1	An Assessment of Factors influencing Collaboration
2	and Impacts on Organisational Performance: A
3	Review
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14 Abstract. Poor organisational performance is partly attributed to lack of 15 collaboration within an organisation. Therefore, this paper sought to establish the 16 factors that influence collaboration and the impact of collaboration on 17 organisational performance. A literature review was conducted to achieve the 18 objectives of the study. Literature from Google Scholar, Emerald, and Science 19 Direct were used, based on the keywords relevant to the study. The materials 20 consulted included journals and conference proceedings. Thematic content 21 analysis was used to identify factors that influence collaboration in an 22 organisation. The findings revealed that collaborative leadership, collaborative 23 culture, attributes of partners, strategic and external environment factors 24 influence collaboration. Further findings revealed that collaboration could 25 influence an organisation's performance in terms of knowledge creation an 26 transfer, innovativeness, ability to leverage resources to achieve maximum 27 benefits, as well as competitive advantage. This study provides knowledge on 28 which factors influence collaboration in order improve the quality or extent of 29 collaboration in an organisation. By understanding the factors of collaboration, 30 which in turn influence organisational performance, strategies can be developed 31 to encourage collaboration and thus performance, by the stakeholders and 32 managers. 33

Keywords: Collaboration, Organisations, Performance, Success

#### 35 **1** Introduction

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The construction industry all over the world contributes to more than 10% of the world's economy [1]. Often, the construction industry is utilised by government to stimulate growth toward the economy since it is a prime indicator of economic activity 39 [2]. With construction being the prime economic activity, it is crucial that construction 40 projects become successful. However, performance in the construction industry has 41 been poor due to poor communication and poor exchange of information and 42 knowledge amongst project participants or project team [3]. This is as a result of lack 43 of or inadequate collaboration among the project teams.

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45 Collaboration has been described as "shared accountability between individuals, 46 some interdependence between individuals and clarity of roles/goals" [4]. In this arrangement, team tasks were regarded as generally a little more predictable, less urgent 47 48 and complex. When done right, collaboration can improve productivity and 49 profitability, increase innovation, and result in a cost reduction [5]. Collaboration can be beneficial for all stakeholders during the process of a project in order to improve 50 51 organisational performance and to be a long-term relationship and to also create value 52 [6], [7].

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54 Previous similar studies revealed that the functioning and knowledge sharing of the 55 collaboration team is relied has a direct effect on the quality and inter-instituted 56 collaboration and team performance [8]. It is further stated that the collaboration attitude, culture behind each individual and competence reflects the team performance 57 involved in the project [9]. Collaboration has characteristics and attributes contribute 58 59 to quality improvement and performance in an organisation. Other case studies conducted by [10], [11] and [12] in Hong Kong, United States of America (USA) and 60 in the United Kingdom (UK), respectively, posited that collaboration increases the 61 62 chances of a construction project being completed on time, at the budgeted cost, with the quality satisfaction from the client, with the least amounts of conflicts, a better 63 64 relationship with the client and less defects claimed. However, the current study sought to identify the factors of collaboration using a literature review. 65

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The current study's objectives were therefore to identify factors that influence collaboration and in turn, organisational performance. The methods used in conducting the review are presented briefly in the subsequent section. Thereafter, the information distilled from the review is presented. Conclusions drawn from the findings are subsequently presented.

## 72 2 Methods

73 The current paper is part of an on-going Master's study. It presents findings from a 74 literature review stage. Therefore, a desktop study approach was used to conduct the 75 current study in order to identify common themes from existing studies, on the factors that influence collaboration in construction organisations and projects. Materials were 76 77 sought from databases including Science Direct, Google Scholar, Emerald Insight and Google. The materials used included journal articles and conference papers. The 78 79 materials were used based on the possession of the keywords relevant to the study 80 including collaboration, construction, teamwork, organisational performance and 81 project performance. Thematic content analysis was used to identify themes on the 82 factors which influence collaboration and the impact of collaboration on organizational 83 performance. The framework of factors developed will be tested using quantitative data 84 in an on-going second phase of the study, in order to validate the framework of factors 85 and test hypothesised relationships. The current paper presents findings from the 86 review.

# 3. Factors influencing Collaboration

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90 Numerous factors influence the development and success of collaboration in any 91 industry aimed at improving organisational and project performance. [13] identified 92 factors such as the environment, strategy, size of the organisation, technology and how 93 it is improving, age of the participants and their cultural background. Other studies 94 identified strategic factors, external environment; attributes of the partners, 95 collaborative leadership and culture as collaboration influencers.

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### **3.1** Strategic factors

98 Strategic factors affecting collaboration may include setting goals that are clear for 99 supplementary purposes [14], [15]; the regulation of distributing results for 100 collaboration in order to prevent important information from leaking out before time 101 [16]; methods of resolving common problems before resorting to harsh methods that 102 involve domination, arbitration or persuasion; governance in order to clarify role of 103 each individual in the collaboration and governance in defining how performance will 104 be measured amongst the main agents [17], [18].

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### 3.2 External environment

107 The external environment incorporates three factors including IT capacity and 108 integration and information system [17]; similar geographic locations of the partners, 109 which affect collaboration positively when they are closer to each other and the 110 management of knowledge, including the management of assets [17].

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### 112 **3.3** Attributes of the partners

113 The attributes of partners or team members influence their level of collaboration. Such 114 attributes include technological ability where they are able to develop and innovate new 115 technology [17]; complementarities where partners can complement one another's 116 technological abilities, experience in collaboration; diversity in gender, age, and 117 education levels, knowledge absorption and integration of new knowledge [19], [20].

