How professional ethics impact construction quality: Perception and evidence in a fast developing economy

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There is a perception that majority of quality-related issues are caused by human factors. The issue of professional ethics plays an important role in quality-related problems in a construction project. This paper highlights the current level of professional ethics standard in the construction industry and how ethics influences the quality of construction projects. A questionnaire survey was conducted in the construction industry in Malaysia, a fast developing economy. Results indicate that various forms of unethical conducts have significant impact on construction quality. This study concludes that professional ethics is a pre-requisite to attaining sustained and acceptable quality in construction and suggests several approaches to enhance professionalism among construction professionals to improve quality in construction.

Key words: Professional ethics, quality-related problem, unethical conducts, fast developing economy, construction quality.

INTRODUCTION

The adoption of ethical principles and the enforcement of standards become matters of increasing importance to society as the number of professions and professionals increase and the work environment becomes more ethically sensitive because the credibility of the entire profession is endangered when there are lapses in occurrence of ethical behaviour. It is important to understand the term “profession” before discussing the issue of professional ethics in depth. According to Greenhalgh (1997), the essence of the word “professionalism” can be defined as the possession and autonomous control of a body of specialized knowledge, which when combined with honorific status, confers power upon its holders. Professionals have always been linked with the notion of “service” so that a profession is described as a group of people organised to serve a body of specialized knowledge in the interests of society based on the perceived relationship (Appelbaum and Lawton, 1990). According to Bayles (1989), professional ethics is defined as a system of norms so that both the morality and behaviour of professionals could be dealt with in their day-to-day practice by this system. Professional ethics also ascribes moral responsibility not to an individual, but to all professionals practicing in a particular profession. Carey and Doherty (1968) stated that it automatically tied up with more practical concepts and expectations from the public, encompassing issues such as competence, responsibility and willingness to serve the public. Brien (1998) feels that the problem that faces any professional community is how could it regulate itself effectively to justify its autonomy, while ensuring that the clients of its members and society as a whole benefit from the profession’s and the individual professional’s actions, rather than becoming their victims. It is one of the ethical quality control.

Construction industry plays a substantial role in a country's economy, irrespective of the country’s levels of economic development (Zantanidis and Tsiotras, 1998). The construction sector in a country’s economy is an important employer of a nation’s workforce as it employs between 2 to 10% of total workforce of most countries (Abdul-Rashid and Hassan, 2005). Malaysia had gained an impressive economic growth during the last three
decades (Abdul-Rahman et al., 2005) and this sector had employed an estimated 798,200 workforce nationwide in 2004 (CIDB, 2006). The Malaysian Government had given a much needed boost to the country’s construction industry under the 9th Malaysian Plan where a total of 880 projects worth RM15 billion is to be tendered (The Star, 2006a). Nevertheless, much had been reported about the performance of the construction industry in terms of quality, productivity and safety. In addition, it should be highlighted that the issue of poor quality in the construction sector had been identified as a major concern even as far back as the mid 1980s (The Star, 2006b). Generally, it is a rule that construction projects must be completed within the planned cost, scheduled time and required quality. Quality may sometimes be ignored in this industry to cut the costs or to shorten the project time (Turk, 2006). To deal with the low quality problem faced by the industry, quality management is seen as an approach to achieve the required level of quality of the end product and had been given great attention world-wide over the past three decades (Hiyassat, 2000; Berawi and Woodhead, 2005). However, there is a perception that majority of quality-related issues are caused by human factor. Therefore, the issue of professional ethics plays an important role in reducing quality problems and preventing inconvenience to all parties concerned.

The issues of professional ethics within the construction industry affect a wide spectrum of population. The local authorities, public works department, client organisations, consultants, suppliers, contractors, home buyers, and users of public infrastructure, are all within the scope of professional ethics. All those mentioned have their own contributions towards the problems in hand, and issues of ethics and integrity in the Malaysian construction industry.

