

INFLUENCES ON RISK TAKING BEHAVIOUR OF PROPERTY DEVELOPERS IN PERTH, WESTERN AUSTRALIA

David Baccarini¹ and Frank Kraus²

¹*Department of Construction Management, Curtin University of Technology, GPO Box U1987, Perth, Western Australia, 6845*

²*Smith Madden Group, 256 Adelaide Terrace, Perth, Western Australia, 6000*

Risk is inherently part of the process of property development so property developers are driven to engage in risk taking behaviour. This paper investigates project developers' perception of influences on their risk taking behaviour of small-scale residential developments in Perth (Western Australia) based on structured interviews with twenty property developers. It was found that property developers perceive risk-taking behaviour is influenced by the risk level in projects in terms of the degree of variability of outcomes and/or magnitude of potential losses. Property developers expressed a strong risk averse attitude, which means risk-taking behaviour is influenced by the desire to not engage in projects where risks greatly exceed to rewards; in fact, many seek out developments where the rewards disproportionately exceed the risks because risk and reward are seen as not necessarily being related. These potential rewards and risks tend to be framed opportunistically, which suggest that rewards are likely to be more emphasised than risks. Property developers seem to be particularly prone to availability bias, which means their risk-taking behaviour may result in irrational decisions based on irrelevant information. All these influences on risk-taking behaviour – level of risk, risk averse attitude and opportunistic framing – are tempered by a personality trait that promotes proper planning and problem-solving when involved in risk-taking behaviour. Finally, it must be emphasised that this research is based on project developers' perceptions of their own behaviour and provides a foundation for further observational or experimental research to compare these perceptions with actual risk taking behaviour.

Keywords: property development, risk-taking behaviour

INTRODUCTION

Property development is the process of changing the basic characteristic use of land, and/or buildings (Byrne 1996). It is widely acknowledged as one of the most speculative activities known so risk plays a central role (Wurtzback & Miles 1991; Greer & Farrell 1993). According to Flanagan and Norman (1993), property development is more risky than many other forms of investment. Uncertainty lies at the root of the process of property development which is essentially concerned with the manufacture of a product in anticipation of an unknown future demand (Byrne 1996).

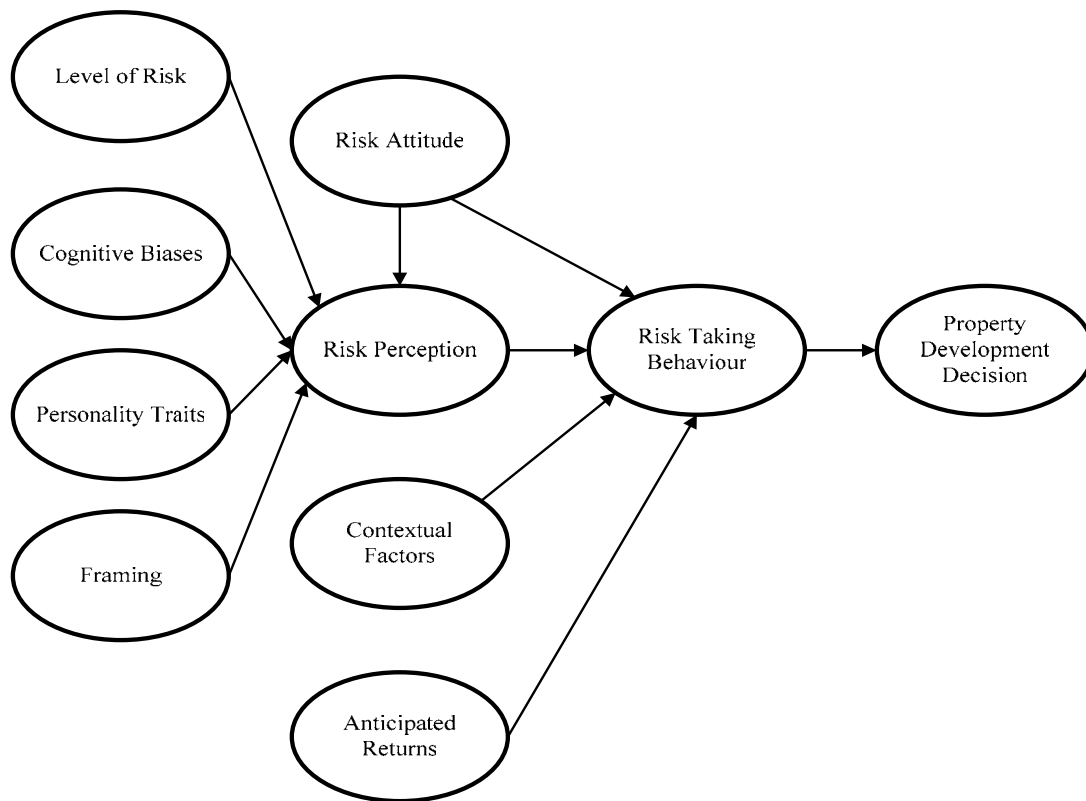
Risk can be defined as the chance of something happening that will have an impact upon objectives (Standards Australia 1999). Various authors emphasise that risk is inherently subjective, based on an individual's perception of what is considered a loss and its chances of occurring (Yates 1992). According to Trimpop (1994: 9) risk taking is "any consciously, or non-consciously controlled behavior with a perceived uncertainty about its outcome, and/or about its possible benefits or costs for the physical, economic or psycho-social well-being of oneself or others." In summary,

