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**DECISIONS WITH MORAL CONTENT: COLLUSION**

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# **DECISIONS WITH MORAL CONTENT: COLLUSION**

## **ABSTRACT**

Morality is fast becoming an integral part of the mandate for business through both societal and regulatory pressures. Collusive tendering is one of the moral choices facing decision-makers in the construction industry. This paper describes an empirical investigation of the attitudes and behavioural intent towards collusive tendering of key individuals in the tendering process. It also explores the factors that determine these attitudes.

The results of the empirical investigation indicate that there is a minority of decision-makers that admit they would consider participating in some form of collusive tendering agreement under certain circumstances. These people form a distinct group in their demographic as well as decision making profile.

**Keywords:** Tendering; moral decision making; ethics; collusion; Australia.

## **INTRODUCTION**

The morality of practices and participants in the construction industry is the subject of much of its folklore, as well as a major determinant of its public and media profile. It is also an issue of economic and social significance that attracts considerable legislative attention. The industry's level of moral awareness is closely linked to that of the general population in the same way that its economic performance is a barometer of the economy. People working in the industry are

affected by its moral climate but, at the same time, they mirror current societal morality in their behaviours. An understanding of the moral behaviour of construction industry participants therefore is likely to apply also to society at large.

The marketing activities of corporations are also at the centre of debates of morality due to their high visibility and “boundary-spanning” role (Ho, 1993; Ferrell and Gresham, 1985). In the construction industry, much of this type of attention is concentrated on competitive tendering – a process comprising a sequence of promotion, pricing, product and distribution decisions - the contractors' core marketing function (Zarkada and Skitmore, 1997). Questions of morality can arise at any stage of the tendering process but they are most often concerned with the preservation of competitiveness – the cornerstone of western-type market capitalism. The moral and legal implications of anti-competitive practices are indeed serious. Collusive tendering is a *per se* violation and the prosecutor does not have to prove that the practice has had any effect on the actual levels of competition for it to be punishable.

From an economic perspective, collusion is a major concern. It corrodes the basis and attacks the rationale of the competitive tendering system by restricting competition. Apart from the moral and legal issues, the seriousness of its effects is intensified by the practical implications of restricting free competition. When free competition is circumvented by collusive agreements between ostensible competitors, consumer choice is restricted and the performance of the economic system becomes sub-optimal. As Lee's (1990) study of collusion in the US highway construction industry has already demonstrated, collusion causes a reduction of the number of available bidders, an increase in the average bid price and a reduction in bid variance irrespective of the particularities of the collusive tendering arrangement. In practice this could lead to

artificially increased building prices, possible quality compromises, company failures through unfair competition, a negative industry image and decreased employee productivity through moral dissatisfaction.

Research on collusion has so far focused on its economic and legal dimensions, the common objective of the existing body of knowledge being to detect and punish collusive practices. Collusion, however, is not an institutional interplay that takes place in a moral vacuum. Participation in some form of collusive tendering is first and foremost a decision made by an individual: a person with certain personal characteristics and attitudes, a sense of right and wrong and a set of personal and organisational objectives to meet. An enhanced understanding of the individual behavioural aspects of collusive practices is therefore necessary both to gain insights into the motivations underlying collusive behaviour and potentially contribute to the development of preventative systems.

In pursuance of this, the empirical study described in this paper was aimed at identifying the factors that influence real-life decision-makers' attitudes and decisions. A theoretical model was constructed, from which a structured questionnaire was developed and responses obtained from a random sample of 72 anonymous construction cost estimators employed in the Sydney offices of the 24 largest construction organisations in Australia. The results showed that the respondents perceived all types of collusive tendering practices (including communication with other tenderers, bribery, withdrawal, artificial inflation of tender prices, and cover pricing) as having a very high moral content. Indeed, the majority of the respondents vouchsafed their unconditional abstention from such practices. Some, however, indicated that their judgement would be contingent on individual circumstances. This paper presents the responses of these distinct

groups and explores the factors that differentiate between them in order to identify individual motives and characteristics that contribute to a propensity for collusive tendering behaviour.

