

A META-ANALYSIS OF OPPORTUNISTIC BEHAVIOUR IN PUBLIC-PRIVATE PARTNERSHIPS: MANIFESTATIONS AND ANTECEDENTS

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Public-private partnerships (PPP) are increasingly popular around the world. A number of studies have been conducted on the risk factors and risk allocation in PPP, but they ignored the underlying forces which drive project stakeholders' behaviour when transferring risks. This paper addresses this gap by investigating the manifestation and antecedents of opportunistic behaviour in PPP projects. Using delinquency theory, transaction cost economics and agency theory, a conceptual model of antecedents of opportunistic behaviour in PPP is developed. A meta-analysis of 20 PPP case is conducted. It is found that self-interest seeking and asset specificity are the most important factors in motivating parties' to act opportunistically. Superordination and externalization are the two significant forces in justifying opportunistic behaviours in PPPs. In addition, risk occurrences have a direct relationship with opportunistic behaviour.

Keywords: public-private partnership, risk transfer, risk allocation, opportunistic behaviour.

INTRODUCTION

Collin and Hansson (2000) define PPPs as “an arrangement between a municipality and one or more private firms, where all parties share risks, profit, utilities and investments through a joint ownership of an organization”. The definition and concept of partnership place the principles of cooperation, joint ownership and risk sharing at the centre of the 'partnership' approach. However, in many projects, evidence indicates that the reality does not match the rhetoric? There is considerable research which shows that in practice, PPP projects are less ideal and that, as in all business transactions, the public and private sector engage in opportunistic behaviour with the intent of furthering their own interests at the expense of the other party's. For example, sometimes the more powerful public parties force their private partners to take risks (Guasch 2004, Jin and Zhang 2011), sometimes the public parties don't have expertise to see the risks they are taking and sometimes the risks are hidden from them by unscrupulous business partners (Vazquez and Allen 2004, Chang 2013). A recent report by the Australian Contractors Association (ACA 2012) shows that contractors feel that they are exploited at various points along the PPP negotiation process and that many risks are unfairly and inappropriately transferred to them without their knowledge, consent and agreement. In transaction cost theory, this type of behaviour is described as 'opportunistic' and is defined as "self-interest seeking with guile"(Williamson 1985, p.47).

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Given the centrality of open, fair and appropriate risk allocation to the PPP approach, a number of studies have been conducted to explore how to achieve it (Li et al 2005, Singh and Kalidindi 2006, Xiao and Zhang 2011). However, these studies either focus on the problems associated with poor risk allocation or the mechanics by which parties should be allocated each risk or the nature of the risks each should take. The underlying forces which drive project stakeholders' behaviour when negotiating risks in PPP projects has been largely ignored, leaving us with little understanding of the reasons 'why' risk allocation is often less than optimal in PPP projects. This study fills this gap by investigating causes of opportunistic behaviour in PPP projects. By better understanding the basis of opportunistic behaviour, managers of PPP projects will be better equipped to ensure that PPP projects exhibit the positive behaviours which are the characteristics of a true partnership.