property developers are engaged in projects characterised by risk, so research into influences on their risk-taking behaviour is relevant and worthwhile.

A review of the literature shows that risk taking behaviour is influenced by a number of variables (see Figure 1):

- Level of Risk: this is derived from the probability of loss and the magnitude of that loss (Forlani & Mullins 2000).
- Cognitive Biases: these are predisposed opinions that individuals use to make judgements (Bazerman 1990).
- Personality Trait: this is an individual's general disposition which remains constant over time and for various situations (Powell & Ansic 1997).
- Framing: this is the manner in which a risk is stated ,either favourably or unfavourably (Weber & Milliman 1997).
- Risk Attitude: this is the consistent tendency to either avoid or seek risk (Flanagan & Norman 1993).
- Risk Perception: this is an individual's assessment of how risky things appear (Yates 1992).
- Contextual Factors: these are project specific factors that affect an individual's risk taking behaviour (Forlani & Mullins 2000).
- Anticipated Returns. The relationship between the level of return and level of risk in an investment (Forlani & Mullins 2000)

Figure 1 Influences on Risk-Taking Behaviour



The aim of this research is to investigate influences on risk-taking behaviour of residential property developers in Perth, Western Australian, a city of 1.5m people. This paper reports the findings of the following influences on risk-taking behaviour: level of risk, anticipated returns, risk attitude, cognitive biases, framing and personality traits. A literature review established a theoretical base by which research questions could be determined. The consideration of risk-taking behaviour of property developers is not particularly new however a resurgence of interest in the factors that influence risk-taking behaviour has occurred in the past decade (Palich & Bagby 1995, Forlani & Mullins 2000).

RESEARCH DESIGN

Research Sample

The research sample was bounded in terms of property developers who undertake residential development in Perth, Western Australia, possessing 1-20 years experience and working in small organisations (1-10 staff). The sample was based on two non-random sampling techniques; purposive and snowball sampling (Sarantakos 1998). Purposive sampling uses the researcher's judgement in selecting individuals who will provide sufficient information to achieve the study's objectives. Snowball sampling occurs after contacting and interviewing an initial list of respondents. These respondents will be asked for additional names that in turn are contacted and interviewed. Twenty property developers took part in structured interviews which were recorded and transcribed. Interviews were conducted using a combination of qualitative open-ended qualitative and closed-ended quantitative questions.