## **COLLUSIVE TENDERING BEHAVIOURS**

Two activities are necessary and sufficient for an act of collusion to take place: (1) a communication<sup>1</sup> between the colluders and (2) an unacceptable change in the behaviour in one or more of the colluders. This is clearly a cause-effect relationship where the cause, communication, leads to an effect, an unacceptable change in behaviour. In some legal systems the act of communication alone is sufficient proof of illegality. However well-intentioned this may be, it is certainly not logical, as it is just as possible that (1) can take place without (2) as it is that (2) can take place without (1). In other words, just because an act of collusion requires (1) and (2) to take place, this does not necessarily imply that if (1) and /or (2) take place an act of collusion has occurred. The resolution of this syllogism lies partly in the intended behaviour of the parties – did they intend to collude? – and partly in their observed behaviour – were their acts consistent with those of colluders?

From an ethics perspective, intentions, and acts (means and ends) provide the analytical basis of all forms of communications. Intentions can range from a seemingly innocent exchange of information and opinions to actual deception; means can be examined in terms of their degree of illegality or immorality; and the ends can be anything between helping out a personal friend to large scale fraud and systematic market distortion. The means, the actual communications, can

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<sup>1</sup> To exclude the possibility of tacit collusion, the effects of market structures, or even chance, on individual bidding preferences and patterns, we confine our attention here to explicit agreements between firms competing in the same

be classified by variations of context (how and where they take place) and content (what exactly is communicated). The context could be an accidental social encounter, an explicit request for information or a specifically organised meeting – perhaps under the umbrella of an industry association. The content could be about the pricing of the contract (which is illegal in Australia) or it could be an exchange of commercial, technical or general information (which is necessary for the efficient working of the market). In practical terms, the goals of such agreements range from keeping one's firm in the tender lists of a principal that would otherwise exclude a tenderer for having refused to tender, to effectively eliminating free competition and making market entry impossible.

To examine the range of practical results of collusive tendering, a review was conducted of summarising legislation (CCH, 1975; Stern and Eovaldi, 1984; Allen and Mills, 1989; Mason, 1992; Baxt, 1993; CCH, 1995:41-261, 41-369; AS4120, 1994, Australian Trade Practices reports, 1995:41-369; Ayres, 1997), court cases (Australian Trade Practices Reports, 1995:41-369; CCH, 1995), government reports (Gyles, 1992: Vol.#2, #7), previous research results (Lee, 1990; Ray *et al*, 1999) industry folklore (reported in Hillebrandt 1988; Skitmore, 1989) and anecdotal evidence collected through personal interviews. As a result, three potential outcomes of collusive tendering agreements were identified: (a) submission of cover prices; (b) withdrawal from the bidding process; and (c) inflation of tenders by a pre-arranged amount - each of which serve to achieve one of a number of strategic or tactical objectives.

**----Insert Table 1 here---**

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market on how they will bid for one or more projects.

Table 1 summarises these agreements and their associated strategic or tactical objectives. The column marked “Investigated” indicates whether or not a particular practice has been legally documented. If at least one case has been tried by an Australian court of law, or if it has been documented in the New South Wales 1992 Royal Commission Investigation (Gyles, 1993) then the indication “Yes” appears in the sub-column marked *AUS*. Similarly, the column marked *USA* indicates that the practice was identified by Lee's (1990) review of court cases in the USA. It appears that the inflation of bid prices has only been detected in Australia, whilst withdrawal for monetary or other benefits (an allegedly common practice) is virtually undetectable and impossible to prove in court.

## **THEORETICAL MODEL OF THE DECISION MAKING PROCESS**

Review of the marketing law, tendering and economics literature revealed and helped classify the range of illegal marketing practices associated with tendering as well as their mechanisms and strategic outcomes. This, however, only provides a partial framework for understanding the behavioural intent of the individual decision-maker. For the complete picture, it was necessary to consult the marketing literature - illegal marketing practices in industries other than construction having attracted a lot of interest in the last fifteen years. Here, a number of positive models have been proposed<sup>2</sup> (eg. Ferrell and Gresham, 1985; Hunt and Vitell, 1986; Trevino, 1986; Stead, Worrell and Stead, 1990; Hunt and Vitell, 1992). These models attempt to depict the process by which individuals arrive at a decision when they perceive the decision to have some moral content. Empirical tests of these models have resulted in the enumeration of



influencing factors and measures of their impact. These salient factors were synthesised with the only comprehensive model of tendering decision making available (Couzens *et al*, 1996) into a theoretical model of moral decision making in tendering (Fig 1). This model provided the basis of the empirical investigation.