MANIFESTATIONS OF OPPORTUNISTIC BEHAVIOUR IN PPP

In the context of risk allocation in PPP project, the opportunistic behaviour come from transferring risk, with the intent of pursuing their interests at the expense of the other party's. The key elements of opportunism are lack of commitment and self-interest seeking. There are numerous examples of opportunistic behaviour that have been identified in the PPP literature. For example, 'underbidding' occurs when the private contractor quotes a price for a piece of work put out to tender which is lower than that which would cover costs (Korczyński 1994). Underbidding is considered opportunistically in PPP project if (1) the bidders engage in misleading and deceptive behaviour by making unrealistic or even false promises to the public sector to win PPP contract and; (2) The winner bidder breaks the promise once winning the contract and refuses to fulfil the contract unless additional conditions are satisfied and the public sectors bear the extra risks (Vazquez and Allen 2004, Chang 2013). Free riding refers to people obtaining benefits from their partners but not bearing a proportional share of the costs of providing the benefits (Albanese and van Fleet, 1985). There is evidence that some governments used 'free riding' strategy in cooperation with their private partners in PPP project, by transferring of all risks to the private sector and trying to create public infrastructure at little or no cost (Jin and Zhang 2011). For example, in the Taiwan electronic toll collection (ETC) program, PPP was even defined as 'government zero investment', which means the private sector is willing to carry out, and the public sector do not need to invest a penny (Chen 2007). Consequently the private consortium had to take all the risks including commercial and technical operation and maintenance, even though this was not the most efficient allocation of risks (Guasch 2004, Boardman et al 2005). 'Hostile Takeover' allows a suitor to take over a target company whose management is unwilling to agree to merger or takeover (Davis 1988). A takeover is considered "hostile" if it is against the willingness of the private partner. For example Spiller (2008) described a project where the government took over a project which directly led to private consortium bankruptcy. 'Power Misuse' refers to the government deliberately and unilaterally changed the rules via the use of formal and informal powers to meet its own interest (Guasch 2004). For example, governments may issue legislation making a particular type of contract illegal (Spiller 2008). Finally, 'social Surplus Capture' is judged on the ground whether the public or private sector or both disobeyed the principle of public interest and equity (Chen 2007). For example, there is evidence of some occasions when PPP projects only serve a political purpose to help government win an election, leaving taxpayers to pay the cost of the project (Engel et al 2006).

ANTECEDENTS OF OPPORTUNISTIC BEHAVIOUR IN PPP

The three main theories which provide a conceptual understanding of opportunistic behaviour are: transaction cost economics, agency theory and delinquency theory.

Transaction Cost Economics Theory

In PPP projects parties can find themselves locked-in to relationships with their partners and consequently vulnerable to opportunistic behaviour. The idea of the lock-in relationship has been discussed by transaction cost economics (Williamson 1985). In transaction cost economics the following elements help to explain opportunistic behaviour: asset specificity, environmental uncertainty and imperfect control.

Asset Specificity

Asset specificity refers to a situation in which resources necessary to carry out a transaction involve "durable transaction-specific investments" that cannot be used for another purpose without significant financial loss (Fligstein and Freeland 1995). It provides a barrier for parties to exit a relationship. The bigger the size of asset specificity, the more disadvantage for one partner if the other behaves opportunistically (Kapmeier 2008). For example even if a government knew the truth that their private partners were collecting profits at the expense of their own interest, they may not be able to determine the contract because the termination cost will be even higher for the public sector than carrying on (Guasch 2004, Boardman et al 2005). If one partner knows the other is committed to continuing this relationship regardless of escalating cost, it has an opportunity to behave opportunistically (de Brux 2010)

Environmental Uncertainty and Imperfect Control

One assumption of transaction cost economics theory is bounded rationality. It is defined as a semi-strong form of rationality, but limited to the uncertainties (Williamson 1985). Burnes (2000:75) comments that "uncertainty arises because of our inability ever to understand and control events fully, especially the actions of others, whether outside or inside an organization". Thus, with high degree of environmental uncertainty and imperfect control, the opportunism occurred. In PPP project, the environment uncertainties included political risks, construction risks, legal risks, economic risks, operation risks and so on (Li et al. 2005, Xiao and Zhang 2011). Imperfect control refers to questionable criteria for selecting bidder (Abdul-Aziz 2001), lack of transparency in bidding or renegotiation process (Chen 2007, Engel et al 2006), parties' non-professional judgment, and incomplete contract (Vazquez and Allen 2004). If the environmental uncertainties are high and complex, the contract will be difficult to specify and cover every potential problem that may occur, which create space for opportunism (de Brux, 2010).

Agency Theory

Contrary to transaction cost economic theory, agency theory assumes that contracts are complete (Akerlof, 1970). Agency theory assumes that both the agent and principal are rational and self-interested, but the rationality is bounded to information asymmetry between the parties, which may lead to opportunism, adverse selection or moral hazard (Arthurs and Busenitz 2003).

