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Ignorance and uncertainty: the case of irrelevance in project management

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The management of project risk is considered a key discipline by many organisations such as the Project Management Institute (PMI). Best practice project risk management processes are claimed to be self-evidently correct. However, project risk management involves a choice between which information is utilized and which is deemed to be irrelevant and hence excluded. Little research has been carried out to ascertain the manifestation of barriers to optimal project risk management such as 'irrelevance', the deliberate inattention of risk actors to risk. This paper presents the results of a qualitative study of project managers perceiving known risk as not pertinent to a particular issue in IT projects. The results both confirm and expand Smithson's (1989) taxonomy of ignorance and uncertainty and in particular offer further context related insights into the phenomenon of 'irrelevance' in project risk management. We suggest that coping with 'irrelevance' requires defence mechanisms, the effective management of relevance as well as the setting of, and sticking to priorities.

Keywords: Project, Risk, Process, Irrelevance, Effectiveness

INTRODUCTION

Institutions such as the Project Management Institute (PMI) or the Association of Project Management (APM) promote best practice project management standards. Project risk management, as one of the key disciplines of project management, is defined as the systematic process of identifying, analysing and responding to risk as project-related events, or managerial behaviour that is not definitely known in advance, but that has potential for adverse consequences on a project objective (Project Management Institute, 2004). Project risk management claims to enable project managers to effectively manage risk related information. However, the effectiveness of these standards has received little attention in research.

Raz and Michael (2001) have investigated the extent to what project managers perceive project risk management as effective. However, such evidence is scarce, often descriptive and inchoate. In order to address these shortcomings, this study investigates how 'irrelevance', the deliberate ignorance of risk related information, manifests itself in the context of project risk management and how it constrains the perceived effectiveness of project risk management. We have selected the IT project as these projects have a high failure rate (McGrew & Bilotta, 2000; The Standish Group International Inc., 2007; Whittaker, 1999).

LITERATURE REVIEW

Risks potentially endanger the ability of the project manager to meet predefined project objectives of scope, time and cost. This ultimately means that tasks may take longer than planned with a negative consequence on the project manager's fulfilment of the project objectives (Project Management Institute, 2004). Because of this potential to adversely influence a project's performance, the PMI acknowledges the management of

risk as one of its nine key knowledge areas in its *Guide to the Project Management Body of Knowledge* (Project Management Institute, 2004). This represents best practice in the area of project management according to Pender (2001).

Alternative models of best practice in project risk management

There are a number of "best practice" project risk management processes such as the British Standards Institute (British Standards Institution, 2000), the Office of Government Commerce (Office of Government Commerce, 2007) or the UK Association for Project Management (Association for Project Management, 2005; Chapman, 1997; Chapman & Ward, 2000). The basic structure of all these models is similar (Gaulke, 2002). Table I gives an overview of the key elements.

Major steps in project risk management	PMBOK - PMI risk management process (Project Management Institute, 2004)	OGC – Management of risk (Office of Government Commerce, 2007)	PRAM - APM risk management process (Association for Project Management, 2005)
Planning	Risk Management Planning	Context	Focus
			Define
Identification	Risk Identification	Risk Identification	Identify
			Structure
Analysis	Risk Analysis	Assess - Estimate	Estimate
		Assess - Evaluate	Evaluate
Response	Risk Response Planning	Plan	Plan
	Risk (Monitoring and) Control	Implement	Ownership
		Communicate	Manage

Table 1: Overview of main project risk management processes

Regardless of the number and definition of stages, the mentioned project risk management processes have one activity in common: "an activity that deals with planning actions that will be implemented in order to reduce the exposure to risk" (Ben-David & Raz, 2001). This principle activity can be subdivided into four major stages: planning, identification, analysis, and response. Firstly, a project manager can apply risk management *planning* to define what activities should be taken to approach project risks. Secondly, risk *identification* allows project managers to single out risks that may

affect the project objectives. Thirdly, by using risk *analysis* a project manager evaluates quantitatively or qualitatively the likely consequences of risks as well as the likelihood of occurrence (Raftery, 1994, p. 6). Fourthly, risk *response* helps a project manager to develop procedures and techniques to mitigate the defined risks, and enables the project manager to keep track of these, to identify new risks during the project and to implement risk response plans (Project Management Institute, 2004).

Theoretical underpinning of best practice

Best practice project management standards as introduced and promoted by organisations such as PMI or APM indirectly claim to be self-evidently effective. In this respect, Williams (2005, p. 2) argues:

> "Project management as set out in this work is presented as a set of procedures that are self-evidently correct: following these procedures will produce effectively managed projects; project failure is indicative of inadequate attention to the project management procedures."