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### 119 **3.4 Collaborative leadership**

Collaborative leadership influences collaboration in an entity. Effective leadership
brings about competitive advantage [21]. The traditional form of leadership mostly

122 consists of power, hierarchical, command and control structure. An organisation 123 requires leadership skills in a hierarchical model from top down; however, that 124 approach and model of leadership is no longer enough [22]. With collaboration being 125 about bringing individuals together with a shared goal to address shared concerns of 126 the organisation, there must be a collaborative leader that is employed in almost any 127 situation. Therefore, collaborative leadership involves the process of engaging 128 collectively in order to achieve common goals [21]. It is "the process of engaging 129 collective intelligence to deliver results across organisational boundaries when ordinary 130 mechanisms of control are absent" [21]. Intellectual individuals gathered together are 131 more smart, and creative, and believe that power is greatest in collective team. This 132 encourages suggestions and ideas from the team, allows roles and responsibilities to 133 evolve and fluctuate, and offer ongoing and immediate feedback with personalised 134 coaching [21].

#### 135 **3.5.** Collaborative culture

136 Collaborative culture between the partners is to be fair in order to overcome differences 137 quicker. Confidence in perceiving the partners' honesty, believing that information is 138 to remain within the organisation and believing in the collaboration to be of a positive 139 effect influence the extent of collaboration in an entity [23], [24], [25], [26]. Further, 140 immersion in forming a long term relationship and investing in a good collaborative 141 relationship as well as communication to allow information flow, participation, 142 exchanging of information, and mutual communication determines the level of 143 collaboration among partners and culture in an organisation [17], [26].

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#### **3.6** Political factors

146 Political influences have great potential outcome on collaboration due to organisations 147 being able to increase the amount of certainty and have a certain degree of 148 organisational influence [27]. For example, stakeholders that are more powerful in the 149 organisation collaborate with the 'weaker' individuals together in order for the 150 stakeholders to have control over what they do; while the stakeholders also collaborate 151 amongst themselves in order to prevent opponents from reconditioning the domain in 152 which they work in [28]. A political perspective on inter-organisational collaboration 153 is said to have an advantage due to it being a tool also for acquisition of power and 154 influence [29].

In summary, the above factors, strategic, political, external environment, leadership and
culture, influence collaboration in an organisation, which in turn affect an organisation
in one way or another.

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### 159 4. Effects of Collaboration on Organisational Performance

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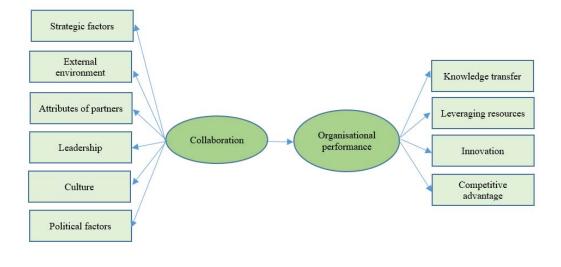
161 There is a wide variety of literature that has been studied all over the world, each of 162 which is written about the different effects of collaboration on knowledge creation and 163 organisational performance creation [27], [30]. Collaboration is about working together 164 with partners or stakeholders in order to leverage all kinds of resources and provide 165 maximum benefits [31]. In addition, one of the most crucial effects of collaboration is 166 its potential to build an organisation capacity through the transfer of knowledge [27]. 167 Collaboration is about learning from each other or your partners whereas it is used as a 168 necessary tool that creates transfer of organisational or individual knowledge [27]. 169 Amongst the context of a community or organisation is where the process of knowledge 170 creation occurs. Not only can the transfer of knowledge exist from one organisation to 171 another, through collaboration, new knowledge is able to be created and transferred 172 within an organisation [32].

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174 Knowledge exchange has been found to be the fundamental role of what people in 175 collaboration are supposed to be doing [33]. According to [34], the central position of 176 the concept of collaboration is taken by knowledge exchange. An industry of 177 knowledge intensity, such as construction, requires different combinations of 178 knowledge sharing for innovation [35]. This suggests that knowledge creation is related 179 to innovativeness in an organisation. These views are shared by [36] and [36] who 180 viewed that in order for industries to innovate, there should be combinations of 181 knowledge sharing. Since knowledge exchange spans throughout all the project phases, 182 it provides a continuous assessment and improves the quality of collaboration.

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184 In summary, the literature synthesis presented above revealed that the extent of 185 collaboration in an organization could depend on certain factors. The concept of a 186 collaborative structure leads to critical thinking and with disposition such as habit, 187 desire to be well-informed, a readiness to seek reason, inquisitiveness and flexibility, 188 better collaborators are borne [37], [38]. Further, culture, leadership, and strategic and 189 external environment factors including geographic locations, knowledge and asset 190 management were observed to influence the level of collaboration in an organisation. 191 It was therefore hypothesized that these factors influence the degree of collaboration 192 which in turn influences organizational performance. These relationships are depicted 193 in the Figure 1. The framework, which is not exhaustive at this stage of the Master's 194 study, will be further developed and tested in the quantitative research. 195



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Figure 1. Hypothesized relationships between collaboration and organizational performance.

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## 203 **5.** Conclusion

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205 The study sought to identify the factors that influence collaboration. As a smaller part 206 of a wider study being conducted on the impact of collaboration on organisational 207 performance, key concepts and relationships were identified from the preliminary 208 review and presented in the current paper. The factors include strategic factors, 209 leadership and culture, external environment and political factors. However, it is 210 notable that the factors presented herein are not exhaustive. The findings of the study 211 are envisaged to be beneficial to managers in different sectors in forming strategies to 212 improve collaboration and thus performance in their organisation.

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Further studies are on-going to test the identified relationships and validate the findings herein in order to determine the critical factors that influence collaboration and which should be encouraged or harnessed to improve performance and achieve desired targets or results.

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