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The Effect of Time-related IS Project Names on Project Escalation

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Abstract

Many Information Systems (IS) projects experience serious problems that prevent them from meeting schedule, budget, and functionality targets. Managers often escalate their commitment to such projects, plowing ahead with them instead of hitting the pause button to address issues, a process known as project escalation. Due to the increasing pressure to develop systems and bring products to market faster, making decisions that involve time are more important than ever. While time has been studied in the IS domain, the effect of emphasizing time in a project's name on IS project escalation decisions is not known. In this

study, we explore whether a project name that explicitly refers to time can influence escalation decisions, and we examine the underlying mechanism through which that occurs. Sixty-two practitioners participated in a 2x1 factorial design experiment in which the project name was manipulated, but all other project information was identical. We theorize that emphasizing time in the project name can cause selective perception, drawing attention towards the schedule of the project and away from other aspects. Such selective perception can increase the likelihood of escalation of commitment to the schedule of the project when facing quality issues that require deviating from this schedule. We hypothesize that this effect of selective perception on escalation can be both direct and indirect. The results from the experiment support our research model.

Keywords: IS Project Management, Time, Project Escalation, Project Names, Selective Perception

Introduction

"Time is of the essence" is the title of the recent study by O'Connor et al. (2023), which, through a systematic literature review, emphasizes the important role that time plays in IS projects. Yet, as they conclude in their article: "*A gap exists which conceives time as subtle, subjective and socially embedded"* (O'Connor et al., 2023, p. 1226). In this study, we investigate whether decision makers' subjective perceptions of time, the importance that they assign to the timeline of a project, and their subsequent decision-making can be influenced by incorporating a time-related name of an IS project. Specifically, we aim to test whether a project name that explicitly emphasizes the element of time can influence the relative importance that decision-makers assign to timing and how this can subsequently increase their willingness to continue plowing ahead with a troubled IS project, resulting in project escalation (Keil et al., 2000a).

Almost every IS project is given a name, yet the effect of such names is not well understood. There are some sources that suggest that there are benefits to selecting 'good' project names, for example, those that can inspire or motivate the project team (e.g., Bondale, 2018; SignEasy, 2018; Stibbe, 2021). Anecdotal evidence further suggests that when a project name is interpreted to include time-relevant information, this can affect people's perception of the project and its performance. In 2003, for instance, the Dutch minister Remkes said that mistakes were made in naming the project for a new communications system between various emergency services 'C2000'. The minister said that this name created widespread expectations that the system would be completed by the year 2000, even though he claimed that this was never the planned due date (Noorman-den Uyl & Franke, 2003). Other sources within the government added that by the time the system was launched in 2004, it was perceived as being very late and already outdated (Schrooten, 2011). This and other similar

anecdotes suggest that a time-related project name can influence people's perception of a project and its performance. However, such anecdotes come from practice and are not based on empirical research. As such, the effects of time-related project names have not been tested in a controlled environment. There has been comparatively little research on the actual workings of project names.

In an initial exploration of the effect of project names, Benschop et al. (2023) performed two experiments in which subjects were presented with identical information about projects and only the project name differed between treatment groups. Their findings suggest that even when all factual information about the project is identical, "positive" project names (i.e., those that evoke positive affective reactions) can influence the decision to continue or discontinue a project. While their study investigated the relationship between positive or negative project names and affective reactions, there has been no research to date that has empirically examined the impact of other types of project names, including time-related project names. This gap, and the relevance of studying the effects of different types of project names, is emphasized by Benschop et al. (2023). Given that they found positive and negative project names to be capable of influencing project perceptions and even decision making, Benschop et al. (2023, p. 360) point out that "*clearly there are other types of names that could also influence decision makers in a project setting*" and that "*further research into different types of project names could therefore be fruitful*". In addition, different types of project names could also influence project perceptions and decision-making in different ways, via different mechanisms, which are thus far unexplored. This leads to the following research question:

How, and through which specific mediating mechanisms, can time-related project names influence perceptions and decision-making in IS projects?

Through an experiment with a 2x1 between-subject design, we investigate whether a time-related project name could increase the attention given to the project schedule while decreasing the attention given to other aspects of the project, such as quality. We predict that this, in turn, can lead to decreased problem recognition regarding quality. Since project names have been found to be capable of influencing IS project perceptions and decision-making (Benschop et al., 2023), it is important to increase our understanding of the effects that different types of names can have. Such research is especially relevant given that project names may have unforeseen negative consequences even when they are selected with good intentions (Benschop et al., 2023). Understanding these effects is important not only because virtually every IS project has a name, but also because choosing a particular project name is generally completely within the control of the organization. Thus, if we better understand the effects of project names, organizations will be better able to select truly beneficial project names and avoid those that may have unintended negative consequences and can subconsciously bias decision makers.

Our study makes several contributions. First, we contribute to research on IS project escalation by demonstrating that, like positive or negative project names, time-related project names can influence escalation decisions. However, they appear to do so via their unique mechanism. Our second contribution to this area of research is thus that we provide insight into, and evidence for, the unique mediating mechanisms through which this type of project name can influence escalation. Third, our study answers the calls for further work on different types of project names (Benschop et al., 2023) as well as on time in the context of information systems development (O'Connor et al., 2023; Venkatesh et al., 2021).