Self-evidently correct project risk management processes such as those described have their foundation in the expected utility theorem (EUT) (Ekenberg, Boman, & Linnerooth-Bayer, 2001; Kahneman & Tversky, 1979; Pender, 2001; Tversky & Kahneman, 1992). Expected utility is "a weighted average of the utilities of all the possible outcomes that could flow from a particular decision, where higher-probability outcomes count more than lower-probability outcomes in calculating the average" (Borge, 2001, p. 21). In other words, the utility of decision making choices are weighted by their probabilities and outcomes (Arrow, 1983; Kahneman & Tversky, 1979).

EUT has generally been accepted in the literature as a model of rational choice for taking risky decisions (Anand, 1993; Borge, 2001; Jaeger, Renn, Rosa, & Wehler, 2001;

Kahneman & Tversky, 1979) and is considered a fruitful framework for decision-making under risks (Einhorn & Hogarth, 1986). Several key characteristics are worth mentioning. First, it is the presumption of rationality. Under assumptions of EUT, 'hyper rationality' is assumed (Weber, Kopelman, & Messick, 2004). The prevailing normative and explanatory framework in decision making under uncertainty tend to ignore the absence or 'distortion' of truth. Hence, social influences are downplayed. In particular, ignorance is excluded, the main focus of this study.

Recently, some attention has been paid to ignorance in various contexts (e.g. Congleton, 2001; Ehrich & Irwin, 2005; Jha & Iyer, 2006; Schneider, 2007). Literature has increasingly concentrated on the pursuit on certainty and how to overcome ignorance. Ignorance is often cited as the lack of distorted or 'true' knowledge (Greisdorf, 2003). Although this definition deserves credit, developing a single definition would be inappropriate because ignorance is a multidimensional concept with various facets (see Figure 1).

A distinction can be made between two types of ignorance refers to deliberate ignorance and ignorance as an affective impulse (Slovic, Finucane, Peters, & MacGregor, 2002). The concept of *error* including its various sub concepts (see Table 2, Figure 1) such as distortion relates to the passive connotation of incomplete knowledge (being ignorant). Although perfect knowledge about the future state of an environment is not possible and *error* will always occur despite attempts of correction through clarification and exactitude. In contrast, deliberate ignoring is defined as *irrelevance* that may be managed through the application of specific defence mechanisms (Smithson, 1989). It is not that information is missing or wrong (error), but rather that the present of particular information is not deemed important by stakeholders risk in a particular context.

Term	Meaning
1. Error	
1.1. Distortion	
1.1.1. Confusion	Wrongful substitutions
1.1.2. Accuracy	Bias and distortion in degree
1.2. Incompleteness	
1.2.1. Uncertainty	
1.2.1.1. Vagueness	Non-crispness of belonging and non-belonging of elements to a set or notion of interest
1.2.1.1.1. Fuzziness	The quality of being indistinct
1.2.1.1.2. Nonspecificity	Failure to indicate in sufficient detail to permit identification
1.2.1.2. Probability	Chances of outcomes
1.2.1.3. Ambiguity	The possibility of having multi-outcomes of processes or systems
1.2.2. Absence	Incompleteness in kind
2. Irrelevance	
2.1. Untopicality	Intuitions of experts that could not be negotiated with others in terms of cognitive relevance
2.2. Taboo	Socially reinforced irrelevance. Issues that people must not know, deal with, inquire about, or investigate
2.3. Undecidability	Issues that can not be designated true or false because they are considered insoluble, or solutions that are not verifiable

Table 2: Types of ignorance - meanings (Smithson, 1989)
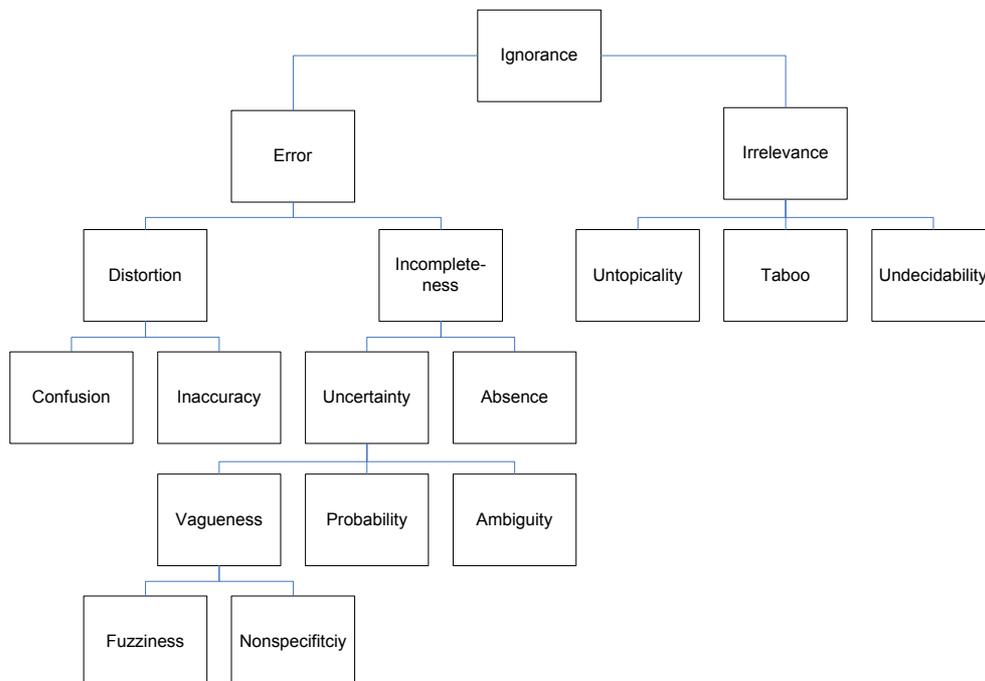
Figure 1: Taxonomy of ignorance (Smithson, 1989)

