seen in different human resource management (HRM) activities. However, despite this significant relationship between EI and HRM practices, less emphasis has been placed on this within the construction industry. The few available studies on EI within the industry has placed focused on general issues. This study, therefore, through a review of previous studies mapped out the key area of focus in terms of EI on organisations HRM. Published journal articles and conference proceedings were sourced from ISI Web of Science database. The search of literature was done using keywords such as “Emotional intelligence” AND “human resource management”, with no restriction placed on the publication year or domain of the research. Only articles published in English language were extracted. A total of 70 articles were extracted and analysis were done based on the year of publication, country, and co-occurrence of keywords. The findings of the study revealed that 2017 experienced that highest amount of publications in this area, most of which emanated from the United States. The findings revealed the key area of focus in terms of EI on organisations HRM. Based on the findings, conclusions were drawn, and recommendations made thereof.

1. Introduction
The construction industry relies majorly on human resources to survive. While capital and materials are equally significant for successful project delivery, human resources serve as the “engine room” that brings these other resources into good use. Oke et al. [1] and Schmidt and Hunter [2] have noted that since the construction industry is project-based, a large number of human resources is needed in the quest to deliver successful projects. It is, therefore, important to carefully manage these human resources in order to attain successful service delivery within the construction industry. Studies have recognised the importance of HRM in nurturing and improving employee’s performance and creativity [3]. Through this improvement, employees that are creative in their thinking and innovative in their ideas are cultivated. In the long run, organisations tend to benefit more, as employees that are ingenious thinkers can create a significant competitive advantage for their organisations, by providing quick and positive responses to challenges [4]. However, to achieve this feat, HRM practitioners within organisations need to examine the use of diverse psychological resources. One of such resources is Emotional Intelligence (EI) which has gained significant attention in both the mainstream culture and business community since its re-introduction by Goleman in 1995 [5]. In fact, Joseph et al. [6] have stated that EI “is currently
considered a widely accepted practitioner tool for hiring, training, leadership development, and team building by the business community”.

Erkutlu and Chafra [7] and Cherry [8] observed that EI has gained popularity due to the realisation that intelligence quotient (IQ) (which has been the only monolithic type of intelligence in the past), is not sufficient to determine project performance and success. However, through the combination of IQ with EI, the performance of projects can be improved and project success can be attained. According to Porter [9], EI is fast growing and has the capability to examine human behaviour which is believed to be identified through achievement, fulfillment, passionate wellbeing, and modification. Goleman [10] described EI as the “limit for perceiving our own feelings and those of others, for motivating ourselves, and for overseeing feelings well in ourselves and in our relationships”. It can, therefore, be said that EI deals with the personal and behavioural attributes of individuals within an organisation that enables them to meet acceptable standards in terms of performance [11].

Despite understanding the fact that EI plays a crucial role in the attainment of improved performance [12], studies on the assessment of EI on HRM practices within organisations (construction in particular) are few. Darvishmotevali et al. [13] noted that while there is a pressing need to understand the correlation that exists between employee creativity and EI, there is a paucity of research in this area. Similarly, in construction, where human resources play a significant role, and their development is important, the assessment of EI in relation to HRM activities in the quest for better performance of construction organisations is almost none existence [14]. The handful available studies places emphases on peripheral and broad issues such as the role of EI in construction industry [12; 14; 15; 16; 17] challenges of EI [1], and the benefits of EI within the construction industry [11]. Some have even placed focus on construction education by measuring EI of construction students [18]. This shortcoming in research in terms of EI within the HRM context in construction has necessitated the need for a study to identify and map out key research areas that can be explored and that can help improve HRM within construction through EI.