Literature Review

Information Systems Projects and the Role of Time

Time has long been a subject of research in the domain of information systems development, but there are still many gaps in our understanding (O'Connor et al., 2023; Venkatesh et al., 2021). In a systematic literature review, O'Connor, Conboy, and Dennehy (2023) suggested that there is only limited understanding of how actors in IS projects behave in relation to time. Some studies examined how, at the start of IS projects, decision makers often underestimate the duration of time needed to execute such projects, a phenomenon known as the planning fallacy (Benschop et al., 2020; Shmueli et al., 2016). Other studies highlighted time as an important factor during project execution, especially in terms of task coordination in the context of distributed project teams (e.g., Austin, 2001; Huang, Newell, & Robertson, 2008; Nan, Connelly, & Slaughter, 2003; Park et al., 2008; Süllwold et al., 2018).

It is suggested that time and timing also play a role in one of the main issues plaguing IS projects, a phenomenon known as IS project escalation. Project escalation refers to a continued commitment to a failing course of action (Brockner, 1982; Keil, 1995), where decision makers "continue to pour more resources into a failing project" (Jani, 2008, p. 726). IS projects are believed to be particularly prone to escalation due to their intangible nature and complexity (Mähring & Keil, 2008; Zhang, Keil, & Xin, 2003). While various causes or determinants of project escalation have been identified (overviews are provided by Sleesman, Conlon, McNamara, & Miles, 2012; Stingl & Geraldi, 2017), the relationship between time and project escalation has only received limited attention. Yet, time plays a role in the decision-making process during the project and in project escalation. Decision makers often escalate their commitment to struggling projects, plowing ahead with them instead of hitting the pause button to address issues (Keil, Tiwana, & Bush, 2000). However, research on how people's perceptions of time influence decision-making in IS projects is lacking (O'Connor, Conboy, & Dennehy, 2023), including how exactly it may relate to project escalation. Studies by Lee et al. (2012, 2015) shed some light on the relationship between time and project escalation. Lee et al. (2012) report that a goal that is extremely difficult to achieve, such as meeting a very aggressive schedule, can reduce IS project escalation. In a subsequent study,

Lee, Keil, and Wong (2015) present a more nuanced picture, suggesting that schedule goals that are difficult, but still viewed as achievable, tend to promote escalation, while schedule goals seen as extremely difficult or unachievable can have the opposite effect.

In addition, O'Conner et al. (2023) highlighted that time becomes a dominant factor at the end of IS projects, as many such projects are delivered late. Interestingly, however, the example in our introduction of the C2000 project indicates that people perceived this project to be 'too late' even when the actual deadline of the project was not exceeded. This would suggest that when the idea of time is embedded (whether by accident or on purpose) in a project name, this could influence people's perception of whether the project is behind schedule. Such perceptions may, in turn, influence people's decisions and lead them to take shortcuts, such as spending less time on testing and quality control (Austin, 2001).

The Effect of Names on Decisions

The example of the C2000 project suggests that the name can influence how an IS project is perceived. Previous studies, particularly those in the field of marketing, have investigated the effect of names on people's perceptions, assessments, and decision-making. For example, Wänke et al. (2007) found that people rated the same hotel more positively on sports-related aspects when it was given a sporty name (e.g., "Alpine"). The ratings on sports-related attributes for the Alpine hotel were even higher than those for another hotel with objectively better sports-related facilities, but which had a less sporty name. Skorinko et al. (2006) demonstrate that attractive names assigned to specific features or aspects of products can have a similar effect. For example, they found that when the color of a towel was presented with an attractive name (e.g., "Mocha") as compared to a neutral or unattractive name (e.g., "Brown"), people judged the color of the towel to be more attractive, even though the actual color of the towel was identical in both cases. Participants who were exposed to the attractive name evaluated the product more positively, displayed a higher purchasing intention, and were willing to pay more for the same product.

In the context of projects, there is little empirical research on the effect of names. There are, however, several practitioner guidelines and articles that discuss the role of project names. These sources mostly focus on the potential positive effects that may occur as a result of selecting the right project name. These sources suggest that a project name could have various effects, such as being able to *inspire* (Stibbe, 2021; SignEasy, 2018), *excite* (Aron, 2011; SignEasy, 2018), or *rally* (Lash, 2007) the people involved with the project. A good project name is also suggested to be *uplifting* (Bondale, 2018) and capable of instilling a *sense of belonging* (SignEasy, 2018). However, none of these findings appear to be based on empirical evidence. Furthermore, these studies mainly focus on the positive effects of names. Yet, there is reason to believe that even "good" or "positive" project names may have unintended negative side effects.

In an experimental study, Benschop et al. (2023) tested the effects of positive and negative project names in IS projects. Their findings revealed that project names can indeed influence project perceptions and decision-making. Specifically, they found that positive project names evoked more positive affective reactions. This, in turn, led to a greater willingness to continue a failing IS project. They identified affect, and specifically the effect heuristic, as the mediating mechanism that explains the effect of project names on project escalation. However, Benschop et al. (2023) point out that they only looked at the effects of positive, or attractive, project names and that there are other types of project names which may have different effects on decision making and which may work through different kinds of mediating mechanisms than the effect heuristic.

The notion that project names could also have different effects on perceptions and decision making beyond increasing the perceived attractiveness of the object in question, or the affective reaction towards it, is also supported by marketing literature. For example, Baker (2003, p. 1142) notes that "*brand names can strengthen the association between the brand and benefits implied by the name*." Further, research shows that people are more likely to remember advertised product benefits when the product name emphasizes the associated attributes (Baker, 2003; Keller et al., 1998). Names can therefore make specific product attributes more salient, thereby influencing availability in memory and helping to shape how people evaluate a product. Based on a laboratory experiment, Baker (2003) found, for example, that when "Marathon" was used as a name for batteries, subjects were more likely to remember the product benefit of long battery life. In other words, the name "Marathon" served as a simple but effective cue that shaped people's perception of time (i.e., how long the batteries would last). Building on the notion that a product or brand name can influence perceptions of time and decision making (Baker, 2003), we investigate whether embedding a time cue in an IS project name can influence escalation decisions. To the best of our knowledge, there has been no investigation of whether drawing attention to time in a project name influences escalation decisions.