*-----Insert Figure 1 here-----*

Following the logic of the Hunt and Vitell (1992) model, when a collusive tendering agreement is proposed the deontological evaluation (of what is perceived as right and wrong) is expected to be weighed against a teleological evaluation including the effects of the action's potential outcomes on both the individual and the firm. Internal cognitive (the ethical frameworks to which people choose to adhere) and affective (one's personality and individual characteristics) factors are combined with perceptions of external, environmental factors (legal, professional and organisational codes, code enforcement mechanisms and norms) in order to determine the moral content of the proposed action. Then, information is considered regarding the market structure and conditions, the firm's objectives and priorities, competition and the project that is being bid for, and this is articulated into a set of external-situational factors (comprising the desirability, utility and probability of winning contract). These factors are then combined with the moral evaluation of the action into a final decision, which, finally, leads to an action. The outcome of the action enhances the decision-maker's pool of experience and provides a feedback loop that modifies future behaviour through its impact on the internal decision making factors.

The propositions of this model were tested empirically. The procedure and the results of the

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<sup>2</sup> For a detailed review of the existing models see Singhapakdi (1988), Wyld (1993) and Trunfio (1990).

empirical investigation are discussed in the following sections.

## **EMPIRICAL RESEARCH METHOD**

### **The data collection instrument**

A four page, 100 item, self administered close-ended questionnaire was developed. This examined all the potential forms, means and outcomes of collusive behaviours that were identified through the literature and previous research. A set of eighteen collusive tendering scenarios expressed in brief vignettes was first presented to the respondents. The vignettes were aimed at eliciting reactions to collusive tendering whilst putting moral decision making in a specific construction related context. Three options were provided to each vignette. If the respondents thought the vignette presented them with a prohibitive moral concern they were to circle NO; if they thought the action was permissible under certain (unspecified) circumstances MAYBE; and if they thought there was no moral issue involved at all and the action was permissible they were to circle YES.

The elements of the theoretical model were also listed and measured through the data collection instrument. Then the respondents were asked to indicate the impact of 25 variables on the responses to the introductory vignettes on a five point Likkert scale with only the ends defined as "irrelevant" (0) and "crucial" (4). The questions for each group of external variables (situational and environmental) as well as some of the affective variables that do not constitute part of the demographic profile of the respondents are presented in Table 3.

Demographic and psychographic characteristics, information on the feelings of the respondents towards their work environment and the industry as well as their preference for a variety of philosophical schools of thought were also recorded.

The questionnaire was validated using several methods. Firstly, a panel of seven experts in construction management, business ethics and research methodology reviewed the collusive tendering vignettes using the Delphi technique. The survey instrument was pre-tested using three convenience samples of undergraduate (business and construction management) and postgraduate (project management) students. Questions raised by the students and their evaluation of the questionnaire in terms of clarity, ease of completion and visual appeal were taken into account in arriving at the final version of the instrument. Before it was distributed to the industry respondents, the final version of the questionnaire was validated using a further sample of 60 final year construction management students in another university. They were all in full time employment in the construction industry at the time of the validation survey but none of them was involved in estimating and tendering activities. Comparisons between the main group of respondents and the control group of students used for the validation of the questionnaire confirmed the appropriateness of the sampling frame.

### **Data collection**

Unannounced calls were made to the Sydney offices of Australia's largest 24 construction contractors in June 1997 and everyone in the estimating department was approached individually and asked to complete the questionnaire. In the brief discussion that preceded the polling, the

potential respondents were asked if they had any experience of making a decision concerning tendering which they perceived as having an ethical content, and the questionnaire was presented to only those who said they did. All respondents were informed of the purpose and method of the research. Complete anonymity was guaranteed and the data was recorded in such a way as to make identification of individual respondents or their companies impossible. A total of 72 people (representing a response rate of 48.5%) completed the questionnaires, which were placed in unmarked envelopes and only opened on the researcher's return to Brisbane.