2. Literature Review
The world today is not static. Most organisations operate in an ever-changing environment which is challenging and demanding for both the organisations and the workers within them [19]. As a result of these rapid changes, it is believed that the well-being of the organisations and their workers is at risk [20]. This poses a great challenge to HRM within these organisations. This is because the dynamic environment within which most organisations operate places significant strain on them to deliver services successfully, while at the same time trying to create a healthy workplace for employees to function effectively [21]. Therefore, in a bid to respond to these rapid changes and high demand from the business environment, organisations tend to employ workers with the capability to excel in this ever-changing and demanding environment, and who can contribute significantly to the expected well-being of the organisation [22]. Also, Human resource policies and practices are implemented to motivate employees and improve their performance [23]. In light of this, HRM has been described as the process of attracting and retaining employees in an organisation through creating opportunities for advancement and ensuring that the knowledge gained is utilised effectively within the organisation for the well-being of the organisation [24]. Oke et al. [25] further described HRM as “the process of utilising individuals, building up their capacities, using, keeping up and repaying their effort which is turned into activity at the organisational prerequisite”. In a bid to achieve these organisations prerequisite through effective management of the human resources, the HRM participants of the organisations strives to determine both the critical physical and psychological resources that might help ensure that positive workers and organisation’s well-being are achieved [21; 22]. One of such critical psychological resources is EI.

Riggio and Reichard [26] submitted that the initial purpose of EI was to understand people and how they deal with their emotions. However, over time, the concept of EI has transcended from just understanding how people deal with their own emotions, to how they perceive others emotion and react to them. This is affirmed by Salovey and Mayer’s [27] earlier description of EI as a concept which involves an individual’s ability to consider his/her own emotions as well as that of others around them, and at the same time, being able to discern between these different emotions and use them to make
informed decisions in regards to their thoughts and actions. In an attempt to simplify the understanding of EI, Mayer and Salovey [28] described it as an individual’s ability to “understand their own and others’ emotions, apply emotions for cognitive facilitation, perceive emotional information, and control their own and others’ emotions”. This definition emanated from the “four branch model” designed to help simplify the concept of EI. In the submissions of Wong and Law [29], EI involves the ability to self-evaluate one’s emotions, evaluate the emotion of others, adjust one’s emotions, and at the same time use one’s emotions effectively. In a simpler term, Siarouchi et al. [30] described EI as the ability to detect and express emotions and thoughts in the exact manner in which they occur. Hakkak et al. [31] concluded that emotions entail critically examining both the negative and positive sides of a situation in a bid to proffer the most suitable solutions to a complicated problem. However, EI is the awareness of an individual’s emotions and that of others, the ability to control the diverse emotions one feels, and at the same time express sympathy for others.

Mattingly and Kraiger [5] noted that practitioners involved in HRM within organisations have come to the realisation that emphasis needs to be placed on the selection and training of employees with high EI. This realisation is not unconnected with the inherent benefits EI proposes for organisations. Wong and Law [29] observed that EI is significant in predicting work performance outcomes. Vratsikih et al. [32] have also noted that some job-related attitudes exhibited by workers emanate from their EI. Some of these job-related attitudes include job satisfaction, safety behaviour, and readiness to identify with the organisation, and diverse workplace attitudes. Similarly, work related outcomes such as profitability, organisational performance, innovations, and creativity of workers have been observed to be influenced by EI [13; 32; 33]. Recognising the need for research that shed light on the impact of EI on employee’s creativity, Darvishmotevali et al. [13] examined the effect of EI on frontline employees’ creativity through the use of a quantitative approach. The study sort responses from frontline workers from four-star, and five-star hotels in North Cyprus. It was discovered that an employee’s creativity is positively affected by EI. Hakkak et al. [31] investigated the influence of EI on the social-mental factors of workers’ productivity in Banks in Iran using the Bar-On model with some identified social-mental factors. The study discovered that there is a positive effect of EI on social-mental factors of workers’ productivity. Rahimi and Rostami [34] also assessed the effect of EI on job engagement and organisational performance within the banking sector. Through a quantitative survey, the study was able to deduce that EI has a positive and significant influence on job engagement and organisational performance. Adigüzel and Kuloğl [23] conducted a study on the effects of EI and authentic leadership on employees in Jordan, and discovered that EI has a positive and significant effect on “organisational identity of employees, the goal-oriented performance, and emotional commitment between individuals and in the organisation in general”. Oke et al. [11] have observed that by taking EI into consideration, communication, leadership skills, and thinking skills of project participants can be improved.