Demographics

Table 1 shows demographic information of the twenty property developers. The respondents operate across a broad range of property developments in relatively small organisations, which suggests they would be closely aligned to the risk aspects of their projects. Furthermore, most respondents have over ten years' experience, which offers a good basis for reflecting upon their risk taking behaviour in property development projects

Table 1 Research Sample - Demographics

Types of Development*		
Type	Nr	%
Single Residential	5	25
Group Housing	14	70
Apartments	6	30
Land Subdivision	11	55
Number of Staff Employed		
Staff Employed	Nr	%
1 to 5	12	60
6 to 10	3	15
10 to 20	5	25
Years of Property Development Experience		
Years of Experience	Nr	%
0 to 10	6	30
10 to 20	6	30
Over 20	8	40

* Total exceeds 100%, because respondents undertook more than one type of development

RESULTS & ANALYSIS

Level of risk

Property developers engage in risky ventures where losses are almost always possible, and the significance of any possible losses and the uncertainty of those losses become a salient factor driving risk perceptions and risk taking behaviour (Forlani & Mullins 2000). There are four factors related to the level of risk that affect perceptions of risk and consequent risk-taking behaviour (Forlani & Mullins 2000), so respondents were asked: “Do you agree or disagree with the following influences of your risk perception in property development projects?” - see Table 2.

Table 2 Level of Risk & Risk Perception

Rank	Level of risk	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree	Average Score
1	Greater the magnitude of potential loss, the greater the perceived risk	5%	0%	5%	40%	50%	4.30
2	Greater the variability in outcomes, the greater the perceived risk	5%	0%	5%	55%	35%	4.15
3	Greater the level of funding required, the greater the perceived risk	5%	20%	20%	20%	35%	3.50
4	Greater the overall risk profile of a portfolio, the greater the perceived risk of an individual project	10%	30%	15%	35%	10%	3.05

A key finding is 90% of respondents agree or strongly agree that projects with the potential for greater losses or variability of outcomes are more risky, which suggests that these are important influences in determining risk perceptions and consequent risk-taking behaviour. There is clear disagreement (40%) with the generalisation that a higher risk project will be selected when operating with a number of low risk projects. This suggests each project is considered on its merits rather than in context with other concurrent projects, so there is no portfolio view of property development. This could be because respondents work in small organisations where each project must be self-justifying in terms of acceptable risk because a sufficiently large and diverse portfolio does not exist.

Anticipated Returns

It is generally believed that the level of return is in proportion to the level of risk and a person’s risk taking behaviour is influenced by the risk-return ratio (Shapira 1995). Respondents were asked: “It risk related to return?” – see Table 3

Table 3 Risk-Return Relationship

Risk-Return Relationship	Nr	%
Risk is related to return	9	45
Risk is not related to return	9	45
Don’t know	2	10

Interestingly, there was similar perceptions for and against the proposition that risk and return are related. 45% of respondents perceived that the level of risk directly relates to the level of return. For instance: “No risk, no gain”; “The more return you want the higher the risk, it is always like that.” In contrast, 45% of respondents disagreed that the level of risk is related to the level of return. For example: “No, we have done some land sub-division projects where the returns are huge, but the risk is minimal”; “In this particular industry I would say it doesn’t necessarily follow”. These responses suggest that the claim that risk and return are related is project specific rather than generally applicable. It seems that property developers perceive their risk-taking behaviour to be influenced by a need to seek out opportunities that have a higher return in relation to risk.

Risk Attitude

Risk attitude refers to a person’s natural choice to take a chance or not (Fuller 1991). Three broad types of risk attitude exist - risk taking, risk neutral, risk averse – and play a major part in risk-taking behaviour (Flanagan & Norman 1993; Byrne 1996):

- Risk averse individuals show a negative tendency toward risk, thereby limiting their exposure to risk even under conditions of remote likelihood of negative outcomes (Highhouse & Yuce 1996).
- Risk-seeking individuals exhibit a preference for situations that contain high risk in terms of variability of possible outcomes (Shapira 1995).
- Risk neutral individuals seem indifferent to risk and treat risk and reward on an equal basis (Yates 1992; Byrne 1996).