### **Data analysis**

Descriptive statistics and cross-tabulations were used to measure the respondents' attitudes and to construct the profile of those of the respondents who appeared to be more tolerant of illegal tendering practices and, thus, more likely to become involved in collusion.

The structure of the theoretical model was tested by means of a factor analysis. The preliminary examination of the correlation matrix (King, 1977; Norussis, 1994) indicated the appropriateness of the factor model. Principal components analysis was used and the solution was rotated using Varimax with Kaiser normalisation. The number of factors was determined by the minimum Eigenvalue of unity.

The respondents were allocated to one of two groups on the basis of their responses to the collusive tendering scenaria (the ones that said they would never participate in a collusive tendering agreement formed one group and those that said they would consider it formed the other). The groups were defined by the answer to the control variable "Would you agree to

participate in a collusive tendering agreement” that best represented the overall pattern of the responses to the scenario. Discriminant analysis was used to test the significance of the differences between the two groups. The analysis was performed on the new independent variables produced by the factor analysis. To obtain the optimal model, variables were entered stepwise under the most stringent conditions. The means and standard deviations of the two groups provided insufficient reason to believe that the two groups were samples from the same population. All the statistics that were used to evaluate the results of the method (examinations of pooled within-groups covariance and correlation matrices and check for multicollinearity) showed a good functional model fit (Malhotra, 1996). Most of the variation was attributed to between rather than within the group variances and the classification hits far exceeded the prior probability expectations.

## **RESULTS**

### **The profile of the respondents**

The respondents were on average middle-aged and fairly well educated, in middle management positions, having acquired considerable experience by working in a small number of construction firms for many years.

Almost half (48%) of the 72 respondents were in their 40s and 31% were in their 30's. Only 4% were under 30 and 17% were over 50 years old. 77% of them had a technical college certificate as their highest qualification and approximately 16% had a university degree or higher qualification. When qualifications were tabulated with age, however, it was evident that the

number of younger respondents (under 40 years old) with university degrees is disproportionately high. This is most likely a reflection of changes in the Australian higher education system: many technical colleges having acquired university status in the last 10 or 15 years, resulting in a changed qualification for what is essentially the same course.

In terms of work experience and position, 80% of respondents were in middle management, 13% were in senior management and executive positions and the rest (7%) were junior staff. The majority of the respondents had been in the construction industry for many years. 57% of the respondents had over 20 years experience, and only 10% had been in the construction industry for less than 10 years. The rest (33%) had between 11 and 20 years of experience. Despite their long service in the industry, most of them (90%) had worked for four firms or less with 26% having been in their present employment for over 15 years and the majority (46%) for between 6 and 15 years.

Less than one in three respondents (28%) were members of a professional body, but 80% of the affiliated ones were satisfied with their professional bodies' codes of conduct. 75% of the companies had codes of conduct and 73% of the respondents working in these companies found their companies' codes to be 'adequate'.

Approximately one third (33%) of the respondents said they were religious, with a quarter (25%) of the religious ones being influenced by their religious beliefs or practice in the moral evaluation of collusive tendering practices. Of the 70 respondents that answered Q89 ("I live according to a system of values and beliefs"), 55 (79%) said yes. However, in the total sample only 39% considered their personal values and beliefs to be 'very important' or 'crucial' when

making a tendering decision with a moral content.

Most respondents then expressed positive feelings about their company. Overall, 85% like working in the industry, 90% like their companies and 82% like their work. Most (83%) feel that they are treated fairly, their values are respected (73%) and they are not pressured to conform (75%) but have a real say in decision-making (81%). Only 37% however said that they trusted their colleagues, with a similar number (36%) saying that they did not. They are also sceptical about the moral standards of their companies, with only one in three describing them as 'high' and 40% being unsure. This is supported by the number of respondents (24%) that were unsure about their companies' being generally fair in their dealings. Interestingly, even though the respondents generally like working in the construction industry, 71% felt that the industry does not maintain high moral standards, thus perpetuating the 'dirty business' folklore.