PROFESSIONALS AND PROFESSIONAL ETHICS IN CONSTRUCTION INDUSTRY

The construction sector in Malaysia as that in most other countries is made up of different sectors including client groups, the federal and state councils, private organisations, individuals, developers, contractors, suppliers, manufacturers and professionals, architects, quantity surveyors, and engineers incorporating civil, structural, mechanical and electrical. In addition, there are supporting regulatory bodies whose function is to inspect and to ensure that specialist installation conforms to standards set up by building byelaws. The main problem surfaced is the fragmentation of the different sectors in the industry (Hiyassat, 2000; Berawi and Woodhead, 2005; Segalas et al., 2010). Construction professionals exercise their own skills and judgement and they are accountable to the client and bound by their professional code of ethics (Toor and Ofori, 2008). Contractors on the other hand, are keen to make a profit and hence their actions inclined to business ethics. Each profession has its own interests, which are often divergent and competing in nature. Their diversity can be a source of conflicting ethical standards and practice, which may affect quality performance and accountability to clients or customers. The uniqueness of the sector and the need to perform accountability among all participants places an imposed duty on the associated notions of ethics and professionalism in an integrated framework that should facilitate responsible and accountable performance across the construction sector (Sichombo et al., 2009; Turk, 2006; Abdul-Rashid and Hassan, 2005).

Profession is an occupation that requires both advanced study and mastery of a specialized body of knowledge and undertaken to promote, ensure or safeguard some matter that significantly affects others' well being (Vee and Skitmore, 2003). Almost every profession has its codes of ethics to provide a framework for arriving at good ethical choices. Therefore, professional ethics is a system of norms to deal with both the morality and behaviour of professionals in their day-to-day practice, and ascribes moral responsibility not to an individual, but to all professionals practicing in a particular profession (Corvellec and Macheridis, 2010). For the building and designing professions, the incalculable value of human life demands nothing less than the highest moral considerations from those who might risk it otherwise (Smyth et al., 2010; Mason, 1998). The construction industry is a perfect environment for ethical dilemmas, with its low-price mentality, fierce competition, and paper-thin margin (FMI, 2006). Jordan (2005) stated that unethical behaviour is taking a growing toll on the reputation of the industry. From a survey conducted by FMI, 63% of the respondents whom are the construction players feel that construction sector is tainted by unethical conducts (FMI, 2006). Surveys conducted by researchers in Australia (Vee and Skitmore, 2003) and South Africa (Pearl et al., 2005) identified several unethical conducts and ethical dilemmas in the construction industry such as corruption, negligence, bribery, conflict of interest, bid cutting, under bidding, collusive tendering, cover pricing, front loading, bid shopping, withdrawal of tender, and payment game. It is evident that there exist significant areas of concern pertaining to the ethical conducts practised by the construction professionals.

There are many other efforts taken to increase the ethical standards and integrity among the professionals in construction sectors worldwide. According to Pearl et al. (2005), the regulatory professional acts relating to the built environment professional sector in South Africa were totally overhauled in the late 1990's and a new suite of professional acts were promulgated in 2000 to enhance the professionalism. Meanwhile, in America, the construction management association of America
(CMAA) had updated its code of ethics to include a wider range of professional services as well as professional services among construction players (CMAA, 2006). A standard of professional conduct to govern the ethical practices in the American civil engineering profession was published by the American society of civil engineers. On the other hand, Australia had their own codes of tendering to enhance fairness and transparency (Ray, 1997). In Malaysia, the government is very serious about improving ethics in both public and private sector. For instance, the construction industry had introduced codes of ethics for contractors to encourage self-regulation among the contractor in this sector (The Star, 2006c). Stakeholders of construction projects were asked to enforce the existing code of ethics to safeguard the engineer’s good name (The Star, 2006d). The construction industry development board (CIDB) of Malaysia also host integrity courses for contractors to promote the importance of integrity and plans to make the course as a pre-requisite for contractors when renewing their registration (The Star, 2006d). Finally, the launching of the construction industry master plan (CIMP) by CIDB in 2004 also handed in the master plan an objective to enhance professional ethics in the local construction industry.