The first most obvious kind of irrelevance is *untopicability*, referring to information that are declared 'off-topic' resulting in a limitating the range of information and risks that project managers deem pertinent to focus on. Some literature on project risk management refers to untopicability. Margolis (2003, p. 35) argues: "experts in general learn to concentrate on what is critical in their experience with the domain at hand and ignore anything else."

A further sub-concept is *taboo*. Taboos reflect a moral and or cautionary restriction placed on the action to know what is deemed inappropriate (Douglas & Wildavsky, 1982; Douglas, 1986; Smithson, 1989). The process of project risk management requires project manager to expose risks for the purpose of analysing and responding to them. However, the exposure may also create anxiety among stakeholders, and negative thoughts may be suppressed (Frosdick, 1997). In an extreme case, the exposure of risks may result in the cancellation of the project because stakeholders take new risks into account and decide not to go ahead with a project that is now perceived as too risky (Royer, 2000). As a result, project managers may limit the degree to which they identify new risks. Risks, although legitimate, may then be suppressed during the risk identification phase and ultimately ignored.

The final aspect of ignorance, *undecidability*, suggested by Smithson (1989) raises the questions of whether information are considered 'true' or 'false' (Smithson, 1989). Due to the lack of statistical data for predicting future risks, project managers often rely on subjective estimates (Ramgopal, 2003). However, other stakeholders may not believe in the credibility of these estimates. Hence, during the phase of risk identification and risk analysis, stakeholders might disagree (Larrick & Soll, 2006) over which risks are considered to be untrue or consider it as fiction, with the result that some risks will be deemed as not pertinent and as a result lack are excluded from any active management.

Few studies have investigated the types of ignorance, especially in the context of project management. Although some studies have tried to address the importance of malice of project managers managing risk, most of the evidence is descriptive and relies on assumptions rather than on empirical findings. These findings thus lack theoretical relevance. This study aims to address the limitation by providing empirical evidence on the role of project risk management irrelevance. As a result, in the light of the lack of previous research, this study will shed some light on

- Is irrelevance perceived to be manifesting itself in IT project management?

- What impact does irrelevance have on risk management in IT projects?

METHODS

This study followed an exploratory approach in order to understand the 'social reality' of project managers and how they experienced irrelevance in project risk management. First, the research attempts to confirm the proposed types of irrelevance (undecidability, taboo, untopicality). However, the aim of the investigation is also to explore whether further types of deliberate ignorance exist. Second, if types of irrelevance are salient in the context of project risk management, the impact of them on the perceived effectiveness of project risk management is explored. Hence, due to the exploratotu nature of the study, a research technique of face-to-face unstructured interviews was adopted guided by a topic rather than a set of specific questions in order to allow an in-depth insight into best practice and to an insight into relevancies from the respondent's point of view.

The population from which the sample in the exploratory was drawn consisted of IT project managers which are members of PMI and APM. Regarding exploratory research, Miles and Huberman (1994) argue that qualitative researchers tend to choose

their sample purposively rather than randomly. Whereas the chance of a case being chosen is equal in probability sampling, non-probability sampling includes a subjective judgement (1997). For this study, non-probability sampling was applied, because it is often more beneficial "to learn a lot from an atypical case than a little from a magnificently typical case" (Stake, 1995, p. 243). Atypical in this study implies that cases were chosen that revealed overall extreme difficulties which IT project managers faced while managing project risks. The rationale for such a deliberative sampling method is that extreme and atypical cases tend to give more information (Stake, 1995) and thus the phenomenon of intervening factors becomes more 'visible'. Eisenhardt (1989) recommends learning from between four and ten cases. However, as Goulding (Goulding, 1998) argues such figures are of arbitrary nature and do not represent an absolute guideline for a researcher. Hence, the sample size in the exploratory phase of this study was determined by conceptual saturation. Saturation was reached after 18 in-depth interviews when no new information or themes about irrelevance were observed in the data. The profile of the sample in the exploratory research is shown in Table V:

Company	Project	Position	Approx. project budget (£m)	Project duration (months)
Company A	Alpha	IT project manager	15	36
Company B	Beta	IT consultant	5	18
Company C	Gamma	IT project manager	1	1
Company C	Delta	IT project manager	10	2
Company D	Epsilon	IT project manager	0.008	0.25
Company E	Zeta	IT project manager	18	12
Company F	Eta	IT project manager	1	12
Company G	Theta	IT project manager	30-40	18
Company H	Iota	IT project manager	3	14
Company I	Kappa	IT project manager	7	18
Company J	Lambda	IT project manager	10	18
Company J	Mu	IT project manager	150	48
Company J	Nu	IT project manager	1-2	1
Company J	Xi	IT project manager	40	6
Company J	Omicron	IT project manager	100	6
Company J	Pi	IT project manager	1000	120
Company J	Rho	IT project manager	30	18
Company K	Sigma	IT project manager	8	36

Table 3: Profile of exploratory sample

As can be seen in Table V, some IT project manager work for the same company (labelled alphabetically). However, each interview relates to a different project, the project being the unit of analysis in this study.

For the purpose of making sense of the qualitative data contained in the interview transcripts, a template approach (Robson, 2002) was applied utilising the software QSR NVivo. Some codes existed prior to the data analysis based on Smithosn's taxonomy (1989). These served as main codes or tree codes. Within those tree codes, sub nodes emerged through the analysis of the interview data. Text segments were labelled and categorised as sub nodes by incrementally including sub notes under tree nodes. The characteristics of the main codes changed continuously up to the stage where no data further illuminated the tree nodes (concept saturation).

FINDINGS

Project managers were questioned how they managed risk, whether it was effective from their point of view and what difficulties they encountered. Those highlighted difficulties that related to a deliberate inattention to risk were further explored.

Untopicality

This was first type of irrelevance that emerged during the analysis declared risk related information 'off-topic'. For example, in project Pi, project managers mainly focused on technical risk, delaminating the range of risks to be considered:

> "They looked purely on the implementation and not from a technical point of view, they had not looked at it from a business point of view." (Interview reference Pi)

The decision to restrict the degree of information appears to focus on the perceived ease of information processing. Risks are deemed pertinent that are actually 'easy' to identify, analyse and respond to:

> "We looked for risks that were easily identifiable, but didn't actually have serious consequences for the project. The project was not really at threat from these risks." (Interview reference Alpha)

Some project managers have identified that those risks that are easy to process are those that may not have an actual impact on the project outcome and that softer behaviour related risks should not be neglected:

> "The other issue was putting these risks into words, because they're often soft risks - the human factor. It is obviously easier to describe something technical. If I say, 'OK, the lorry doesn't arrive. What do I do then? I'll send another lorry', I

can put that into words and come up with this or that measure. It's a simple process." (Interview reference Alpha)

The examples show that project mangers focus on specific topics (e.g. on technical risk) but declare other topics are irrelevant. Nevertheless, what causes untopicality in project management and why do project managers declare risks outside their scope of project risk management? This study seems to indicate that first, that project managers accept those information that are easiest to process (perceived ease of risk management) and not necessarily those that may be most critical (perceived usefulness of risk management). A tame problem (Holt, 2002) receives more attention than wicked problem receive greater attention because it

- has a relatively well-defined and stable problem statement.

- has a definite stopping point, i.e. we know when the solution or a solution is reached.

- has a solution which can be objectively evaluated as being right or wrong.

- belongs to a class of similar problems which can be solved in a similar manner.

- has solutions which can be tried and abandoned.

Project managers are increasingly faced with problems of organised complexity, clusters of interrelated or interdependent problems, or systems of problems. Problems that cannot be solved in relative isolation from one another are messes. Project managers sort out messes through systems methods and modeling, focusing on processes and interdisciplinary approaches. Rather than simply breaking things down into parts and fixing components, project managers examine the patterns of interactions among parts. Project managers manage messes through such things such as redundancy

or irrelevance. Short (1989, p. 401) suggests: "All too often such measures rest upon what can easily be counted, rather than on what is meaningful to those who are at risk, …". Those risks that attract more attention than others may be "unusually visible, sensational, and easy to imagine" (Fischhoff, Lichtenstein, Slovic, Derby, & Keeney, 1981, p. 29). Rothstein (2002) mentions in another context, that risk actors tended to focus on the better known and readily-resolvable risks, obvious risks or these being perceived as legitimate. Hence, the problem of wicked messes persists because managers continue to believe that there are such things as unilateral causation and independent and dependent variables.