As explained above, a distinct group of 11 respondents for whom the decision to become involved in a collusive tendering agreement was 'contingent' on the particular circumstances applying at the time. This 'contingent' group was found to be younger than the average, more highly qualified (but as explained above this is most probably a reflection of their age rather than really a higher education level). Moreover, despite their being younger and with fewer years in the industry they had worked for more companies and they showed lower levels of job satisfaction and company loyalty. None of them were members of professional institutions or holding senior positions in their companies. Only one claimed to be religious and half of them (compared to nearly 80% overall) lived according to a belief system. Interestingly, their evaluation of the moral standards of their companies and the industry as a whole is considerably more pessimistic than the 'necessary' group. Overall, their levels of moral dissatisfaction are

higher than the sample average.

The source of the negativity about work, companies and the industry in general is, mostly, from the 'contingent group. Work satisfaction, trust and evaluation of fairness and morality are considerably lower with the 'contingent' group. Thus the profile of the 'contingent' group is completed by the observation that they exhibit more uncertainty than satisfaction in their feelings towards their work environment and, what is probably more important, they are mistrustful of their colleagues and strongly dissatisfied with the general moral climate. Interestingly, their behavioural intent is such that if turned into actual behaviour, it would contribute to the deterioration rather than change the industry's moral performance.

### **Attitudes towards collusive tendering behaviours**

Table 1 shows the respondents' attitude towards the various collusive tendering practices in the column marked "MAYBE". The figure given indicates the percentage of respondents to whom the decision to collude is a 'contingent' event. None of the respondents selected "YES", which means none of these practices were considered as completely free of moral concerns and totally permissible.

Cover pricing in order to sustain a geographical or other market distribution scheme was regarded as the least unacceptable practice, with 40% of the respondents indicating that they would consider it. This finding is consistent with Ray *et al.* (1999) who questioned building contractors all over Australia on their views of the acceptability of submitting cover prices for unwanted work or for work for which insufficient resources were available to prepare a tender.



Even though only 35% of their respondents thought it was acceptable, 46% admitted to having submitted a cover price themselves whilst 67% said they knew of cases where other contractors had submitted one.

Accepting a bribe (money or other benefits) in order not to tender was considered to be the least acceptable practice with only 7% of the respondents indicating they might consider it. Interestingly enough, this seems to be the least detectable (and possibly least damaging to the principal) form of collusion available and, as far as it could be established, has never resulted in any legal action in either Australia or the US.

### **Factors affecting behavioural intent towards collusive tendering.**

The theoretical model (Fig. 1) postulates three groups of variables influencing the moral decision making process that leads to participation in a collusive tendering agreement. These comprise: (a) Internal factors, constituting part of the individual's cognitive and affective profile; (b) External-Environmental factors related to the legal, professional, organisational and social environment and (c) External-Situational factors pertaining to the particular circumstances of the contracting organisation and the utility and desirability of project in question. The variables comprising each factor, the full text of each question and its number from the data collection instrument are provided in Table 2.

All the respondents perceived the tendering practices in question to be essentially moral issues, mostly prohibitively so. Overall, the moral content is perceived to be so high that the majority of respondents would not, under any circumstances, do what the vignettes implied, and the more

directly pecuniary the activity is, the less likely they are to contemplate the practice.

When the aggregate responses of the participants are examined, the law seems to be the single most important factor for the majority of respondents. This is to be as expected by the fact that collusive tendering is unlawful in Australia. The descriptive statistics showed high means (3.38 – 3.15, indicating that the variables were perceived as having much importance) and low standard deviations (less than 1, indicating a consistency of views). The majority (between 56% and 43%) of the respondents considered it to be 'crucial', and only a negligible number (less than 3%) of the respondents saw it as of limited or no importance. Intuition was another influential, since 40% of respondents saw it as crucial and no one thought it 'irrelevant'.