Hypothesis development & research model

In this study, we answer the calls for further research on time in information systems development (O'Connor et al., 2023; Venkatesh et al., 2021) to investigate whether something as simple as a time-related project name can influence decision makers to focus on the project schedule, thereby influencing escalation decisions.

Specifically, we examine the effect of a project name that emphasizes time and suggests a specific schedule (or deadline), as compared to a project name that does not. In doing so, we focus on a specific naming practice that is commonly used, namely the inclusion of a year as part of the name (e.g., "C2000"). Often, such a name can imply a potential launch date of a product or a completion date of a project. Even if the name is not meant to refer to such a

date, it is sometimes interpreted as such (Noorman-den Uyl & Franke, 2003). Our main goal with this study is to test the effects of such a name can have. Similar to the name "Marathon" for the batteries, which draws attention to the battery-life attribute, we believe that a project name can draw attention to the time aspect of the project. Previous marketing studies have focused on names that both draw attention to a specific attribute and portray the product as performing well on this particular aspect. For instance, the name "Marathon" not only draws attention to battery life as a product attribute, but also suggests that the battery life will be long. In our study, we decouple the idea of emphasizing a specific attribute from the notion of presenting the attribute in a positive light. By doing so, we are able to investigate the effect of drawing attention to a specific attribute, without the risk of confounding this effect by portraying the attribute in a positive or negative light. This approach allows us to focus purely on the effect that a name can have in terms of drawing attention to a specific attribute.

Based on research on memory retention of names (Baker, 2003; Keller et al., 1998), we predict that a project name containing a number that can easily be interpreted as a year creates a focus of attention on the time aspect of the project. Prior research in marketing has shown that product names that emphasize a particular attribute can cause individuals to pay less attention to other important product attributes (Baker, 2003). We therefore propose that a time-related project will result in a form of selective perception whereby attention is shifted toward time relative to other attributes such as quality.

H1*: A name that emphasizes the time aspect of an IS project, as opposed to one that does not, will cause decision makers to pay more attention to time relative to quality.*

Prior literature on selective perception (Hastorf & Cantril, 1954) has shown that different people looking at the same situation can notice, or fail to notice, different things. Hastorf and Cantril (1954) examined how supporters of two different college football teams experienced a game that was played between the two rival teams. While virtually all supporters of one team judged the game as being "rough and dirty," a much lower percentage of supporters of the other team reached the same conclusion. This suggests that how an individual experiences and perceives something is shaped to a great degree by his/her perspective. Prior research in psychology suggests that attention "*both facilitates perception and action towards those issues and activities being attended to, and inhibits perception and action towards those that are not*" (Ocasio, 1997, p. 190). Keil et al. (2007) hypothesized a significant positive relationship between selective perception of software quality and software quality problem recognition. In their experiment, subjects who were selected and cued to have a functional affinity for software quality assurance were found to be more likely to view recently discovered software bugs as a significant problem. Based on the concept of selective perception and its influence on problem recognition as proposed by Keil et al. (2007), we hypothesize that when attention is shifted to the time aspect of a project (e.g., through a time-related project name), decision-makers will be less likely to recognize quality-related issues.

***H2**: When decision makers place greater attention on time relative to quality in an IS project, they will be less likely to recognize problems related to software quality.*

If a problem is not recognized or not seen as important, it is unlikely that significant effort will be made to solve it (Smith, 1989). In an IS project context, failure to properly recognize the importance of a problem can keep a manager from making necessary adjustments to a previously chosen course of action. Keil et al. (2007) suggest that failure to recognize a problem or misperceiving its importance can thus result in escalation of commitment. Based on a laboratory experiment with student subjects, Keil et al. (2007) indeed found a significantly positive relationship between failure to recognize problems and escalation of commitment. This implies that when a problem is recognized, escalation is less likely. In line with their findings, we also predict to find this same relationship in our study and include the following replication hypothesis.

***H3**: Decision makers' tendency to escalate commitment will be inversely related to problem recognition.*

If decision makers pay more attention to one aspect of a project (time) than another (quality), it is likely that they will also pay more attention to this aspect in evaluating the project, and that this will influence their decision of whether or not to move forward with the project as planned. Keil et al. (2007) hypothesized and found support for a significant negative relationship between subjects' selective perception of software quality and their tendency to escalate. In line with their findings, we theorize that decision makers who pay more attention to time will be more likely to favor a course of action that performs well on the time dimension. In an IS project context, this suggests that decision makers who pay more attention to time relative to quality are more likely to try and stick to an originally planned launch schedule. Consequently, they will be less likely to want to stop and reevaluate a project that experiences quality issues if this will result in delays.

***H4**: When decision makers place greater attention on time relative to quality in an IS project, they will be more likely to escalate commitment to a pre-existing launch schedule despite the presence of software bugs.*

Taken together, the previous hypotheses suggest two mediating mechanisms for the effect of a project name on escalation of commitment. Based on the first mechanism, we predict that a time-related project name will influence escalation and that this relationship will be mediated by selective perception of time relative to quality. Related to the second mechanism, we further predict that the relationship between a time-related project name and escalation will be mediated by a second pathway that runs through both selective perception and problem recognition. Thus, we offer the following hypothesis.