QUALITY MANAGEMENT IN CONSTRUCTION INDUSTRY

The issues of quality have existed since tribal chiefs, kings, and pharaohs ruled (Gitlow et al., 2005; Tabasssi and Bakar, 2009). In a project scenario, quality can be defined as meeting the legal, aesthetic (Arditi and Gunaydin, 1997) and functional requirements of a project (Berawi, 2006). Clients and customers, both from the public and private sectors, nowadays place more emphasis on the quality of products rather than the price which was the major concern in the past. Hence, a rapid expansion of international competition in quality had occurred (Tsiotras and Gotzamani, 1996; Abdul-Rahman and Berawi, 2002). In terms of quality in construction industry, Turk (2006), citing Arditi and Gunaydin (1999), mentioned that ‘high quality building project’ includes factors like the design being easily understandable and applicable, conformity of design with specifications, economics of construction, ease of operation, ease of maintenance and energy efficiency. Zantanidis and Tsiotras (1998) and Abdul-Rahman and Berawi (2002) mentioned that expectations for quality construction projects will continue to grow rapidly as the number of affluent, educated and quality-conscious customers are increasing.

With the globalization of economy, construction firms world-wide are actively engaged to achieve internationally accepted quality levels to ensure their fore-front position in the emerging international market especially in developing economies. Thus, the need to have a proper system that ensures quality is critical, coupled with high level of attention paid to quality management in construction industry (Dong et al., 2009; Abdul-Rahman et al., 2006). Scholars indicate that quality management had been adopted by many countries in their respective construction industries including Hong Kong (Leung et al., 1999; Au and Yu, 1999; Tang and Kam, 1999), Singapore (Low and Omar, 1999; Low and Yeo, 1997), Greece (Tsiotras and Gotzamani, 1996; Zantanidis and Tsiotras, 1998), Turkey (Turk, 2006), Jordan (Hiyassat, 2000), Saudi Arabia (Bubshait and Al-Atiq, 1999), Sweden (Landin, 2000), United States (Chini and Valdez, 2003), South Africa (Rwelamila, 1995) and Malaysia (Chew and Chai, 1996).

Quality management is a complex effort that may not be fruitful if only technical aspects are focused and this had led to the modern concept of total quality management (TQM) (Tan and Abdul-Rahman, 2005). Besterfield et al. (2003) defines TQM as both philosophy and a set of guiding principles that represent the foundation of continuously improving organization. Many tools, methods, and techniques have been developed worldwide in order to give substance to the concept of TQM (Geraedts et al., 2001; Berawi, 2004). A large number of companies obtained the ISO 9000 standards certificate as a first step towards TQM (Hiyassat, 2000). However, if people are not serious in implementing quality management, no matter how good the system is, it will fail eventually. There is a strong perception that majority of the quality-related problems are caused by human-related factors, especially professionalism and ethics (Besterfield et al., 2003).

PERCEPTION BETWEEN QUALITY-RELATED ISSUES AND PROFESSIONAL ETHICS

Besterfield et al. (2003) mentioned that quality is dependent on ethical behaviour, whereby quality and ethics have a common care premise which is to do right things right and it is a proven way to reduce costs, improve competitiveness, and create customer satisfaction. It is evident that low ethical standards among construction professional will lead to quality problem. These issues were highlighted in the media and received great concern of public (Fleddermann, 2004; NST, 2004b). As an example, the ethical-related case in the construction industry was the collapse of the Hyatt Regency Kansas City walkways (Fleddermann, 2004). It is a hotel project in 1970s with walkways suspended over the large atrium. With the intention to save the cost, the subcontractor for the fabrication and erection of atrium steel suggested changes in the structure and it was approved by the consulting structural engineer. During the construction, part of the atrium collapsed and the engineer came out with the report saying that the design
was safe and ready to be opened for business in 1980. The tragedy happened one year after the completion of the project during a dancing party in the atrium lobby. Some of the walkways on which people were dancing collapsed onto the crowded atrium floor, leaving more than a hundred people dead and almost two hundreds injured. Investigation was then conducted by the Missouri Board of Architects, Professional Engineers and Land Surveyors reported that the original design was only marginally acceptable to the Kansas City building code where the walkways would only have had approximately 60% of the capacity required by the code. The situation was even worse in the new design proposed by the steel subcontractor and approved by the engineer. The consultant was found negligence in its investigation of the atrium collapse and places too much reliance on the subcontractor. Therefore, the engineer had been charged for negligence, incompetence, and misconduct. Both the engineer and the consultant firm lose license of practicing. This case strongly indicates that unethical behaviour will lead to quality problems and structural failures (Fieddermann, 2004).