That almost all the variables that make up the external-situational factors were assessed as being of only some importance confirms the theoretically expected result - that collusion is essentially a moral and, as clearly shown here, legal issue. The decision is therefore subject to a moral more than a financial evaluation.

The two groups of respondents (those that said they would consider collusion – the 'contingent'-group – and those that said they would necessarily never do it under any circumstances - the necessary group) perceived the importance of the individual variables in distinctly different ways. Their responses are summarised in Table 2.

*-----Insert Table 2 here-----*

The statements (as expressed in the data collection instrument) are organised into the groups they

were intended to test. The first two columns (“crucial % maybe” and “no”) show the percentage of respondents in each group that perceived each particular variable as crucial. Thus, it can be seen that of the respondents that would consider a collusive tendering agreement, no one considers the moral dimension of the problem as crucial. However, over half of them think that personal relationships and the effect of the action on the award of the contract would tip the scales for them.

The means of each group are presented in the next two columns (“mean maybe” and “mean no”). Finally, the rank order of each statement, by order of the means, for each group is given in the last two columns (“rank maybe” and “rank no”) for easy reference.

A striking observation can be made from Table 2 - at first glance the perceptions of the two groups are like mirror images. There is very limited agreement between the groups. In many cases, what matters most to one group is what the other group considers of moderate or less importance.

For the respondents that said they would never consider participating in a collusive tendering agreement, the most important variables were external-environmental and internal ones, with only one situational variable entering their top-ten list.

*Perceptions of the group of respondents that would never consider colluding- the 'necessary' group*

The law was the single most important concern of the 'necessary' group, with all three statements

having means much higher than all other statements and the majority considering them as 'crucial'. Intuition was found in the 4<sup>th</sup> position. Two other internal variables were ranked high: the fact that collusion is a moral issue (in the 7<sup>th</sup> position) and personal value and belief systems (in the 9<sup>th</sup> position. Interestingly, these two variables came towards the bottom of the list for the 'contingent' group (22<sup>nd</sup> and 19<sup>th</sup> out of a total of 25 statements).

This group of respondents appears to be less concerned with penalties (the highest assigned ranking for this group was to company penalties that were ranked 10<sup>th</sup> out of the 25 variables) and codes. The guiding factor is others' perceptions of acceptability such as perceptions of legality (ranked 2<sup>nd</sup>) as well as the norms of their profession (ranked 5<sup>th</sup>) and their employing organisations (ranked 6<sup>th</sup>). This observation could indicate that they want to be seen to do, as well as actually do, the right thing. Being that they appear to be happy overall with their employing organisations, with strong feelings of autonomy and lack of pressures to conform, it could be surmised that the organisational environment they operate in fosters moral behaviour and law abidance.

The only external-situational variable considered to be relatively influential by the 'necessary' group was concerned with the company relationships (existing or potential) with other tenderers (ranked 8<sup>th</sup>). Their personal relationships with people in other organisations came slightly lower (ranked 12<sup>th</sup>) right after the 11<sup>th</sup> ranked effect the action would have on free competition (an external factor that could also be seen as a moral concern).

*Perceptions of the group of respondents that would consider colluding – the 'contingent' group*

The effect of the action on the award of the contract was the top variable for this group, with a mean tending towards crucial since 55% of the respondents in this group perceive it as crucial. This variable was put in the 18<sup>th</sup> position by the 'necessary' group, one of the points of highest disagreement between the two groups. This particular attitude of the 'contingent' group could point to a conscious desire to manipulate the competitive environment - an observation corroborated by the low rating of the effect of competition (ranked 24<sup>th</sup>) and the moral content of the act (ranked 22<sup>nd</sup>).

Personal and company relationships with other tenderers are ranked very highly (2<sup>nd</sup> and 4<sup>th</sup> respectively). Both of them are, obviously, necessary in order to be able not only to communicate and negotiate a collusive tendering agreement, but, most importantly, in order to trust the participants to the cartel that they will neither cheat nor divulge any information about the agreement to third parties.