According to Dulaimi and Langford [35] that the goal of the construction industry which is to improve performance continuously can be derived through a proper understanding of the industry’s main resources (the human resources). However, it has been observed that human interaction is filled with emotional content. If these emotions are not given proper consideration, they might pose serious problems for construction organisations [15; 36; 37]. The onus is therefore on construction organisations’ HRM units to give attention to the EI of their workforce in a bid to achieve better individual and organisational performance. Considering the shortfall in research attention regarding EI and HRM practices with the construction domain, the study of a research focus in this area was deemed necessary.

3. Research Methodology
In mapping out and understanding the different areas of concentration of EI in HRM, studies relating EI to HRM practices were examined. These literatures were identified through a search of the ISI Web of Science database with a view to mapping out knowledge areas through the identification of distinct research patterns. Most review studies within the science domain have a concentrated search of review materials from either the Scopus database or the ISI Web of Science database [38]. However, Olawumi et al. [39] noted that there is no clear distinction between both databases as they are considered to be the
two major science research databases, and there exists considerable overlap in their records. Published journal articles and conference proceedings on EI in HRM were searched for within the ISI Web of Science database. Zheng et al. [40] has earlier noted that articles from journals are considered more reliable sources of knowledge and are believed to be detailed in the delivery of information. Webster and Watson [41] have also noted the importance of conference proceedings to the body of knowledge. It is based on these submissions that this study focused on journal articles and conference proceedings as sources of information. The search of the literature was done using keywords such as “Emotional intelligence” AND “human resource management”. Concentration was placed on all articles written within these areas without any restriction on their year of publication. English language was selected as the language for extracted materials. A total of 70 articles were extracted based on these search criteria. Based on the extraction, analysis of articles base on the year of publication, country, and co-occurrence of keywords was done. Also, a co-occurrence map was developed using VOSviewer which is a literature review software which offers the basic functionality needed for visualising bibliometric networks in the easiest way possible [42].

4. Findings and Discussion

Result in Figure 1 shows that significant studies on EI in relations to HRM only started emanating from 2011 where 5 publications were evident. However, 2012 and 2014 experienced a decline in publications with 4 and 3 publications recorded for both years. A significant rise in the number of publications can be seen in 2016, 2017 and 2018 with 2016 having a double number of what was experienced in 2015. Only 1 publication has been recorded so far for 2019. Thus, it can be said that the awareness of the role of EI on HRM practices became evident among researchers from 2016.

![Figure 1. Publications per year](image)

Result in Table 1 shows the number of publications per country. It is imperative to note that due to co-authorship from different countries, the number of publications per country is increased to 74. Also, due to the possibility of a country appearing on the list as a result of co-authorship, only countries with at least 2 publications were considered relevant for discussion as seen on the table. The result reveals that a significant study on EI in HRM has been carried out in the United States of America (USA) with 21 recorded articles. Similarly, USA has the highest number of citations (920). This shows that studies from the country are actually making an impact within the academic community. Next to the USA is Australia 7 publications and 260 citations, Spain 7 publications and 18 citations, China 6 publications and 44 citations, Iran 5 publications with 0 citations, and India with 4 publications with 3 citations. Looking at the number of citations per country, it can be said that studies from developed countries (USA, Australia,
Canada, and China) are considered more reliable and are cited more than those from developing countries. It is important to add at this stage while studies are emanating from other continents around the world, the only African country with at least 2 publications is South Africa. This shows that there exists a significant research gap within Africa that can be explored in the area of EI and HRM.

| Country    | Number of publications | Number of citations |
|------------|------------------------|---------------------|
| USA        | 21                     | 920                 |
| Australia  | 7                      | 260                 |
| Spain      | 7                      | 18                  |
| China      | 6                      | 44                  |
| Iran       | 5                      | 0                   |
| India      | 4                      | 3                   |
| England    | 3                      | 13                  |
| South Korea| 3                      | 23                  |
| Italy      | 3                      | 7                   |
| Malaysia   | 3                      | 0                   |
| Germany    | 2                      | 2                   |
| Canada     | 2                      | 45                  |
| Mexico     | 2                      | 0                   |
| Portugal   | 2                      | 9                   |
| Russia     | 2                      | 0                   |
| South Africa| 2                    | 5                   |