In Malaysia, as an example, a newly opened specialist hospital in Johor Bahru was closed due to fungi attack on the equipments and walls. It found that many of the hospital’s equipments such as oxygen piping and sewerage system are not according to the specifications. This clearly shows the poor ethics of the contractor who failed to do right things right. The contractor was given three months to rectify problems including leaking pipes, broken ceilings and faulty air-conditioning ducts (NST, 2004a). Another sub-standard quality of construction project in Malaysia is the RM238 million Middle Ring Road Two (MRR2) flyover which was closed to traffic after cracks were found in 31 pillars and structural movements were detected (The Sun, 2004). The Government engaged an independent consultant from the United Kingdom to investigate the defects. The independent consultant identified that design deficiencies and improper anchoring of the columns to the crossbeam were the main cause of the cracks (NST, 2004b). Design deficiency is found to be negligence on the design team and the repair works was then carried out at an estimated cost of RM20 million.

RESEARCH METHODS AND PROCEDURES

Consequently, in response to the perception, a study was conducted to seek for the relationship between professional ethics and the quality-related issues in Malaysian construction sector. It should be noted that for the purpose of this survey, contractors and clients are regarded as professions and they are required to demonstrate a high degree of professionalism in performing their task, in response to the Government’s effort who has introduced the National integrity plan to enhance integrity and ethics. The research adopted a questionnaire survey as a quantitative method, through which five hundred sets of questionnaires were distributed to selected respondents in Kuala Lumpur and Selangor state by post. The questionnaire contains sixteen questions with multiple choices questions in three sections: A, B, and C. Targeted respondents ranging from developer firms, consultant firms, and contracting firms were chosen from various professional organizations. To ensure the reliability of the questionnaire survey, the sample size was compared to match the sample size recommended by Krejcie and Morgan (Sekaran, 2000: 295). Several approaches have been used to ensure a high response rate. Questions were designed in a very straightforward way and were pilot tested. The addressed used were the most updated. Every questionnaire sent was followed up by a phone call. If the questionnaire form was not well received by the chosen respondent, a copy was either sent again or was delivered through walk in. Five hundred questionnaires were distributed and the rate of return was 13.2%. Table 1 shows the breakdown of response by type of company. Data obtained from the returned questionnaires were sorted out and analyzed using SPSS Version 15.

<table>
<thead>
<tr>
<th>Type of firm</th>
<th>Sent</th>
<th>Responded</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor</td>
<td>275</td>
<td>40</td>
<td>14.55</td>
</tr>
<tr>
<td>Architectural</td>
<td>80</td>
<td>11</td>
<td>13.95</td>
</tr>
<tr>
<td>Developer</td>
<td>45</td>
<td>6</td>
<td>13.33</td>
</tr>
<tr>
<td>Quantity surveying</td>
<td>100</td>
<td>7</td>
<td>7.00</td>
</tr>
<tr>
<td>Total</td>
<td>500</td>
<td>66</td>
<td>13.20</td>
</tr>
</tbody>
</table>

RESEARCH FINDINGS

Professional ethics in Malaysian construction industry

A majority (77.3%) of the respondents’ firms practice their own code of ethics. Another 22.7% of the respondents indicated that they do not have a formal code of ethics. The findings show that most of the companies are aware of the importance of ethics in work. About 34.9% of the respondents indicated that their organizations have ethics training programs for their staff. The frequency of training programmes conducted in a year ranges from one to ten times. Apparently there is much room for improvement in terms of staff training in the areas of professional ethics.