Undecidability

Unlike topicality, the salient characteristic of undecidability to be the lack of agreement on risks, expressed by a project manager in project Epsilon:

> "We couldn't come to any opinion." (Interview reference Epsilon)

In some projects, project managers failed to agree on possible threats to the project outcome, their probabilities to materialise and the appropriate response to mitigate the risk. Reason for the lack of agreement was the degree of criticality attributed to the risk. Risks that were not affected by third parties in a project were considered less critical than those directly affecting oneself:

> "In terms there are certain risks which they do not regard as high risk which we would regard as being high risk. At the end of the day, it was our company's name on the telephone that was put on the customer's desk so any issue about the quality would directly affect us. It was not the partner's name so there was a certain issue like closeness to the product which made us much more sensitive to any potential issue that may come up and may be perceived to be a quality issue

with the technology. We thought that partner was less sensitive to that kind of issue." (Interview reference Kappa)

The degree of undecidability or the inability to designate a risk as 'true' or 'false' was also influenced by the notion of 'hidden agendas' or undisclosed conflicting objectives between the project stakeholders.

"There was a large element of mistrust in this project. We had multiple consultancies operating in the one consortium. Some of the consultancies were natural competitors outside of this consortium and therefore within the consortium there was a lot of mistrust. As a result, the client had a degree of mistrust with regard to the various hidden agendas that might have been operating within that consortium." (Interview reference Nu)

In the literature, the lack of decidability on whether the message of risk is considered to be reliable, legitimate, fair or the deliverer of the message to be open and forthcoming, consistent honest, caring, concerned and competent (Kasperson, Kasperson, Pidgeon, & Slovic, 2003; Metlay, 1999; Warg & Wester-Herber, 1999) as well as the lack of ex-post decision control at the ex ante stage of predicting risks and planning responses to risk is likely to lead to a 'relative credibility' of risks, that is to say that risk actors may perceive the risk's 'true' value differently. In all the above projects, no consensus was achieved among stakeholders about the credibility of risks. In the literature, the lack of consensus between risk actors' perceptions of risk relates to the disbelief or a lack of faith into the message (risk) or the source of the message (person who produces the risk) (Margolis, 2003; Marks, Coleman, & Michael, 2003; McLain & Hackman, 1999; Poortinga & Pidgeon, 2003; Sheppard & Sherman, 1998); it is a question of trust (Kadefors, 2004).

Trust appears to be the root cause of risk conflicts (Slovic, 1993) and disagreements about risk's true nature (Bostrom, 1999). The problem of mistrust is addressed by Ritchie and Marshall (1993, p. 118) who argue: "There is a natural tendency to define a problem in such a way that the analytical results are valid and credible. …, hazards which can be evaluated with confidence have been given comparatively more attention than other hazards". Hence, the disbelief in risk by risk actors or the disbelief in the source of risk is likely to relate to the risk actors' agreement on the management of risks that are clearer (Heath & Tversky, 1991), more obvious and controllable (Michalsen, 2003) or easier to measure (Rowe, 1994). The sometimes conflicting relative credibility of risk estimates (March & Shapira, 1987) perceived by stakeholders tended to lead in the projects investigated in the first instance, to lack of cooperation and acceptance (Earle, 2004).

Taboo

Some interviewees described risk as a taboo. Because of the disclosure of inconvenient information to project stakeholders, the some risks were ignored. Taboos were already considered beyond the pale at the bidding stage of the project:

> "… anyway, we had to go through a tendering process at the start of the project and, during this process, we presented ourselves in such a way that we would seem as reasonable and competent as possible. And problems and risks don't go down so well. We wanted to come across as people who could get the project under way and complete it. The first aim was to win the tender, no matter what the cost. In this sense, we had a somewhat unrealistic schedule." (Interview reference Epsilon)

"I think only to a limited extent, as we would probably have identified risks, but they could never have been brought to the client's attention, because the priority was simply the successful completion of the project." (Interview reference Zeta)

"Not just unnerve them, but also lose the project, because there was very strong competition from other providers." (Interview reference Zeta)

As a result, in order to be viewed by stakeholders as competent as possible to deliver the desired project outcome, project mangers avoided to be perceived as entities who predicts calamity at every opportunity:

"I didn't want to be the doomsayer in the euphoric preliminary phase." (Interview reference Epsilon)

As a result of risks including the notion of inconvenience, the relationship between knowledge and perceived risk (Simmons, 2003; Wildavsky & Dake, 2002) may result in a cautiousness by risk actors to 'create' more knowledge about possible negative perceived uncertainties. One way to guard stakeholders from the influence of negative perceived uncertainties or a way to reduce anxiety among stakeholders that may arise through confronting them with uncertainties with possible negative consequences, is to deliberately ignore risks (Slovic, Fischhoff, & Lichtenstein, 1980; Slovic, 1987). This choice of denial by stakeholders lies in the "freedom to choose whether or not to expose oneself (and others) to the dangers which lie in the activity (of risk management)" (Hale, 1987, p. 78). As a result of the apparent benefit of not knowing whether uncertainties are upsetting or scary, or in the words of Schneidermann (Schneiderman, 1980, p. 22) because of the "fear of the unknown" (Ghosh & Ray, 1997) individuals tend to be unwilling to manage risks (White, Pahl, Buehner, & Haye, 2003). Their unwillingness relates to the temptation to give people the answers they want to hear, and