***H5**: There will be a significant positive relationship between a time-related project name and escalation of commitment to a previously set launch schedule of an IS project, and this effect will be mediated by two paths: one that runs through selective perception and a second path that runs through both selective perception and problem recognition.*

Figure 1 provides an overview of the hypothesized relationships in our theoretical model, which builds on the work of Keil et al. (2007). Specifically, H3 represents a replication hypothesis. Further, H2 and H4, while framed differently than what was tested by Keil et al. (2007), involve testing relationships that have already been explored to some degree and for which we can therefore reasonably expect to find support. Our main contributions, which differentiate our work from Keil et al. (2007), involve the effect of a project name on selective perception (H1) as well as the effect of project name on escalation (i.e., willingness to continue), as mediated by selective perception and problem recognition (H5).

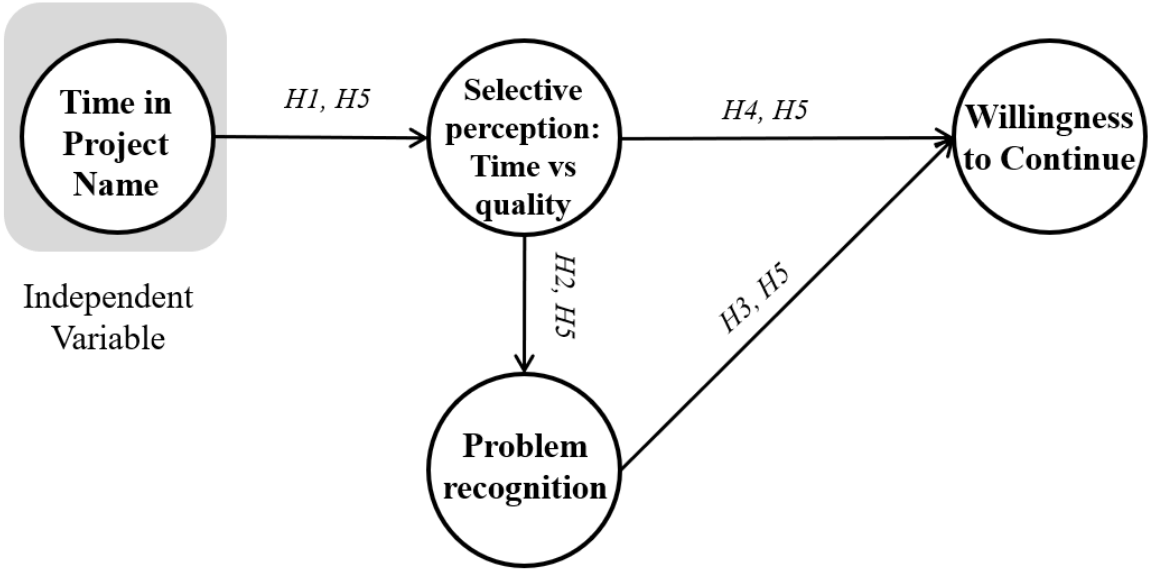

Figure 1. Research model & hypotheses.

Methodology

We experimented to create a highly controlled setting that would allow us to examine how a time-related project name may influence IS project escalation decisions. Since our objective was to analyze causal relationships between project names and escalation decisions, this argued for an approach that would provide high internal validity, and the experimental method is universally acknowledged to be strong in this area. Furthermore, the experimental method is the most frequently used research approach in the escalation literature (e.g., Keil et al., 2000b; Moon, 2001; Staw, 1976; Wong & Kwong, 2007).

Participants

Laboratory experiments often rely on student subjects without significant work experience. However, depending upon the nature of the study, it might be the case that students lack the necessary domain knowledge to understand the task or decision context depicted in the experiment, or that they behave differently from members of the target population. For this reason, we recruited professionals with relevant work experience for our experiment, rather than student subjects.

The participants consisted of 62 practitioners enrolled in an executive education program at a Dutch university, with an average of 11 years of work experience and a mean age of 34. In addition, 89% were born in the Netherlands, and 76% were male. Participants were randomly assigned to one of two conditions: a project name emphasizing time or a project name without such emphasis. Except for the project name, all participants received identical information.

Experimental scenario and manipulation

Our experimental scenario was based on the one developed by Keil et al. (2007). We used this scenario as a starting point because it was developed in collaboration with practitioners and was therefore fairly realistic, and because it fit the context of our study. The scenario describes a software development project. Participants receive negative feedback in the form of newly discovered bugs in the software. Participants are then presented with two options: either (1) stay committed to their original course of action by sticking to the original launch plan or (2) delaying the project to investigate the bugs. As Keil et al (2007, p. 401) describe: "*The original launch schedule*" … "*constitutes the previously chosen course of action, and the recently discovered bugs constitute negative feedback associated with that course of action*." Thus, a recommendation to launch the project as previously scheduled represents escalation of commitment (Keil et al., 2007).

Several changes were made to tailor the scenario to our research model. Most importantly, the experimental manipulation used by Keil et al. (2007) was removed and replaced by our manipulation of the project name. Appendix 1 shows the experimental scenario that was used in our study. The information in the scenario was the same for all participants except the project name, which was manipulated as our independent variable. Specifically, participants were randomly assigned to receive either a scenario with a time-related project name ("SoftBiz2014")[1] or a scenario with a project name that was not time-related ("SoftBiz").[2]

[1] The year 2014 was chosen because it could reasonably be interpreted as a goal for project completion in this scenario at the time that the experiment was conducted. As such, the name had the desired effect of emphasizing the time aspect of the project.