The result in Table 2 shows the article source of each extracted publication. The 70 extracted articles were extracted from 63 different articles sources. However, out of these 63 sources, only 6 had at least 2 articles published on EI and HRM as seen on the table. Top on the list is the 3 articles is the Human Resource Management Review journal published by Elsevier. It is pertinent to note at this stage that while these journals are the prominent journals publishing on EI and HRM related issues, care must be taken in generalising this result as there lies the possibility of other journals publishing in these areas but are not indexed in the ISI Web of Science database.

| Article Source                              | Number of publications |
|---------------------------------------------|------------------------|
| Human Resource Management Review            | 3                      |
| Academy of Management Executives           | 2                      |
| Human Resource Management                   | 2                      |
| African Journal of Business Management      | 2                      |
| Journal of Information and Knowledge Management | 2                  |
| International Journal of Organisation Analysis | 2                  |

In the analysing the key areas of research focus, the authors and indexed keywords were analysed using VOSviewer. The minimum number of co-occurrence of keywords was set at 4, and full counting was used. This means that only keywords that appear at least 4 times in either the author keywords or the source keywords were extracted. Analysis revealed a total of 461 Keywords for all extracted publications. However, only 29 keywords met the set threshold. These 29 keywords were further grouped into 4 clusters. Figure 2 shows the network visualisation map for the 29 co-occurring keyword and their 4 different clusters.
A. Cluster 1 – EI in relation to individuals and organisation’s HRM

The first cluster has 10 keywords loading on it and they can be found in the red region of the visualisation map. These keywords are intelligence, personality, self-efficacy, management, knowledge, satisfaction, model, human resources, and human resource management. These keywords can be seen as studies on EI in relation to individuals and organisation’s HRM. The role of EI in creating some level of self-cautiousness in terms of one’s emotions and that of others have been retreated in past studies. Mayer et al. [43] observed that EI can be seen “as a measure of a person’s perception of their own emotions, and how they use, understand, and manage their emotions to enhance their personal growth and social relations”. Based on this description, it is clear that EI is geared towards improving the intelligence of one’s emotions as well as their personality. Thus, it is not surprising to see studies focusing on EI in relation to an individual’s personality and growth. Within an organisation context, Othman et al. [24] have earlier noted that HRM involves attracting and retaining employees in an organisation through creating opportunities for advancement and ensuring that knowledge gained is managed effectively. In light of this, to effectively manage this knowledge gained, and attain high standard management of human resources, researches are now focusing on psychological resources such as EI that might help ensure that positive workers and organisation’s well-being are achieved [20; 21]. Thus, if construction projects are to be delivered successfully through emotionally intelligent human resources, assessing the influence of EI on HRM practices with construction organisations is imperative. This will give guidelines as to areas that need improvement.

B. Cluster 2 – EI in organisational leadership and performance

This cluster can be found in the green region of the map. It has 9 keywords loading on it, and they are emotional intelligence, leadership, transformational leadership, leadership behaviour, impact, firm performance, organisational performance, human resource management, and knowledge sharing. Based on the latent similarity of these keywords, these cluster is described as studies related to EI in organisational leadership and performance. George [44] have noted that over the years, leadership has continued to be a hot top in most organisational sciences studies. This is because it plays a significant role in the successful delivery of services within organisations. Vierimaa [45] studied EI in project leadership using an explorative qualitative research design conducted among selected project managers. The findings of the study revealed that while most of the EI concepts can be found within the project management practices, more needs to be done in terms of project managers’ emotional self-awareness and self-management. It is believed that assessment of leadership within organisations has transcend the usual managerial perception which is usually being followed. More emphases are now being placed on the human behaviour aspect of leaders [45; 46]. In fact, James et al. [47] have earlier stated that “studies have supported the construct of EI in the context of leadership and workplace performance”. The study of Adigüzel and Kuloğl [23] revealed that EI and authentic leadership has a positive and significant effect on the way and manner employees identify with their organisation, their performance, and the emotional commitment between individuals and in the organisation in general. Oke et al. [11] also pointed out that EI has the ability to significantly increase the leadership skills of management within an organisation or on a given project. This is a pointer to the fact that the role of EI in attaining effective leadership and increasing organisational performance cannot be overemphasised. Assessing the role of EI on the leadership system within construction organisation is therefore important for the successful delivery of these organisations services and overall construction organisation performance.