Information Asymmetry

Asymmetric information assumes a situation in which one party involved in a transaction has more or superior information than another (Bahli and Rivard, 2003). When the motive to deceive exists, relative advantage to information in an exchange relationship provides an excellent opportunity to do so. For example in the bidding stage of PPP project, the public would consider bidder's qualifications and details of the bidding documents (Vazquez and Allen 2004, Chang 2013). The private would consider the government's credibility and willingness to provide guarantees (Boardman et al 2005, Chen 2007). 'Underbidding' occurs when the private partners take advantage of the public's lack of information (Guasch 2004, Boardman et al 2005).

Delinquency Theory

Transaction cost economics theory and agency theory provide useful concepts to explain the conditions which can lead to opportunistic behaviour. It helps provide answers to questions like - will people act opportunistically if they know they are wrong and their actions will be punished? How do they justify their opportunistic behaviours? Neutralization plays an important role in justifying wrongdoings. Sykes and Matza (1957) described three dimensions in justification: externalization, normalization and superordination.

Externalization

Externalization refers to the situation where the delinquent acts are due to forces outside of individual and beyond his control (Sykes and Matza, 1957). The individuals usually justify their responsibilities of opportunistic behaviour by blaming environmental uncertainty, the other party's imperfect control, information asymmetry or the other party's asset specificity. The responsibility of the wrongfulness can be waived if the injury occurred because of the environmental uncertainty, information asymmetry between parties or the injured party's asset specificity, because it couldn't be the evidence that the opportunistic party conducted the wrongdoings deliberately. For example parties needn't to bear extra risks if they break the relationship, but they choose to keep in the relationship, because the millions of dollars investment made him held up to their partners (Boardman et al 2005, Spiller 2008). In this regards, parties justify their opportunistic behaviour by externalization.

Normalization

Normalization is described as people justifying their wrongdoing as normal (Sykes and Matza, 1957). For example, construction industry has bad reputation in commitment (Korczyński 1994), so it is normal to lack of commitment in PPP projects. In case of Chile highway projects, the project was valued at \$3.4 billion and increased another \$1.27 billion in renegotiations. This action usually cannot be accepted, but in Chile it is common. Many contracts in Chile were renegotiated after construction to include additional works. 12 out of the 16 highway projects awarded by 1998 had been renegotiated by May 2002 (Engel et al 2006). In this sense, parties justify their opportunistic behaviour by normalization.

Superordination

Superordination is to justify revenge. Sometimes even if the parties admit their actions involve an injury or hurt, but the moral indignation of themselves may be insistence that the injury is not wrong (Sykes and Matza, 1957). In this regards, the injury is a form of rightful punishment. For example the government took over the project after the private contractor Covanta invested millions of dollars, which leads Covanta to bankrupt in Tampa Bay seawater desalination project (Boardmans et al 2005). However, in government view of point, this is a form of punishment for the private contractor's constant delays in completion of the project. Another example shown in Taiwan ETC project (Chen 2007), the private sector transfers risks to customers and government, because the government treated the PPP as free lunch and tried to transfer all the risks to private contractors at first. In private contractor's opinion, this is a punishment to the public sector for their wrong attitude and wrong doings. In this regards, parties justify their opportunistic behaviour by superordination.

Table 1 summarises the instruments of antecedents and manifestations of opportunistic behaviour in PPP projects under the theoretical constructs discussed above.

Table 1: Instruments of Antecedents and Manifestation of Opportunistic Behaviour in PPP