[2] The name SoftBiz was employed in the scenario used by Keil et al. (2007), on which our scenario is based.

As our scenario describes, the project was originally expected to launch "this year" (i.e., 2014 at the time of administering the experiment). We drew attention to this fact by including the year 2014 in the project name. As with the C2000 example (Noorman-den Uyl & Franke, 2003), we expected that people would similarly interpret this year as a target deadline/launch date. Additionally, 2014 was a completion date which could still be achieved if the decision maker chose to stay committed to the original schedule, but not if he/she decided to delay the project. Had the name been SoftBiz2025, then, regardless of whether the project was delayed or not, the project would still have been launched well before this year. As such, subjects might interpret the launch date in both cases to be well within the bounds of what could be accomplished regardless of the decision to delay or not, and thus, the intended trade-off between time and quality would not have been experienced by subjects.

Measures

The project name serves as the independent variable in our model and was coded as a 0 (name that is not time-related) or 1 (name that is time-related). Willingness to continue, our dependent variable, was assessed using a two-item measure. One item was based on Keil et al. (2007), and a second item was adapted based on Nuijten et al. (2016). Multi-item measures of problem recognition and selective perception (time vs. quality) were based on the scales used by Keil et al. (2007). We also included the following control variables: age, gender, work experience, experience with IS projects, and illusion of control. Illusion of control was included as a control variable because Keil et al. (2007) found a significant effect of this construct on both problem recognition and willingness to continue. Appendix 2 contains the measurement items that were used for each construct.[3]

Results

Manipulation check

As a manipulation check, participants were asked whether they remembered the name of the project. Four participants failed the manipulation check because they could not correctly remember the name of the project. These four participants were dropped from the sample. An additional two participants were dropped since they indicated that they knew the experimenter and/or that they were involved in other experiments on project escalation by the experimenter. This left a total of 56 participants who provided usable responses (26 in the "SoftBiz" condition and 30 in the "SoftBiz2014" condition).

[3] Some measurement items that were adapted from Keil et al. (2007) had to be dropped due to problems with convergent or discriminant validity. Appendix 2 and the results section of the paper include only the measurement items that were retained for our analysis. Note that for the sake of completeness we ran the entire model with the full set of adapted items as well. Every effect that is reported as significant in the results section was also significant when we ran the model with the full set of adapted items.

Validity

We used Partial Least Squares (PLS) as implemented in SmartPLS 3.0 (Ringle et al., 2015) for the analysis of our data. PLS uses component-based estimation, maximizes the variance explained in the dependent variable, has modest distributional and sample size requirements, and allows both the measurement and structural models to be assessed simultaneously. PLS is useful for analyzing experimental data when the research model includes structural paths with more than two constructs (Jiang & Benbasat, 2007). PLS was especially useful given the specification of our model because it allows for the testing of multiple mediation paths within the context of the entire structural model (see Rai & Hornyak, 2013), whereas the traditional regression-based approach involves isolating one portion of the model at a time and running a series of mediation tests.

The first step in our analysis involved an assessment of our measurement model for convergent and discriminant validity. We tested the convergent validity of all multi-item constructs by assessing whether the loadings of items to their construct, depicted in bold in Table 1, were above the recommended threshold of 0.7, which would indicate that the shared variance between each item and its associated construct is greater than the error variance (Chin, 1998). The results of our analysis indicated that the loadings of all items exceeded this threshold.

Table 1. Item loadings on own constructs (in bold) and cross-loadings.

Constructs Items	Selective Perception	Problem Recognition	Willingness to continue	Illusion of control
Selective perception 1	0.988	-0.469	0.876	0.513
Selective perception 2	0.987	-0.410	0.865	0.494
Problem recognition 1	-0.284	0.789	-0.494	-0.318
Problem recognition 2	-0.399	0.859	-0.449	-0.351
Problem recognition 3	-0.395	0.916	-0.448	-0.394
Problem recognition 4	-0.392	0.733	-0.400	-0.417
Willingness to continue 1	0.842	-0.495	0.964	0.366
Willingness to continue 2	0.859	-0.551	0.965	0.492
Illusion of control 1	0.448	-0.475	0.445	1

We also examined Cronbach's α, composite reliability, and Average Variance Extracted (AVE), which are shown in Table 2. Composite reliability values exceeding 0.80 provide exemplary evidence of reliability (Bearden et al. 1993; Yi & Davis 2003), and the measures for all our constructs exceeded this threshold. Similarly, Cronbach's α values above 0.7 are considered sufficient, and this was the case for all our constructs. AVE indicates the amount of variance captured by a construct from its indicators relative to the amount of variance from

measurement error (Fornell & Larcker, 1981). Chin (1988) suggests that AVE values of 0.50 or higher are acceptable, and the results of our analysis indicated that all our constructs exceed this threshold. Overall, these analyses provide support for the convergent validity of our measurement model.

Table 2. Composite reliability, Average Variance Extracted (AVE), and Cronbach's α.