Interestingly, the organisation for which this group of respondents works is the most influential environment. Its impact is low in terms of codification (organisational codes and penalties are ranked low, in the 21<sup>st</sup> and 20<sup>th</sup> position) but extremely high in terms of perceptions of acceptability (ranked 3<sup>rd</sup>, 'crucial' for 45% of the members of the group). This group of respondents exhibited low levels of job satisfaction, felt pressures to conform and thought that both the industry and their companies maintain low moral standards. Yet, they care about the acceptability of their actions. Could this then imply that in these particular organisations

unethical behaviour is not just tolerated but actually encouraged? . There were, indeed, some companies in the sample that were under investigation for possible collusive activities at the time of the research, others had been called to testify in the New South Wales Royal Commission investigation and one company had been found guilty of geographical market distribution arrangements. However, the strict confidentiality arrangements of the data collection process made impossible to identify the employing company of these 11 respondents and it could not therefore be established if these people were employed by organisations that have been implicated in or convicted for cartel dealings.

This group's concern about the legality of their actions is lower than the 'necessary' group, but still, personal legal liability is ranked 5<sup>th</sup>, with the legal content and societal perceptions of legality ranked 8<sup>th</sup> and 7<sup>th</sup> respectively. The group clearly seems to be more interested in what their employers and colleagues would think than how society or the abstract concept of the 'law' in general would perceive their actions. This attitude is consistent with their overall profile of relying on teleological, imminent issues instead of having an idealistic or a long-term perspective.

The 6<sup>th</sup> most influential factor on the decision to participate in a collusive tendering agreement, for the 'contingent' group, was found to be the probability of winning the tender. The teleological orientation of the respondents is again confirmed, and intensified by the prominent place of the desirability of the project in the decision-making system of the 'contingent' group (ranked 9<sup>th</sup>). As expected, both these variables ranked quite low (18<sup>th</sup> and 17<sup>th</sup>) for the people that tended to rely more on principles and the law. A clear demarcation on the basis of the respondents' deontological/teleological orientation (a common approach in classifying moral philosophies)

between the two groups can be seen.

Intuition, ranked 10<sup>th</sup>, was only one internal variable of any importance for this group. Moral content, personal belief systems, even the fear of being caught were ranked very low (22<sup>nd</sup>, 19<sup>th</sup> and 16<sup>th</sup> respectively). No one in this group thought that the moral content of the proposed act is a 'crucial' factor in the decision making process (as opposed to 31% of the 'necessary' group).

Similarities were found in the evaluation of legal codes and intuition but the 'contingent' group found them less important, with the exception of the reputation of the client and previous experience with similar situations, which were assigned slightly more importance.

## **TESTS ON THE THEORETICAL MODEL**

### **Factor Analysis - Discussion**

As described in the 'Data Analysis' section above, factor analysis was used for testing the propositions of the theoretical model. With few exceptions, the results confirmed the proposed model and provided a refinement of the originally designated categories. 7 factors emerged from the analysis, explaining 74.2% of the variation observed in the data. All but two variables were included in the analysis. The excluded ones, where there was considerable agreement among respondents, were the workload and profitability of the company and direct orders from the boss.

The variables that were intended to represent the internal factor were split by the factor analysis into two factors: "Feelings" which included the rest of the internal variables and explained

another 5.3% and “Values and Beliefs”, a single-variable (item 30) factor that explained 5.4% of the variance in the data set.

Factor “Codes & Penalties” included the variables that refer to professional and organisational codes and penalties (items numbered 27, 24, 28, and 25 in Table 2). This explained 22% of the variance and had the highest Eigenvalue of 5.49534. All the variables in this factor exhibited high loadings, ranging between .93 and .71. The rest of the organisational and professional variables were grouped under factor “Norms” which included professional and organisational norms (items 26 and 29). The grouping of the variables clearly indicates that the respondents did not distinguish between the profession and the firm as in existing decision making models (Hunt and Vitell, 1992), but they did distinguish between formalised codes and norms. This difference can be explained by the fact that the respondents' professional bodies are industry rather than skill or function specific. The restrictive nature of the proposed act is also included in factor “Codes & Penalties”, an issue covered by professional codes and industry best practice standards (AS4120, 1994).