Antecedents of Opportunistic Behavior						
Externalization				Normalization		Superordination
Environmental Uncertainty [EU]	Imperfect Control [IC]	Information Asymmetry [IA]	Asset Specificity [AS]	Lack of Commitment [LOC]		Self-interest Seeking [SS]
[EU1] economic risks	[IC1] questionable criteria for selecting bidders	[IA1] bidder's qualifications and details of the bidding documents	[AS1] PPP project	[LOC1] make unrealistic promises and break the promise once winning the contract	[SS1] private gain benefits at the expense of public	[MOB1] underbidding
[EU2] construction risks,	[IC2] parties' non-professional judgment	[IA2] government's credibility and willingness to provide guarantees	[AS2] government reputation	[LOC2] transfer risks, and refuse to assume even when the other party is overloaded	[SS2] public gain benefits at the expense of private	[MOB2] free riding
[EU3] operation risks,	[IC3] lack of transparency in bidding/renegotiation process	[IA3] customers' right to know the bidding and renegotiation process, the parties' decision making process, the project charges	[AS3] private investment	[LOC3] deliberately work slowly and claim extra payment to overtime	[SS3] public/private gain benefits at the expense of customers/taxpayers	[MOB3] sitting on the job
[EU4] political risks	[IC4] incomplete contract		[AS4] private willingness to get the job	[LOC4] deliberately deliver poorer quality of work and claim extra payment for maintenance		[MOB4] poor quality of performance
[EU5] legal risks			[AS5] customers payment	[LOC5] takeover PPP project against the willingness of private partner		[MOB5] hostile takeover
[EU6] management risks			[AS6] tax payment	[LOC6] deliberately and unilaterally changed the rules via the use of formal and informal powers		[MOB6] power misuse
				[LOC7] unilaterally transfer the risks to customers or taxpayers		[MOB7] social surplus capture

The conceptual model is developed in Figure 1 to illustrate of the social forces that shape and sustain of opportunistic behaviour in PPP projects, as well as the patterns of interaction that underpin them.

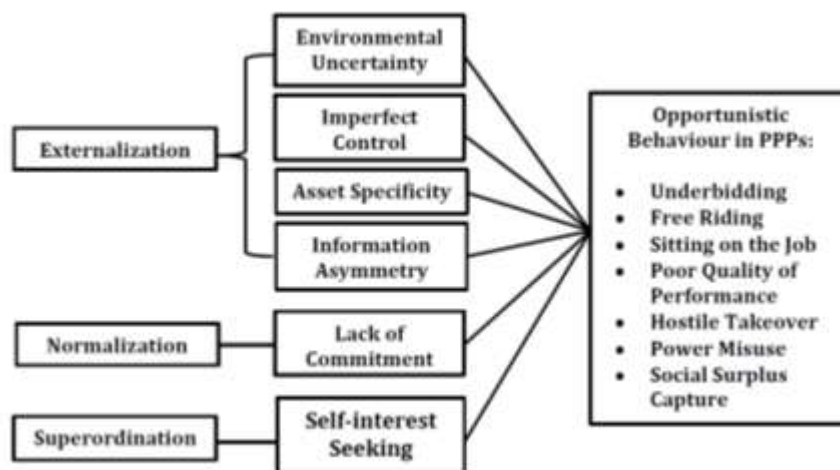


Figure 1: Conceptual Model of Antecedents and Manifestations of Opportunistic Behaviour in PPP

METHOD

To demonstrate the conceptual model, the papers relevant to PPP published in the following leading construction management journals were used: International Journal of Project Management (IJPM), Journal of Construction Engineering and Management (JCEM), Construction Management and Economics (CME), as well as ARCOM conference papers, NBER working papers and books. Additionally, the author employed the following phrases in subjects, titles, keywords, or abstracts in paper searching: [“Public–Private Partnership” OR “Private Finance Initiative” OR “Build–Operate–Transfer”] AND [“Failure” OR “Conflict” OR “Dispute” OR “Renegotiation”]. The author scaled down the search by focusing on the papers published from 2001 to 2013. Finally the following 20 PPP cases from 15 countries are selected in Table 2.