the answers are apparent certainty or a perception of a safe and predictable world (Beierle, 2004; Fischhoff, Lichtenstein, Slovic, Derby, & Keeney, 1981; Slovic, Fischhoff, & Lichtenstein, 1980). Because stakeholders may perceive risk (management) to be a gloomy and negative affair (Raftery, 1994) or because stakeholders are more concerned with the exposure to potential adverse external opinion of failure than with the possible impact of uncertainties on the project (Parker & Mobey, 2003) they downgrade their actual perceived risk to a desired external accepted level of risk (Machlis & Rosa, 1990) that can be "safely" engaged through risk management without the side effects of "dread". In so far as risks that may have an influence on the project outcome are suppressed, they are not managed for the sake of avoiding discomfort among stakeholders.

Suspension of beliefs

The previous types of irrelevance confirm Smithson's (1989) taxonomy of irrelevance. The study provides an in-depth insight into their manifestation in the context of project management. However, a further type of irrelevance emerged. This type does not refer to a double or dubious 'message' (undecidability), or information that are perceived as inconvenient (taboo), or to information that stakeholders deem 'out-of-scope' (untopicality). For example, the project manager in the project Epsilon and XI argues:

> "In this particular environment, it was one that was used to "flying by the seats of its pants" and managing issues and crisis as they arrived rather than actually taking the time and stand back and look ahead and say "What can we do to prevent that?"."
> (Interview reference Xi)

"In that particular organisation, once a risk had transpired it was all hands to the pump and they did what needed doing. That was the culture of the organisation to fire fight and run by crisis management." (Interview reference Xi)

Risk related information in both projects where considered 'useless' because they have not immediate effect on the project, that is to say, they have not yet materialised. Hence, the project managers distanced himself from this type of information because of the perception that dealing with 'fiction' is less time and cost consuming than with 'facts':

… if it did [risk materialised], we could get round it somehow (Interview reference Alpha)

Whereas on the one hand, some stakeholders' preference lies in identifying, analysing and responding in advance, other stakeholders appear to wait until risk resolves itself (Bobbitt & Ford, 1980; Yang, Burns, & Backhouse, 2004) and to react to actual materialising risks. Smallman (1996, p. 260) summarises the apparent emphasis of risk actors on reactive risk management: "It is hardly surprising that reactive risk management is dominant at the present time; it is, apparently, more certain and easier to manage and cost than the holistic approach." Their preference may lie in saving costs and time by reducing the scope of risk management rather than trying to manage all possible risks with the purpose of reducing the possibility of adverse consequences on the project objectives of cost, scope and time (Redmill, 2002).

Executing actions to mitigate risks requires the commitment of resources, such as time and money. Resources are committed in advance to the response to risks that are not certain to occur. The client owner or sponsor may be unwilling to spend money and energy on a management process without knowing it has definite benefits (Lanza, 2000; Royer, 2000). Raz and Michael (2001, p. 14) mention: "One of the reasons we included

this part is that we met many project managers who claimed that risk management was an unnecessary activity, and that the resources it required could be put to better use elsewhere in the project." As a consequence, referring to the concept off 'satisficing' (Simon, 1947; Simon, 1979), project managers tended to meet the criteria for adequacy, rather than to identify the optimal solution. Information was not deemed pertinent because what can be done now to resolve a fictional problem is considered to require greater resources than doing something about facts. Possible explanations for 'satisficing' maybe a myopic propensity towards project efficiency. Project managers are nonchalant about risks related information because although the costs of taking actions to manage 'fictional' risk are immediately visible, the effect of threats that may or may not impact the project outcome is not.

As a working definition, this new project management related type of irrelevance is described as suspensions of believing in risk related information and refers to placing information in a lower order. This type of irrelevance is different to undecidability. If we assume that knowledge claims about a risk remains intact, that is to say, risk actors share a common belief that a risk is 'true', claims are still suspended because the utility (e.g. defined by cost, time, comfort, convenience, habits etc.) to do something about it now is perceived to be lower than the utility to deal with information once it is confirmed by 'real' events.

Irrelevance and perceived effectiveness of project risk management

The result of both irrelevance and without neglecting the impact of error, ignorance constrains the ability of the project manager to execute actions that are supposed to mitigate the impact of risks on the project outcome. The explored types of irrelevance have been identified in each of the studied projects. Table 4 presents the data on the perceived effectiveness of each of the nine process stages. Ordered by project the

answers of the respondents were reduced to indices indicating the perceived effectiveness of project risk management and the manifestation of irrelevance. In addition the table shows in which types of irrelevance were perceived to be salient.