Property developers are perceived as high risk taking individuals (Weber & Milliman 1997). However research also suggests that property developers are moderate risk takers (Ray 1994; Trimpop 1994). Respondents were asked: “What do you consider to be your typical risk attitude – risk seeking, risk neutral or risk averse?” – see Table 4

Table 4 Risk Attitude

Risk Attitude	Nr	%
Risk averse	19	95
Risk seeking	1	5
Risk neutral	0	0

The key finding is that 95% of respondents perceive themselves to be risk averse. For example, “Definitely risk averse. I don’t take risks”. Interestingly many respondents claimed to be risk neutral but from responses it was apparent that they were risk averse. For example, “Risk neutral. I won’t take on a project if it’s too risky”. The prevalence of a risk averse attitude amongst property developers supports the findings in the previous question where property developers seek opportunities where the level of return exceeds the level of risk. Furthermore, because respondents work in small organisations, there is likely to be a greater sensitivity to high-risk projects and a consequent risk averse attitude. Therefore, risk-taking behaviour will be a reflection of a risk averse attitude.

Cognitive Bias

Cognitive biases are subjective, predisposed opinions that individuals use to make judgements, which influence risk perception and risk-taking behaviour (Bazerman 1990, Busenitz & Lau 1996). Respondents were asked: “How often are you subject to the following cognitive bias?” – see Table 5

Table 5 Cognitive Bias

Rank	Cognitive Bias	1 Never	2 Seldom	3 Sometimes	4 On most occasions	5 Always	Average Score
1	Recalled events distort judgement on new situations [<i>Availability</i>]	0%	20%	35%	40%	5%	3.30
2	Belief that assumptions are factual, so uncertainties from assumptions ignored [<i>Overconfidence</i>]	10%	30%	45%	10%	5%	2.70
3	Overestimate likelihood you would have predicted an event occurring [<i>Hindsight bias</i>]	5%	45%	35%	15%	0%	2.60
4	Belief that unrelated factors are related [<i>Illusory correlation</i>]	15%	40%	40%	5%	0%	2.35
5	Overestimation of ability to control outcomes [<i>Illusion of control</i>]	10%	50%	35%	5%	0%	2.35
6	Failure to revise forecasts based on new information [<i>Conservatism</i>]	35%	35%	15%	0%	15%	2.25
7	Overestimating degree that limited information represents entire solution [<i>Law of small numbers</i>]	20%	40%	35%	5%	0%	2.25
8	Unrealistic belief of high likelihood of achieving desired outcome [<i>Wishful thinking</i>]	30%	50%	20%	0%	0%	1.90

A key finding is that a majority of respondents perceive themselves to be subjected to the cognitive bias of availability i.e. recalled events distort judgement on new events. The availability heuristic can be a useful decision making strategy, since easily recalled past events suggest that are of greater frequency and possible relevance for future decisions. However, this heuristic can produce errors because the availability of past information does not necessarily mean that this information is relevant for the decision in hand. Interestingly, respondents perceive themselves not to be subject to many cognitive biases, which suggests property developers have conceptualised what constitutes a rational decision-making process, so learning to recognise and minimise cognitive biases during risk-taking behaviour in property development.

Framing

Framing involves altering the appearance of a problem, that is, expressing the situation differently (Weber & Milliman 1997). Opportunity-framed risks are perceived less risky than threat-framed risks irrespective of their perceived level of original riskiness (Keil et al 2000). Research has indicated that outcome framing affects people's risk perception and consequent risk-taking behaviour (Weber & Milliman 1997). Respondents were asked: "Do you tend to frame/view property developments favourably (i.e. opportunities) or unfavourable (i.e. potential threatening)?" – see Table 6.

Table 6 Framing of Property Developments

Framing	Nr	%
Opportunity framed	16	80
Threat framed	3	15
No framing	1	5

The majority (80%) of respondents' perceptions is that they frame property development as opportunities i.e. favourably. For instance: "All potential developments are favourably framed. It stems from a chance to make money"; "I am an optimist. I can always see a potential". This supports the claim that property developers tend to view business situations more positively (Greer & Farrell 1993). This tendency to frame potential property developments in a positive light could be influenced by the need to undertake developments in order to exist. Therefore, risk-taking behaviour will be influenced by property developers applying opportunistic framing to their projects

Personality Types

Personality is a feature characteristic of an individual that gives rise to general action (Kreitler & Krietler 1990). There are five key personality traits that cognitively impact upon risk-taking behaviour (Bruck & Allen 2003) so respondents were asked, "How often do you adopt a specific personality when undertaking a property development?" – see Table 7

Property developers perceived themselves to have a personality trait based on conscientiousness, which involves planned thinking and a goal-orientated approach to risk-taking behaviour. This is perhaps not unexpected as property developments are projects and a core attribute of projects is that they have a goal and deliverable. So risk-taking behaviour will be influenced by deliberate and thoughtful consideration of relevant factors including risks. In contrast, 85% of respondents are not prone to sensation seeking activities that disregard consequences. This suggests that property developers are aware of the need to avoid irrational approaches that jeopardise the project and therefore need to adopt conscientiousness personality trait.