Table 2: Meta-analysis of 20 PPP Cases

No.	Author	Case	Stage	Antecedents					Manifestation Opportunistic Behavior [MOB]		
				Externalization		IA	AS	Normalization		Superordination	
				EU	IC	IA	AS	LOC	SS		
1	Boardman et al 2005	Dulles Greenway	Operate	[EU3]			[AS3] [AS4]	[LOC7]	[SS3]		[MOB7]
2	Boardman et al 2005	Tampa Bay Seawater Desalination Project	Build 14-day acceptance test after construction	[EU2]	[IC4]	[IA1] [IA2]	[AS3] [AS4]	[LOC3] [LOC4] [LOC5]	[SS1] [SS2]		[MOB3] [MOB5]
3	Boardman et al 2005	The Alberta Special Water Management System	Operate				[AS3] [AS4]	[LOC7]	[SS3]		[MOB7]
4	Boardman et al 2005	The Highway 407 Express Toll Route	Bidding	[EU2] [EU3]	[IC4]	[IA1] [IA2]	[AS3] [AS4]	[LOC2]	[SS2]		[MOB2]
5	Engel et al 2006	Chile Highway Projects	Renegotiation after bidding	[EU4]	[IC3] [IC4]	[IA3]	[AS3]	[LOC7]	[SS3]		[MOB7]
6	Spiller 2008	Venezuelan Oil Project	Operate	[EU3] [EU4]			[AS3] [AS4]	[LOC5] [LOC6]	[SS2]		[MOB6] [MOB5]
7	Kumaraswamy and Zhang 2001	The Ngone Bridge Project, LAO PDR	Operate	[EU3]			[AS3]	[LOC7]	[SS3]		[MOB7]
8	Chang 2013	Channel Tunnel Rail Link Project	Bidding			[IA1]	[AS1] [AS2]	[LOC1]	[SS1]		[MOB1]
9	Chen 2007	Taiwan Electronic Toll Collection (ETC) Program	Pre-tendering	[EU3] [EU5]	[IC3]	[IA2]	[AS3] [AS4]	[LOC2]	[SS2]		[MOB2]
10	Spiller 2008	Water and Sanitation Project in Tucuman	Operate	[EU3] [EU4]			[AS3] [AS4]	[LOC10]	[SS2]		[MOB6]
11	Abdul-Aziz 2001	Malaysia's Sewerage System	Build Operate	[EU6]	[IC1] [IC3]	[IA1] [IA3]	[AS1] [AS3] [AS5]	[LOC3] [LOC7]	[SS1] [SS3]		[MOB4] [MOB7]
12	Vazquez and Allen 2004	Highway infrastructure in Central America and Mexico	Bidding Build Operate	[EU1] [EU3]	[IC2] [IC4]	[IA1]	[AS1] [AS2]	[LOC1] [LOC2] [LOC3]	[SIS1] [SS3]		[MOB1] [MOB4] [MOB7]
13	Guasch 2004	Mexican Highway	Bidding	[EU1]	[IC1] [IC3] [IC2] [IC4]	[IA1]	[AS1] [AS2]	[LOC1]	[SS1]		[MOB1]
14	Guasch 2004	Mexican National Railways	Bidding			[IA1]	[AS1] [AS2]	[LOC1]	[SS1]		[MOB1]
15	Guasch 2004	Airport Project in Lima	Bidding		[IC2]	[IA1]	[AS1] [AS2]	[LOC1]	[SS1]		[MOB1]
16	Guasch 2004	Buenos Aires Water and Sanitation Project	Bidding Build	[EU1] [EU2] [EU3]	[IC3] [IC4]	[IA2] [IA1]	[AS3] [AS4] [AS1]	[LOC2] [LOC3]	[SS1] [SS2]		[MOB2] [MOB4]
17	Guasch 2004	Colombia Airport Concession	Bidding	[EU3] [EU1]	[IC4]		[AS3]	[LOC7]	[SS3]		[MOB7]
18	Guasch 2004	Samana Highway Project in the Dominican Republic	operate	[EU1] [EU3]	[IC4]		[AS3]	[LOC7]	[SS3]		[MOB7]
19	Guasch 2004	Port Concession in Peru	Pre-Bidding		[IC4]		[AS3] [AS4]	[LOC19]	[SS2]		[MOB6]
20	Guasch 2004	Water and Sanitation Concession in Bolivia	Operation	[EU3] [EU4]	[IC2]	[IA1]	[AS1]	[LOC7]	[SS3]		[MOB7]

DATA ANALYSIS AND DISCUSSION

Risk Occurrences and Opportunistic Behaviour

Previous PPP researches either focus on the mechanics by which parties should be allocated each risk or the nature of the risks each should take (Li et al. 2005, Xiao and Zhang 2011). They ignored the underlying forces which drive project stakeholders' behaviour when negotiating risks in PPP projects. This has left us with little understanding of the reasons 'why' risk allocation is often less than optimal in PPP projects. This study fills this gap by investigating the relationship between risk occurrences and opportunistic behaviour in each stage of PPP projects (see Figure 2). At the stage of 'Pre-tendering', the government has dominant power in the partnership, thus the opportunistic behaviours are driven by the public party. With the involvement of the private partners in 'Bidding' stage, the power changes in the partnership and sometime the opportunistic behaviour is driven by the private party, i.e.