Project	Planning	Identify Threat	Attach Probability	Determine Effects	Evaluate Response	Determine Response Owner	Execute Actions	Irrelevance
Alpha	NA	X		↑	↑	X	X	S, UT, UD
Beta	NA	X	X	↑	NA	NA	↑	UT, UD, T
Gamma	NA	↑	↑	NA	↑	↑		
Delta	NA	↑	↑		↑	↑	X	
Epsilon	X - n	X - n	X - n	X - n	X - n	X - n	X - n	S
Zeta	X - n	X - n	X - n	X - n	X - n	X - n	X - n	T
Eta		↑	X			NA		UD
Theta	↑	X	X	X	X	X	X	UD, PH
Iota	↑	X		X	↑	X	↑	T, UT
Kappa	↑	↑	X	↑	↑	X		UD, UT
Lambda	↑	X	X	X	X	NA	X	S
Mu	↑	X	X	X			X	S
Nu	NA	X	X	NA	X	X	X	UD, UT, T
Xi	NA	↑	X	NA	NA	X	X	S
Omicron			↑	NA			↑	
Pi	X		↑	X	↑	X	NA	UT
Rho	NA	X	NA	NA	NA	X	X	S
Sigma	X - n	X - n	X - n	X - n	X - n	X - n	X - n	T

Perceived effectiveness:

↑ = Effective

X = Not effective

X - n = no effectiveness - No project risk management applied

NA = Data not available

Blank = No unambiguous effectiveness cited

Irrelevance:

UT- Untopicality

S – Suspension (Cost/Time)

T – Taboo

UD – Undecideablity

Table 4: Summed indices - perceived effectiveness of project risk management stages and related types of error and irrelevance

Without ignoring the influence of error on the perceived effectiveness of project risk management, irrelevance adversely influenced the orderly management of risk. In particular, undesirability or the inability to attach true or false to risk related information was problematic when probabilities were analysed. In contrast, taboos had a significant impact on the phase of planning the risk management process and identifying threats. Untopicality became a major problem at the stage of defining a response owner. The new emerged type of cost/time subordination had an impact already when a decision had to be made whether or not to apply any formal management of risk. Once, the decision was taken subordination reduced the capability of a project manager to define response alternatives and to ultimately execute actions. Overall, due to the influence of irrelevance at any stage of the project risk management process, the capability of a project manager to manage risk was reduced to a 'tick-box' exercise with little significance on the actual mitigation of risk:

"… people would see it merely as putting a tick in the box. Yes, we are doing a project risk assessment." (Interview reference Nu)

"…it becomes an administrative process and as long people feel there is a risk register somewhere and lip services paid to in on a reasonably frequent basis that they are managing risk." (Interview reference Rho)

Risk related information is processed because project manager are supposed to despite the feeling of powerlessness and alienation. In the extreme, such fatalistic tendencies resulted in pure defiance and a resistance to apply any form of proactive management of risk (see project Epsilon, Zeta, Sigma).

The management of relevance

Although Ignorance may not need arise in all projects but may potentially arise in any given project, this study has highlighted how established types of irrelevance manifest themselves in project management. A further type of irrelevance had been established that in the content of cost and time constrained contexts influence project managers in scanning, processing and responding to information. Coping with ignorance requires responding to errors and irrelevancies. This study allowed an extended understanding of ignorance in project management so that defence mechanisms can be implemented for the purpose of optimising project risk management in an increasingly volatile and complex environment – the management of relevance.