The survey results show that 74.2% of the respondents agree that the construction industry is tainted by unethical conducts. Another 13.64% does not agree with this statement and the remainder 12% either does not indicate their own stand or did not respond to the question. The respond reflects that the image of the local construction industry is tainted by unethical conducts amongst the construction players.

Respondents rated the types of unethical conduct based on the frequency scale in Table 2. Means are used to determine the average for each option. The average options can be determined more accurately as each option would fall in one of the four ranges of means. Table 3 shows the rank of the unethical conducts based on their respective means. In contrast, frequency distribution can just tell which option is the most chosen
Table 2. Classification for frequency scale.

<table>
<thead>
<tr>
<th>Options</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>0.00 ≤ Mean score &lt; 0.75</td>
</tr>
<tr>
<td>Sometimes</td>
<td>0.75 ≤ Mean score &lt; 1.50</td>
</tr>
<tr>
<td>Often</td>
<td>1.50 ≤ Mean score &lt; 2.25</td>
</tr>
<tr>
<td>Very often</td>
<td>2.25 ≤ Mean score &lt; 3.00</td>
</tr>
</tbody>
</table>

Table 3. Ranking of unethical conducts by construction players.

<table>
<thead>
<tr>
<th>Categories of unethical conducts</th>
<th>Mean</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under bidding, bid shopping, bid cutting</td>
<td>1.67</td>
<td>1</td>
</tr>
<tr>
<td>Bribery, corruption</td>
<td>1.61</td>
<td>2</td>
</tr>
<tr>
<td>Negligence</td>
<td>1.48</td>
<td>3</td>
</tr>
<tr>
<td>Front loading, claims game</td>
<td>1.42</td>
<td>4</td>
</tr>
<tr>
<td>Payment game</td>
<td>1.32</td>
<td>5</td>
</tr>
<tr>
<td>Unfair and dishonest conduct, fraud</td>
<td>1.30</td>
<td>6</td>
</tr>
<tr>
<td>Collusion</td>
<td>1.26</td>
<td>7</td>
</tr>
<tr>
<td>Conflict of interest</td>
<td>1.17</td>
<td>8</td>
</tr>
<tr>
<td>Change order game</td>
<td>1.12</td>
<td>9</td>
</tr>
<tr>
<td>Cover pricing, withdrawal of tender</td>
<td>1.06</td>
<td>10</td>
</tr>
<tr>
<td>Compensation of tendering cost</td>
<td>0.74</td>
<td>11</td>
</tr>
</tbody>
</table>

Rank no. 1 = Most frequent; Rank no.11 = Least frequent.

Table 4. Respondent’s experience on compensation of tendering cost.

<table>
<thead>
<tr>
<th>Compensation of tendering cost</th>
<th>Frequency</th>
<th>Percent (%)</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>None (Score-0)</td>
<td>32</td>
<td>48.48</td>
<td>0.00</td>
</tr>
<tr>
<td>Sometimes (Score-1)</td>
<td>19</td>
<td>28.79</td>
<td>19.00</td>
</tr>
<tr>
<td>Often (Score-2)</td>
<td>15</td>
<td>22.73</td>
<td>30.00</td>
</tr>
<tr>
<td>Very often (Score-3)</td>
<td>0</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Total</td>
<td>66</td>
<td>100.00</td>
<td>49.00</td>
</tr>
</tbody>
</table>

Mean 0.74

Table 5. Classification for ‘agreement’ scale.