Construct	AVE	Comp. Reliability	Cronbach´s α
Selective perception	0.975	0.987	0.975
Problem recognition	0.684	0.896	0.843
Willingness to continue	0.931	0.964	0.926

We tested the discriminant validity of our items by examining the cross-loadings between items and constructs (Table 1). Items should exhibit higher loadings on their respective constructs than they do on other constructs. In addition, items should have a higher loading on their respective constructs than do items of other constructs (Chin, 1998; Fornell & Larcker, 1981). A second test of discriminant validity combines the items of each construct and examines whether the square root of the AVE of each construct is higher than the correlation of the construct with any other construct (Chin, 1998; Fornell & Larcker, 1981). When this is so, it indicates that each construct shares more variance with its respective indicators than with a different block of indicators associated with another construct. Table 3 provides the results of this analysis. Cells along the diagonal represent the square root of the AVE value of said construct and are bolded.

Table 3. Fornell-Larcker test (square root of AVE versus correlations)

	Selective perception	Problem recognition	Willingness to continue	Illusion of control
Selective perception	0.987			
Problem recognition	-0.446	0.827		
Willingness to continue	0.882	-0.542	0.965	
Illusion of control	0.510	-0.449	0.445	1

Test of hypotheses

Our PLS model consists of the variables in our research model and the hypothesized relationships between them. In addition, it also includes the direct path from the project name to willingness to continue. Although this path was not hypothesized to be significant, it was included to test the degree to which the total effect of project name on willingness to continue is carried by the two mediators in the model. Figure 2 shows the full PLS model including the control variables used in our study. For each path in the model, information is provided on the path coefficient, the t-value, and the significance. Given the directional nature of our hypotheses, 1-tailed tests of significance were appropriate for hypothesis testing. As can be seen in the Figure, all paths proposed in H1-H4 were found to be significant and in the

expected direction. Further, Table 4 provides an overview of the tests for H1-H4, showing that all four hypotheses were supported.

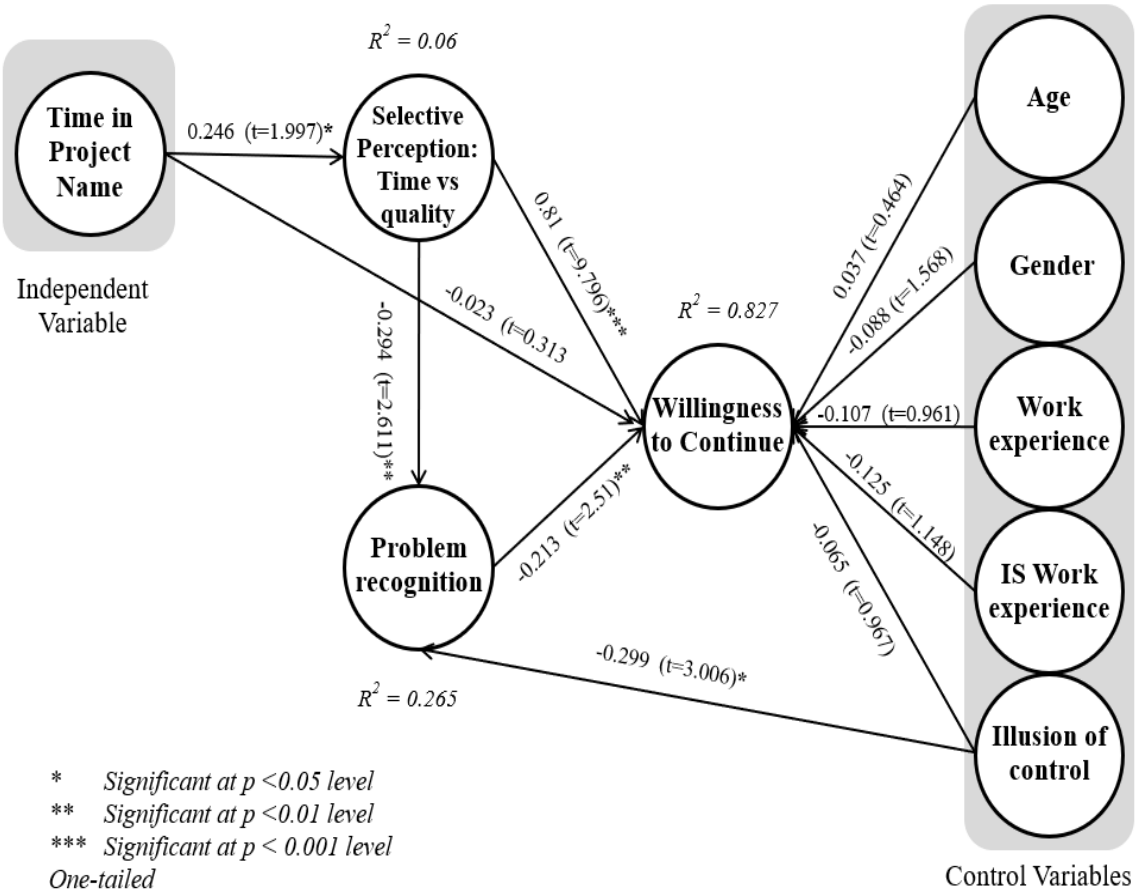

Figure 2. Structural model results

Table 4. Tests of hypotheses 1-4.

Path	Path coefficient	t-value	p-value*	Hypotheses
Name to Selective perception	0.246	1.997	0.023	H1 supported
Selective perception to Problem recognition	-0.294	2.611	0.005	H2 supported
Problem recognition to Willingness to continue	-0.213	2.510	0.006	H3 supported
Selective perception to Willingness to continue	0.810	9.796	< 0.001	H4 supported
* P-values were calculated using one-tailed tests for significance in line with the directional nature of the hypotheses				

H5 predicts an effect of project name on willingness to continue as mediated by selective perception and problem recognition. As Table 5 shows, H5 is supported as the hypothesized mediation is statistically significant. In addition, since the remaining direct effect after controlling for this mediation is not significant (p = 0.38), it indicates that the effect of project name on escalation is fully mediated through selective perception and problem recognition.