The variables relating to the legal aspects of the proposed acts were grouped together in the factor “Law” comprising items 20, 21 and 22 with no distinction between codes and penalties or norms.

The External situational factor was also decomposed into two factors. Factor “Project”, which explained 18% of the variance and included those of the external-situational variables that pertain to the project (items 31, 34, 32, 33 in Table 2). The rest of the variables that were intended to represent the external-situational factor were related to the company and were



grouped together in the factor labelled “Company”. This factor comprised items 39, 35, 36 and 38 but not the workload and profitability variable which logically belongs here but did not enter the analysis. This could indicate that one of the conditions that economic theory proposes as conducive, if not necessary, for collusion does help differentiate between the individuals who can and cannot potentially be involved in the act – the attitudes towards it are pretty much uniform. Moreover, item 40, previous experiences in similar situations, was also included in this factor.

## CONCLUSIONS

In examining decisions with moral content, this paper reported on a questionnaire survey of Australian estimators' likely collusive behaviours and the factors that affect these behaviours. The results show that collusive tendering, in all its forms and variations, is a result of a decision with moral content and generally perceived as necessarily unacceptable in Australia. Decisions of the kind studied here seem to be very much guided by legal and professional principles and codes with some influence exerted by internal factors - external-situational factors playing a relatively minor part. It was also demonstrated that the minority group of people for whom the decision to participate in a collusive act is a contingent event, depending on the prevailing circumstances, differ in their evaluation of decision making factors in perceiving external-situational variables to be more important than internal ones and assign a higher importance to company values than to individual principles and feelings of right and wrong. When their demographic and psychographic characteristics are examined, there are indications that these contingent decision-makers might belong to a distinct sub-group within the main group of respondents, since they seem to be younger, not affiliated to professional bodies and less company-loyal, with generally lower levels of job satisfaction. It is also clear that external-situational factors are the most salient ones for this group. This was to be expected from the fact that they actually said that they would consider collusion under certain conditions. It could be argued, and it remains to be seen by further research, that in these situational variables lies the key to understanding the contingent nature of the decision making process in such situations. The issues that need to be clarified pertain to a detailed examination of the situational factors. Questions that need to be answered would be along the lines of which particular market conditions, or what types of relationships would make the 'maybe' answer into a 'yes'.

A theoretical model of decision-making factors was re-examined by statistical modelling of the

data. The factor analysis confirmed the model's grouping of variables but differentiates between legal and professional or organisational codification. Code enforcement and the codes themselves are regarded as one and the same constraint but the norms of the profession and company are regarded as different.

It should be noted that the nature of the data collected and the factors that emerged from the analysis do not permit a clear differentiation between moral evaluation and final decision and action. The requested response was on a hypothetical question and elicited behavioural intent, which is not necessarily the same as actual behaviour under the same circumstances. This means that the original theoretical model can only be partially tested by measuring the impact of the dependent variables on exactly what the question was asking: the combined moral evaluation and intent. Behavioural intent is always more likely to have been reliably measured than moral evaluation, given the fact that respondents to questionnaire surveys do not always pay as much attention to fine distinctions drawn in the instructions and introductions to questions as to the actual questions. A further consideration is that the research is concerned with the characteristics, rather than the process, of decision-making.

The final empirical model has added new, salient, variables to existing models of moral decision making (professionalism, moral comfort and work satisfaction) and has refined and reconfirmed the importance of some models that have previously been tested in a different setting and grouping (professional and organisational codes and code enforcement systems as well as values and beliefs (Hunt and Vitell, 1986; Ferrell and Gresham, 1985). It has also shown that, for this data set at least, a reliance on the law and social norms is associated with a teleological more than a deontological evaluation, contrary to the propositions of Hunt and Vitell (1986). Their

profitability and desirability of consequences, as well as the importance of stakeholders, has here been expressed as project and company factors and they appear to contribute to what Hunt and Vitell term a teleological evaluation. Finally the findings of this research, even though not directly aimed at achieving comparability with other models, do not contradict but rather replicate the logic of the contingency model (Ferrell and Gresham, 1985), which is also the only one that includes price collusion as a potential dependent variable.

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