<table>
<thead>
<tr>
<th>Options</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>0.00 ≤ Mean score &lt; 0.75</td>
</tr>
<tr>
<td>Somewhat agree</td>
<td>0.75 ≤ Mean score &lt; 1.50</td>
</tr>
<tr>
<td>Somewhat disagree</td>
<td>1.50 ≤ Mean score &lt; 2.25</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>2.25 ≤ Mean score &lt; 3.00</td>
</tr>
</tbody>
</table>

Table 4 illustrates the top five categories of unethical conducts in the construction industry, namely: (a) Under bidding, bid shopping and bid cutting (categorised as a group); (b) Bribery and fraud; (c) Negligence; (d) Front loading, and (e) Claims game and payment game. Analysis showed that the top two most unethical conducts “Often” happened and the remaining three occurred “Sometimes”. Unsuccessful tenderer claiming for compensation of tendering cost with mean 0.74 shows that “None” of these happened in local construction industry. As shown in Table 4, 48.5% of the respondents never experienced such conducts in the construction industry. About 4.6% of the respondents did not experience any under bidding, bid shopping, and bid cutting exercise in the construction industry. In contrast, more than half (51.5%) of the respondents claimed that they “Often” or “Very Often” experienced such conducts in the industry. In terms of experiences in bribery and corruption, about 53.0% respondents ranked it as “Often” or “Very Often” while 37.9% ranked it as “Sometimes”, and 9.1% claimed that they did not experience such conducts.

Determination of relationship between quality-related issues with professional ethics

Nearly 73% respondents rated the local construction quality level as “average” while 18.2% rated “Good”, but nobody rated “Excellent”. Tables 5 and 6 illustrate the options provided and the details of findings. In answering the question that whether unethical acts contribute to the quality-related problems in construction industry, 40.9% respondents “Strongly Agree” and 53.0% respondents “Somewhat Agree”. This shows that the majority (93.9%) of the respondents agree that unethical acts contribute to the quality-related problem in construction industry as the mean score 0.67 (Table 6) is within “Strongly Agree” range as shown in Table 5.

A majority of the respondents (72.7%) agree that unethical conducts can be the main cause of poor quality in construction industry with a mean score of 1.05. There are altogether 72.7% respondents chose either “Strongly Agree” or “Somewhat Agree” that unethical conducts can be the main cause of poor quality project. Respondents’ view on the current work ethics in the local construction industry falls in the range of “Somewhat Satisfy” with a mean value of 1.47. There were 43.94% respondents who rated it as “Strongly Dissatisfied”.

Meanwhile, 84.8% agreed that unethical conducts will affect the effectiveness of quality management implementation of which about 57.5% of them rate the influence of unethical conducts which affects the effectiveness of quality management as “Extremely high” and “high”.

and 9.1% claimed that they did not experience such conducts.
The respondents were furnished with a list of ways to enhance professionalism in construction industry. The two top most chosen ways to enhance professionalism are “by leaders serving as role models” and “by setting a standard of code of ethics” for the construction industry with 57.6 and 50.0% supporters, respectively. Table 7 shows the responses details on how to enhance professionalism.

A Pearson correlation analysis was performed on the following two issues, namely: (1) Rating the quality level in terms of performance and constructed product of the local construction, and (2) Current work ethics in the local construction industry to determine whether or not quality and professional ethics are correlated. Table 8 shows the results obtained from the analysis. The value of $r$ (+0.249) indicated that the level of quality in local construction and the work ethics are positively correlated. Quality level in local construction industry will be better if the work ethics in this sector is better and vice versa. The correlation is significantly under a 0.05 level. The result strengthens the point that quality and professional ethics are related and professional ethics has a strong impact on the quality of construction. Results indicate that developing country should not jump into the quality band wagon without taking care of the needs to strengthen ethics of participants involved in the construction industry.

**DISCUSSIONS ON RESEARCH FINDINGS**

All respondents agreed that the local construction industry is tainted by unethical conducts among construction players. The ethical standard in Malaysian construction industry is considered lower. The survey findings show that only about 35% respondents’ firms have conducted at least one ethical training program.
This shows that many other firms are unaware of the importance of good work ethics and on the issue of work ethics among their staff. Meanwhile, a majority (74.2%) of the respondents view that the local construction industry is tainted by unethical conducts among construction players. The result of this study is parallel with foreign research conducted by FMI (2006) which revealed that 63% of the respondents in a survey agreed the construction industry is tainted by unethical acts among construction players. Indeed, 84% of the respondents in the FMI’s survey who were comprised of construction players had experienced, observed, or encountered construction transactions which they felt unethical.