'underbidding'. It is found that with more opportunistic behaviours conducted in 'Build' period, the number of risk occurrences reaches peak. After the completion of construction, the power of the partnership changes again, and the private weakens, thus the risks begin to transfer to the private.

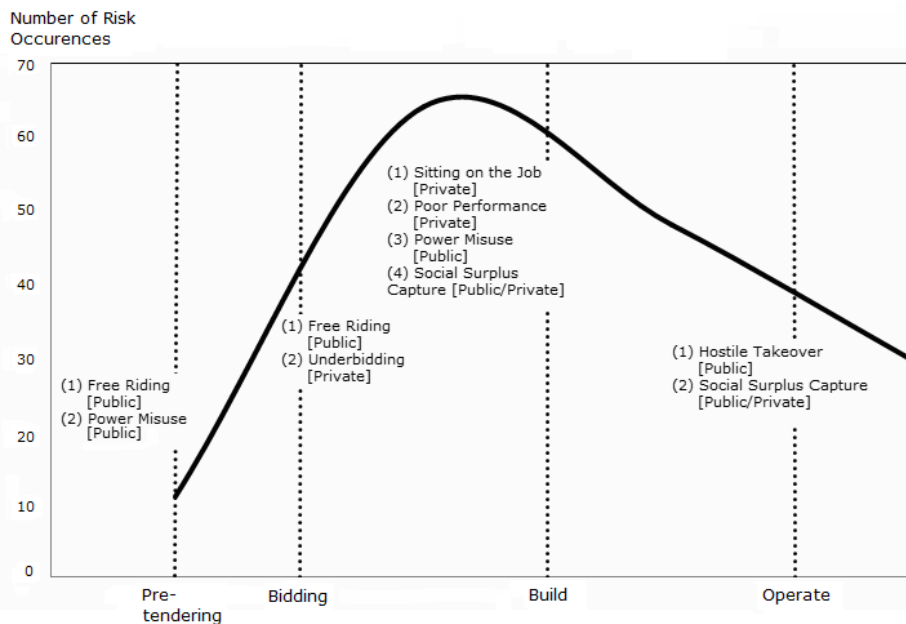


Figure 2: The Number of Risks Occurrences and Opportunistic behaviour in each Stage

Motives and Justifications of Opportunistic Behaviour

From the manifestation of opportunistic behaviour and transaction cost economics theory and agency theory, it is identified that environmental uncertainty, imperfect control, asset specificity, information asymmetry, lack of commitment and self-interest seeking are six determinants which lead to opportunistic behaviours. But nobody will act opportunistically if their wrongdoings definitely break the contract or the law, since they will pay the price for that. So the problem is how people doing the wrongfulness can survive themselves as well. How can they justify their opportunistic behaviours? In this paper, the author combined these two perspectives to better understand the antecedents of opportunistic behaviour in PPP projects.

The mean value for the six determinants of the opportunistic behaviour from 20 PPP cases was calculated: environmental uncertainty (4.17), imperfect control (5), information asymmetry (5.67), asset specificity (6.17), lack of commitment (3.86), self-interest seeking (8). It is found from Figure 3 that self-interest seeking and asset specificity are the most important factors in motivating parties' opportunistic behaviours. It is consistent with the transaction cost economics theory that self-interest seeking is the fundamental assumption of opportunistic behaviour. Asset specificity is a key factor in power changes and risk allocation in partnerships. The bigger the size of asset specificity, the more vulnerable the party in the partnership, and thus have to bear more risks. The mean value for the three dimensions of justifications for opportunistic behaviour were: externalization (5.25), normalization (3.857), superordination (8). It is found in Figure 4 that superordination and externalization are the two important forces in justifying opportunistic behaviours. Revenge is the main source for opportunistic behaviour in PPP projects, and people usually justify their opportunistic behaviour by externalization.