Table 5. Test of H5

Path	Path coefficient	% of total effect	t-value	p-value*	Hypotheses
Indirect effect of Name on Willingness to continue	0.214	112	1.942	0.026	H5 supported
Direct effect of Name on Willingness to continue	-0.023	-12	0.313	0.377	
Total effect of Name on Willingness to continue	0.191	100	1.417	0.078	
* P-values were calculated using one-tailed tests for significance in line with the directional nature of the hypothesis					

Discussion and Conclusion

The research question that motivated our study was: "How, and through which specific mediating mechanisms, can time-related project names influence perceptions and decision-making in IS projects?" To answer this research question, an experiment was conducted amongst practitioners in which only the name of the IS project differed between treatment groups, and all other information about the project was identical. The results from our experiment indicate that a time-related project name can lead to selective perception on the part of decision makers, causing them to pay more attention to time relative to quality (H1). The question then is whether such a name could also influence project escalation, and whether this effect is mediated by selective perception. Consistent with the findings reported by Keil et al. (2007), our results also show that selective perception inhibits problem recognition (H2). In other words, when confronted with a project name that brings to mind the time element of a project, decision makers become less able to recognize quality issues that pertain to the project at hand. Furthermore, our results also show that problem recognition is negatively related to escalation (H3) and that selective perception regarding the importance of time relative to quality is positively related to escalation (H4), which is also consistent with findings from Keil et al. (2007). Combined, these results show that time-related project names can influence escalation decisions and that the constructs of selective perception and lack of problem recognition, as described by Keil et al. (2007), mediate this effect. Specifically, we find that a time-related project name influences escalation indirectly by altering the perceived importance of time relative to quality and reducing the extent to which quality-related problems are recognized and judged to be important (H5).

Following our experiment, we presented and discussed our results in a series of professional education events that involved over 250 experienced professionals, most of whom worked on large IS projects in Dutch insurance companies, banks, or the Dutch government. There are two major insights coming from these discussions that further shed light on how the results of our experiment relate to practice.

First, the feedback that we received from these discussions confirmed that, in practice, IS project names do occasionally incorporate a time element. Further, practitioners confirmed

having observed effects like those found in our study. For example, the practitioners cited several anecdotal examples of IS projects with the year embedded in the project name that were delivered in late December in an attempt to have the project completed before the "expiration date" in the project's name. In those examples, typically the first months of the next year (i.e., the first months after implementation) were characterized by quality problems, and in some cases even resulted in the withdrawal or freeze of the implemented IS system. These cases from practice can be understood from the underlying mechanisms that we found in our experiment.

Second, the practitioners suggested that the use of time-related project names is becoming more common. Specifically, as agile projects have become more common, the practitioners observed, for example, that an IS project to deliver a "Customer Services System" (CSS) was composed of numerous sprints to deliver specific functionality and that these were name with both the month and year (e.g., CSS2019-march, CSS2019-june, CSS2019-september and so forth). The practitioners commented that this put all the attention on timely delivery to meet the "year-month" in the names of the sprints, and that this created quality control issues and resulted in technological debt.

Limitations and future research

All research has limitations, and our work is no exception. First, to understand how emphasizing time in an IS project name can affect escalation decisions, we conducted a laboratory experiment. While laboratory experiments are frequently used in escalation research (e.g., Keil et al., 2000b; Moon, 2001; Staw, 1976; Wong & Kwong, 2007) and this methodology is strong in terms of internal validity, concerns are sometimes raised regarding external validity.

One concern has to do with the lack of realism associated with the experimental decision-making context. In short, a laboratory experiment cannot possibly capture all the complexities of actual work settings in organizations. We do not see this as a major shortcoming, however, since our primary objective was to investigate the effect of project names on escalation decisions, and it was necessary to create a controlled environment to do this. Moreover, we employed a scenario that had been developed with input from practicing managers who deemed it to be realistic. Further, escalation research based on laboratory experiments has tended to produce findings that are broadly consistent with the results of escalation studies that have been based on field data (e.g., Keil, 1995; Staw et al., 1995; Staw & Hoang, 1995). Nonetheless, further work is warranted to confirm that the findings observed in our experiment can be generalized to actual projects in organizational settings.

Second, we tested the effect of only two different names. While our findings provide some information about the effect that project names can have, there are other interesting

avenues to be explored. In choosing our name manipulation, we focused on the attribute of time. The only other empirical study that we are aware of that has tested the effect of project names focused specifically on positive and negative project names (Benschop et al., 2023). An extension of our study and theirs would be to also test the impact of choosing various names that capture other project attributes. This would both increase our understanding of the effects of names as well as the robustness of these effects.

Third, it could be interesting to examine whether emphasizing time in a project name causes a rush to deliver IS projects just before the year's end, resulting in quality problems, as was suggested by practitioners who were informed about the results of our study. Finally, the insight from the practitioners regarding the use of "year-month" as part of IS project names following a sprint-based agile approach suggests that further research is warranted here as well.