Whereas error requires clarification, exactitude and rectification through enquiry, irrelevance (see Figure 2) in project risk management can be overcome through the management of relevance that defines the extent of information exclusion. The overall aim of the management of relevance is limiting the exclusion of risk and ultimately to reduce fatalistic tendencies in project risk management. Barriers of untopicaility, undecidability, taboo and suspension have to be overcome. It appears from the data that risk information are most likely to consider topicality first, then their truthfulness and finally their utility.
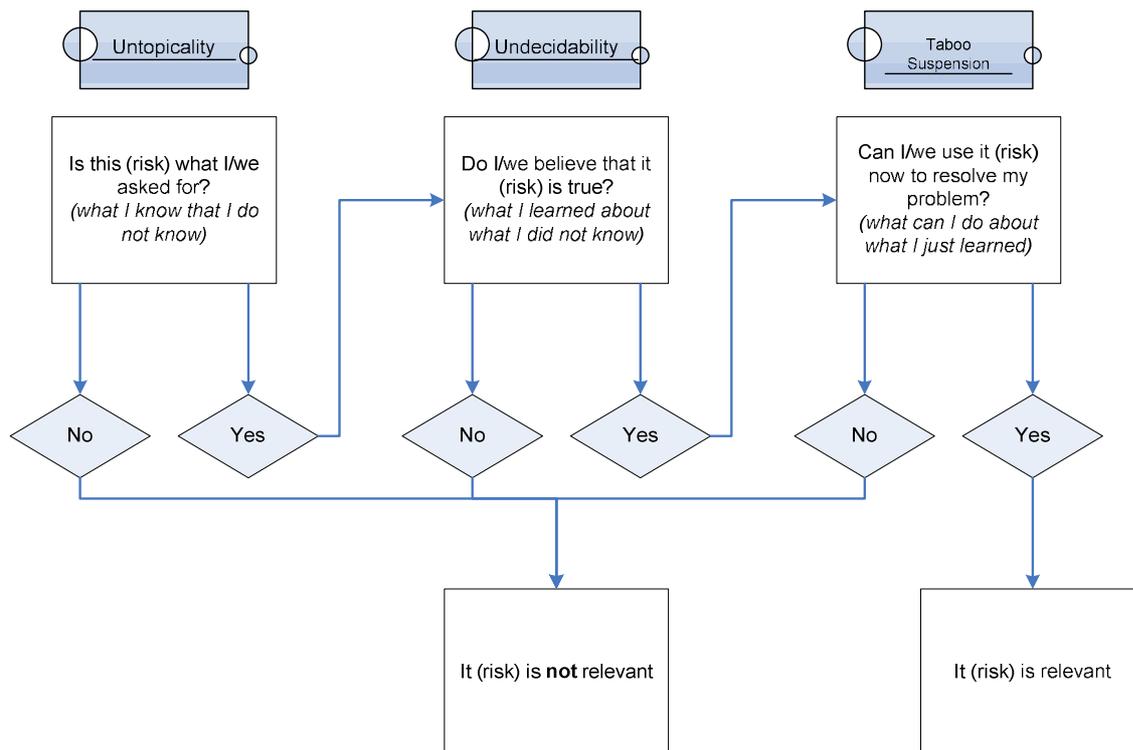
Figure 3: A multi stage process of relevance evaluation (adapted from Greisdorf, 2003)

First, untopicality requires stakeholders to define a common scope of risk management. This may include the mindfulness of being able to only process tame risks and that wicked messes are to be excluded. Defining a common nominator for what type of threats stakeholders are looking for prevents from risks being 'off-topic' and therefore irrelevant.

Once risks have been defined as 'on topic' and a common view of what scope is acceptable, trust has to been built up that allows an agreement on what risks are considered 'true' or 'false'. If a common believe in risks are not gained, it may be decided to gain further data in order to engage the perception of fantasy and fiction that makes risks perceived as incomplete and irrelevant.

The final stage relates to the evaluation of utility. Considering time and cost constraints, project managers evaluate the usefulness of risk information. Preferences to mitigate risk, to prevent anxiety by disclosing damaging information to oneself or other

stakeholders and the propensity towards myopic efficiency are prioritised and ultimately determine the degree of relevance of project risks in IT projects regardless of their objective degree of error.

The management of relevance proposes a determination of relevance and to which extent risk related information is excluded in a world characterised by uncertain boundaries. Almost every risk may be of interest, but the management of risk requires information about threat, probability and response. Current project risk management processes do not propose any prescriptive process to define the relevance of risk apart from a ranking of risks according to their threat and their likelihood of occurrence. The discovered four principles and their management may guide a project manager to first, to create awareness about irrelevance and second, how to overcome it.

There are two major limitations of this study. First, the sample of the second phase of exploration which included a narrow segment of IT project managers. Second, limited generalisabilty arises through the use of subjective data. In particular, the IT project manager's reality which has been investigated in this study may not be transferable to other individuals. As a consequence, tendencies which have emerged and been explored cannot be generalised beyond the chosen sample cluster. As a result, it may be worthwhile to determine whether the same types of irrelevance prevail in other types of projects and in what form.

CONCLUSIONS

Project risk management with its assumptions of 'hyper rationality' excludes many aspects of managerial behaviour. Organisations such as the Project Management Institute or the Association of Project Management claim that through the identification,

analysis and response to risk, project managers can achieve the planned project outcome.

Little has been know so far about whether project risk manager in IT projects perceive self-evidently correct project risk management processes as effective. There seems far more literature to exist on what project managers should do than on how effective they think they did. Neither the shortcomings of current project risk management processes nor options to change and/or expand those best practice standards to include behavioural aspects of irrelevance have received much attention in literature so far. As long as no evidence is produced, whether project risk management actually helps project managers from their point of view ('doing things right'), the acceptance of best practice project risk management standards is at stake ('doing the right things').

The findings of this study show that in some projects, project risk management is conditioned by deliberate ignorance of project managers. The factors of untopicality, undecidabilty and utility of risk related information characterised by taboos and suspensions of beliefs appear to demote risk management to an administrative exercise having no or only little impact on the project outcome. Indeed, if error and irrelevance is remained unattended by project managers, project risk management might turn out to not only ineffective but also counterproductive.

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