C. Cluster 3 – EI in Employee’s wellbeing and performance

The third cluster has 7 keywords loading on it and can be found in the blue section of the map. The key words here are work, job satisfaction, performance, organisational commitment, consequences, burnout, and antecedent. Looking at the latent similarity of these keywords, these cluster is described as studies relating to EI in Employee’s wellbeing and their performance. James et al. [47] noted that the relationships between EI and workers well-being have gained significant research attention. Focus has been placed on the measurement of physical, mental, and social-emotional criteria. Zeidner et al. [48] observed a positive correlation between the different measures of EI and measures of psychological
well-being. Rahimi and Rostami [34] have also stated that EI has a positive and significant influence on job engagement of employees. Similarly, Hakkak et al. [31] have earlier submitted that EI positively influences the social-mental factors of workers productivity. Thus, if construction organisations are to improve their service delivery through the effective management of their human resources, HRM must place focus on the EI of workers and how it can affect their wellbeing and performance. Through this, a more creative workforce can be developed, and better competitive advantage can be derived by these organisations as observed by (Jafri et al., 2016). Similarly, work-related outcomes such as profitability, organisational performance, innovations, and creativity of workers can be improved upon as these areas are significantly influenced by EI [13; 32; 33].

D. Cluster4 – Meta-analysis of EI in organisations

The last cluster has only 3 keywords which is indicated in yellow and the keywords are meta-analysis, organisations, and behaviours. Most EI researches adopt the use of meta-analytic investigation to determine the effect of EI on specific organisation issues. Joseph et al. [6] in a quest to understand why self-reported EI predicts job performance, adopted a meta-analytic approach to investigate mixed EI. In the same vein, Mattingly and Kraiger [5] adopted a meta-analytic approach to ascertain the ability of EI of employees to be trained. Ferrar [49] described meta-analysis as the core of systematic review. The study went further to define meta-analysis as a method used “to combine the results of a number of different reports into one report to create a single, more precise estimate of an effect”. Hoffman [50] noted that meta-analysis gives researcher significant advantages such as allowing them to gather data from many studies which individually will not give significant and valuable conclusions. Thus, since EI exist in different domains and industries, assessing the likely effect of EI on HRM practices within the construction industry can be done through a systematic review of these studies from other domains. A meta-analysis can then be conducted on the result of these studies in order to understand the effect size of EI on divers HRM related practices within construction organisations.

![Visualisation Map for Co-occurring keywords](image-url)

**Figure 2.** Visualisation Map for Co-occurring keywords
5. Conclusion
The role of EI in the delivery of better performance by individuals and organisations has been observed in past studies. Its influence in diverse HRM related activities has also been explored in researches from different domains. However, less emphasis is placed on this within the construction industry. The few available studies on EI within the industry has placed focused on generic issues. Considering the importance of human resources to the successful delivery of the construction industry’s services, it is important to assess different areas in HRM wherein assessment of EI can prove helpful. It is based on this notion that this study, through a review of previous studies mapped out the key research focus in terms of EI on organisations HRM. The findings of the study revealed that 2017 experienced that highest amount of publications in this area, most of which emanated from the United States. The key areas wherein EI plays a significant role in HRM are EI in relation to individuals and organisation’s HRM, EI in organisational leadership and performance, EI in employee’s wellbeing and performance, and meta-analysis of EI in specific organisation issues.

The implication of this study is that instead of focusing on EI and HRM as two distinct entities, studies within the construction domain can help improve HRM of construction organisations by focusing on the influence of EI on specific HRM practices. By doing this, organisational leadership and performance can improve, and the influence of EI of construction workers on their wellbeing and performance can be understood. While this study contributes to the body of knowledge on EI by revealing possible areas of focus for construction researches, care must be taken in generalising its result as the studies used were gathered from ISI web of science database. Although it is believed that significant overlap exists between this database and some others such as Scopus, further study may be carried out using other databases to compare results.

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