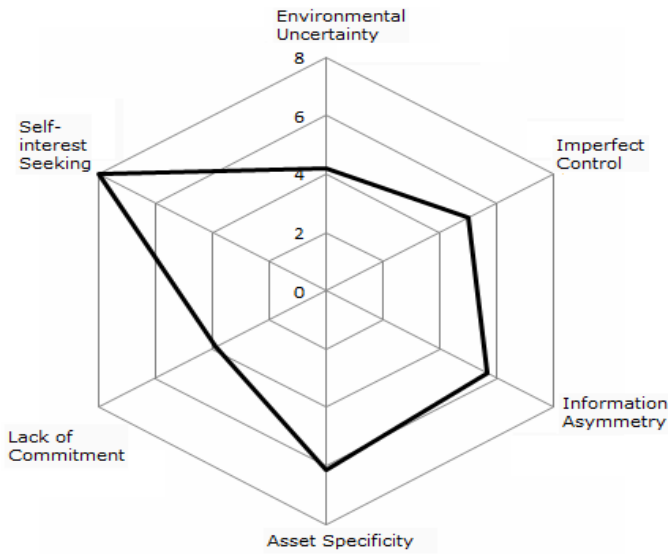


Figure 3: Six Elements of Antecedents of Opportunistic Behaviour in PPP

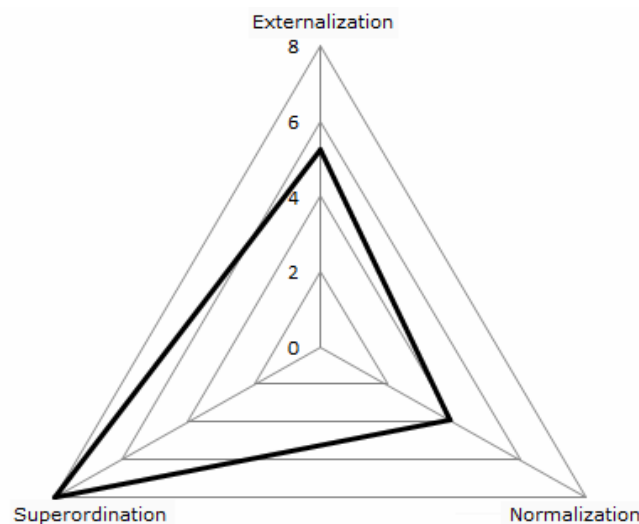


Figure 4: Externalization, Normalization and Superordination in Opportunistic Behaviour in PPP

CONCLUSIONS

Previous researches in PPP have been conducted either on the nature of risks or the mechanics of risk that each party should take. Nobody mentioned the underlying forces which drive project stakeholders' behaviour when transferring risks. This paper fills this gap by investigating the opportunistic behaviour in PPP projects. The author first identified 7 types of opportunistic behaviour in PPP projects. After reviewing of transaction cost economics, agency theory and delinquency theory, a conceptual model of antecedents of opportunistic behaviour in PPP is developed, with combination of both motivations and justifications of opportunistic behaviours in PPP. Six determinants of motivations in opportunistic behaviour in PPP are identified as environmental uncertainty, imperfect control, asset specificity, information asymmetry, lack of commitment and self-interest seeking. Three justification techniques for opportunistic behaviour in PPP are defined as externalization, normalization and superordination. A meta-analysis of 20 PPP case is conducted. It is found that self-interest seeking and asset specificity are the most important

factors in motivating parties' to act opportunistically. It is consistent with the transaction cost economics theory that self-interest seeking is the fundamental assumption of opportunistic behaviour. Asset specificity is a key factor in power changes and risk allocation in partnerships. The bigger the size of asset specificity, the more vulnerable the party in the partnership, and thus have to bear more risks. Superordination and externalization are the two significant forces in justifying opportunistic behaviours in PPP. Revenge is the main source for opportunistic behaviour in PPP projects, and people usually justify their opportunistic behaviour by externalization. In addition, it is more interesting to find that risk occurrences do have a relationship with the opportunistic behaviours. With the more opportunistic behaviours conducted, the number of risk occurrences can reach to peak.

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