Table 7 Personality traits

Rank	Personality traits	1 Never	2 Seldom	3 Sometimes	4 On most Occasions	5 Always	Average Score
1	Planning & active problem solving, goal orientated. [<i>Conscientiousness</i>]	0%	0%	5%	60%	35%	4.30
2	Optimistic, less fearful of unpleasant outcomes. [<i>Extraversion</i>]	0%	45%	20%	25%	10%	3.00
3	Tendency to conform to societal pressures [<i>Conformity</i>]	15%	40%	30%	15%	0%	2.45
4	Excitable, changeable, higher levels of anxiety. [<i>Neuroticism</i>]	25%	35%	35%	5%	0%	2.20
5	Desire for excitement, tend to disregard consequences. [<i>Openness to Experience</i>]	35%	50%	15%	0%	0%	1.80

CONCLUSION

The aim of this research was to investigate influences on risk-taking behaviour of small-scale residential property developers in Perth, Western Australian, based on structured interviews with twenty property developers. This paper reports the findings of property developers' perceptions of the following influences on risk-taking behaviour: level of risk, anticipated returns, risk attitude, cognitive biases, framing, and personality traits.

Property developers' risk-taking behaviour is influenced by the risk level in projects in terms of the degree of variability of outcomes and/or magnitude of potential losses. Property developers expressed a strong risk averse attitude, which means risk-taking behaviour is influenced by the desire to not engage in projects where risks greatly exceed to rewards; in fact, many seek out developments where the rewards disproportionately exceed the risks because risk and reward are seen as not necessarily being related. These potential rewards and risks tend to be framed opportunistically, which suggest that rewards are likely to be more emphasised than risks. Property developers seem to be particularly prone to availability bias, which means their risk-taking behaviour may result in irrational decisions based on irrelevant information. All these influences on risk-taking behaviour – level of risk, risk averse attitude and opportunistic framing – are tempered by a personality trait that promotes proper planning and problem-solving when involved in risk-taking behaviour.

The results highlight the multi-faceted interrelated influences in risk-taking behaviour. This research has contributed to the body of knowledge of influences on risk-taking behaviour of property developers. Suggestions for further research include whether risk-taking behaviour varies according to age, gender, education, ethnicity, and nationality; and whether large property development organisations differ to small organisation in the nature of influences on risk-taking behaviour.

Finally, it must be emphasised that this research is based on project developers' perceptions of their own behaviour and provides a foundation for further observational or experimental research to compare these perceptions with their actual risk taking behaviour.