Based on the survey, respondents indicate that unethical conducts lead to monetary loss and poor quality. Five unethical conducts were mentioned most by the respondents, namely: (a) Under bidding, bid shopping, and bid cutting; (b) Bribery and corruption; (c) Negligence; (d) Front loading and claims game, and (e) Payment game. Failure to take control of the bidding exercise may end up in under bidding by contractors, which will eventually affect the quality of the end product delivered to end users. This is especially prevalent in public projects where contractors and suppliers with lowest tender bid are often awarded with the tender. Bribery and corruption is another common unethical conduct noted. Corrupted or bribed personal will bypass stringent inspections and works procedures required during construction leading to sub-standard quality works that will affect customers’ confidence. Indication of relatively high corruption incidents in the Malaysian construction industry is comparable to the results of an investigation on corruption by transparency international (TI) which is a global coalition against corruption. It revealed that 10% of the total global construction in 2004 was loss to corruption in construction industry globally. This means RM390 billion was burned to such unethical conduct in the global construction industry.

Failures on the part of professional personnel to exercise the duty of care result in poor workmanship, inadequate safety standards on site, and design negligence. Professionals in the construction industry should always exercise duty of care when conducting their responsibility. From the cases reported in the newspapers, quality-related issues are found to have correlation with unethical conducts of the construction players. More than two third of the respondents are not very satisfied with the quality in construction industry. This makes sense that there are many sub-standard quality works found in the construction industry. More than 90% of them agreed that unethical conducts contribute to quality-related problem and a majority (72.7%) agreed that unethical conduct can be the main cause for poor quality project. The respondents also agreed that unethical conducts will influence the effectiveness of quality management implementation. Some claimed that unethical acts impacted on the effectiveness on quality checking and inspection. To overcome unethical behaviours in the construction industry, immediate steps must be taken to ensure that all construction projects are led by managers who are formally trained by professional ethics. Further, organisations are encouraged to stress on professional ethics and enforce it on every personnel. More than half of the respondents agree that leadership serves as the role model to enhance professionalism. Leaders should serve as role models among the employees as their conducts normally have great impact on the whole company. In summary, quality-related issues and professional ethics are greatly interrelated. The perception that quality-related problems are significantly impacted by human factor is considered as reliable. Good working ethics is therefore necessary in the construction industry as it has significant influence on the quality and performance of the product.

**CONCLUSIONS AND RECOMMENDATIONS**

The findings indicate that unethical conducts have a direct and negative impact on the quality of construction. There exist significant areas of concern in the Malaysian construction industry such as the ethical standards among construction professional considered below average. One of the best ways to enhance professionalism is through leadership with leaders serving as role model for the staff. Although the economy growth is one of the main concerns by many economists, it should not be at the expense of poor quality because such a route will later have a negative impact on the economy. Unethical acts that exist in developing economies can negatively affect the quality of constructed projects, thus undermining the clients and users of those projects. If this situation continues, the development and reputation of construction industry will suffer.

Construction professionals are expected to behave with professional integrity and reasonable of care. They should strive to achieve good quality of work as they owe responsibility to the general public. Only when professorial ethics are well practiced, professionalism will be enhanced and thus eliminating the quality-related problems directly. The main public agencies of developing countries are encouraged to enforce existing laws and procedures and to set a standard code of ethics. All construction players must be monitored to generate a standard scheme to measure the quality of work achieved by contractors. Consultants should exercise their duty of care in performing their works and not resort to unethical behaviour for approving any sub-standard work. The contractors should not earn profit in unethical ways. Construction parties should always be alert and try to avoid any unethical behaviour among the construction players from happening. Further researches are recommended to study how to implement the concept of total quality management (TQM) to improve unethical situations in the construction industry.
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Queensland University of Technology.