REFERENCES

- Bazerman, M. H. 1990, *Judgement in Managerial Decision-making*, 2 Ed, John Wiley Inc, New York, USA.
- Belzer, R. B. 2001, 'Getting beyond 'grin and bear it' in the practice of risk management', *Reliability Engineering and System Safety*, vol. 72, pp. 137-148.
- Bruck, C. S. & Allen, T. D. 2003, 'The relationship between big five personality traits, negative affectivity, type A behavior, and work-family conflict', *Journal of Vocational Behavior*, vol. In Press, Corrected Proof.
- Busenitz, L. W. & Lau, C. 1996, 'A cross-cultural cognitive model of new venture creation.' *Entrepreneurship: Theory and Practice*, vol. 20, no. 4, pp. 25-39.
- Byrne, P. 1996, *Risk, Uncertainty and Decision-making in Property Development*, E & F N Spon, London.
- d'Amboise, G. & Muldowney, M. 1988, 'Management theory for small business: attempts and requirements.' *Academy of Management Review*, vol. 13, no. 2, pp. 226-240.
- Flanagan, R. & Norman, G. 1993, *Risk Management and Construction*, Blackwell Scientific Publications, Oxford, U.K.
- Forlani, D. & Mullins, J. W. 2000, 'Perceived Risks and Choices in Entrepreneurs' New Venture Decisions', *Journal of Business Venturing*, vol. 15, pp. 305-322.
- Greer, G. E. & Farrell, M. D. 1993, *Contemporary Real Estate: Theory and Practice*. The Dryden Press, New York, USA.
- Highhouse, S. & Yuce, P. 1996, 'Perspectives, Perceptions, and Risk-Taking Behavior', *Organizational Behaviour and Human Decision Processes*, vol. 65, no. 2, pp. 159-167.
- Kahneman, D. & Lovallo, D. 1993, 'Timid Choices and bold forecasts: A cognitive perspective on risk-taking.' *Management Science*, vol. 39, no. 1, pp. 17-31.
- Kau, J. B. & Sirmans, C. F. 1985, *Real Estate*, McGraw-Hill Book Company, New York, USA.
- Keil, M, Wallace, L. Turk, D, Dixon-Randall, G and Nulden, U. 2000, 'An investigation of risk perception and risk propensity on the decision to continue a software development project.' *The Journal of Systems and Software*, vol. 53, pp. 145-157.
- Kreitler, S. & Krietler, H. 1990, *The Cognitive Foundations of Personality Traits*, Plenum Press, New York, USA.
- MacCrimmon, K. R. & Wehrung, D. A. 1990, 'Characteristics of Risk Taking Executives', *Management Science*, pp. 422-435.
- March, J. & Shapira, Z. 1987, 'Managerial perspective on risk and risk-taking', *Management Science*, vol. 33, pp. 1404-1418.
- Palich, L. E. & Bagby, D. R. 1995, 'Using Cognitive Theory to Explain Entrepreneurial Risk-Taking: Challenging Conventional Wisdom', *Journal of Business Venturing*, vol. 10, pp. 425-438.

- Powell, M. & Ansic, D. 1997, 'Gender differences in risk behaviour in financial decision-making: An experimental analysis.' *Journal of Economic Psychology*, vol. 18, pp. 605-628.
- Ray, D. M. 1994, 'The Role of Risk-taking in Singapore', *Journal of Business Venturing*, vol. 9, pp. 157-177.
- Sarantakos, S. 1998, *Social Research*, 2nd Ed, MacMillan Education Australia, South Yarra.
- Shapira, Z. 1995, *Risk Taking: A Managerial Perspective*, Russell Sage Foundation, New York, USA.
- Simon, M., Houghton, S.M., & Aquino, K. 1999, 'Cognitive Biases, Risk Perception, and Venture Formation: How Individuals Decide to Start Companies', *Journal of Business Venturing*, vol. 15, pp. 113-134.
- Sitkin, S. B. & Weingart, L. R. 1995, 'Determinants of risky decision-making behavior: A test of the mediating role of risk perceptions and propensity.' *Academy of Management Journal*, vol. 38, no. 6, pp. 1573-1592.
- Spier, R. E. 2002, 'Perception of risk of vaccine adverse events: a historical perspective', *Vaccine*, pp. 78-84.
- Standards Australia 1999, *AS/NZS 4360:1999 Risk Management*, Standards Association of Australia, Homebush, NSW.
- Trimpop, R. M. 1994, *The Psychology of Risk Taking Behaviour*, North Holland, Amsterdam, The Netherlands.
- Warneryd, K. 1996, 'Risk attitudes and risky behavior', *Journal of Economic Psychology*, vol. 17, pp. 749-770.
- Weber, E. U. & Milliman, R. A. 1997, 'Perceived risk attitudes: Relating risk perception to risky choice', *Management Science*, vol. 43, no. 2, pp. 123 -144.
- Wofford, L. E. & Clauretie, T. M. 1992, *Real Estate*, 3rd edn, John Wiley & Sons, Inc., New York, USA.
- Wurtzback, C. H. & Miles, M. E. 1991, *Modern Real Estate*, 4th edn, John Wiley & Sons, Inc., New York, USA.
- Yates, F. J. 1992, *Risk-Taking Behavior*, John Wiley & Sons Ltd., Chichester, West Sussex, England.