Implications for research

Our study has several implications for research. First, our study answers the call for further research on the role of time in information systems projects (O'Connor et al., 2023; Venkatesh et al., 2021) and also contributes to research on IS project escalation. Specifically, our findings provide further insight into the role of time in IS project escalation by providing empirical support for the notion that something as seemingly innocuous as a project name can influence decision makers' perceptions of time and, subsequently, project escalation. By emphasizing the target release date of a system in the project name, subjects perceived it to be more important for the system to release on time, as compared to subjects exposed to a project name that did not contain a time-related element. This suggests that the relative importance assigned to time and the timing of release in an IS project is not only subjective but can also subconsciously be influenced by something as small as a project name. Furthermore, this selective perception of time can lead to a decreased level of problem recognition, which may ultimately increase the risk of IS project escalation.

Our results extend the findings of Benschop et al. (2023) that project names can influence perceptions of IS projects and can ultimately influence the likelihood of project escalation. Specifically, we answer their call for further research on the effects of IS project names by testing the effects of different types of project names, in this case, time-related names. Importantly, we find that this different type of project name affects escalation through different underlying mechanisms. Specifically, while Benschop et al. (2023) identified the effect heuristic to be a mediating mechanism, we found that the effect of time-related project names was fully mediated by selective perception and problem recognition, constructs which had been previously shown to be important in certain escalation situations (Keil et al. 2007).

Second, we make a modest contribution to the IS literature by replicating the results of Keil et al. (2007) with regard to the relationship that exists between problem recognition and escalation, and showing that selective perception, in this instance, favoring time over quality, can impede problem recognition. While this replication aspect of our work is not where the novelty of our study lies, the fact that we obtained support for the same relationships that were found to be significant in earlier work (Keil et al., 2007) adds to the robustness of these findings.

Third, our findings also contribute to the marketing literature on the effects of names by further clarifying how names can influence perceptions and assessments. Prior studies have suggested that names can draw attention to specific favorable attributes (Baker, 2003; Keller et al., 1998). We expand upon these findings by providing additional insights into the constructs that can be affected by selecting such a name. Specifically, our findings demonstrate a link between the use of such names and selective perception. By using a name to focus attention on one specific attribute, less attention is given to other attributes. As such, the use of such names can lead to selective perception. Our results indicate that such selective perception can come at the cost of decreased problem recognition if those problems are related to attributes other than the one emphasized by the name. Furthermore, our findings show that the use of such a name is not only capable of influencing perceptions but also the decisions that individuals make. Like the findings from Benschop et al. (2023), our results further suggest that names are capable of influencing not only minor decisions of individuals, such as the intention to buy products like batteries or towels, but also major decisions to continue investing large sums of money into multi-year IS projects.

Finally, our study makes an additional contribution to the marketing literature on the effect of names. Prior studies (e.g. Baker, 2003, Keller et al., 1998) tested names that do two things at the same time: (1) draw attention to a specific attribute and (2) suggest that the product in question performs well on this attribute (e.g., Baker, 2003, used the name “Marathon” batteries). By manipulating these two aspects in conjunction, it is difficult to determine to what degree the observed effects were due to drawing attention to an attribute and to what degree they were due to painting said attribute in a positive light. Our findings confirm that including the former in a project name can lead to changes in perceptions and decision-making, even when the latter aspect is not part of the name manipulation.

Implications for practice

Our study has important implications for practice. First, our results indicate that time-related project names can influence decision-making on IS projects. Interestingly, in our debriefing sessions with participants, many were convinced that the project name did not influence their decision and were therefore skeptical that we would find an effect. This suggests that practitioners are unaware that project names can affect the decisions that they make regarding

the continuation of IS projects. Thus, our study has the potential to inform practice by demonstrating not only the importance of project names but also the need to choose them wisely.

Project names should be chosen very carefully because they can (intentionally or unintentionally) convey information about project goals. There are several sites and articles on the internet on choosing "good" project names. Often, these suggest choosing an attractive and/or interesting project name to draw attention to, generate interest in, and raise motivation for the project. We suspect that managers sometimes choose a project name that will help to instill a goal, because goals can increase focus and motivation (through a feeling of purpose). While adding a target year to the name of a project may be commonly used in this way to increase motivation, our study suggests that this can come at a cost. Indeed, our results indicate that such an approach can cause people to focus more strongly on time (i.e., schedule goals), while causing them to focus less attention on other goals such as quality. If the first and foremost priority in the project is completion by a certain date, then this may not be too harmful, but we think practitioners should be aware that such naming practices can cause reduced problem recognition regarding quality issues that may arise during the course of a project. Therefore, to the extent that factors other than schedule (e.g., quality) are deemed to be equally or more important than time, emphasizing time in the project name could lead to trade-offs in decision making that run counter to project priorities. In summary, we believe that our findings will be useful to practitioners who may be otherwise unaware of the negative consequences that may result from commonly used naming practices.

Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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Appendix 1: Experimental scenario

ComSoft is an industry-leading information systems (IS) vendor. Image that you are ComSoft's manager for **SoftBiz/SoftBiz2014**, a product that is being developed on the basis of a proposal that you had made to ComSoft's Executive Committee. Everyone knows that project **SoftBiz/SoftBiz2014** is your baby. Because **SoftBiz/SoftBiz2014** is so revolutionary, the project has always faced both technical and market uncertainty. Nevertheless, potential customers have expressed delight with the product concept. However, ComSoft is racing against time as other competitors are planning to launch similar products.

Most of the development work on **SoftBiz/SoftBiz2014** has been completed. However, a recent development has occurred that has focused everyone's attention on the timing of the product's release. Specifically, the **SoftBiz/SoftBiz2014** testing team has just identified some bugs with the system. Within the hour, you must meet with ComSoft's Executive Committee to recommend whether or not to proceed with launching **SoftBiz/SoftBiz2014** as scheduled. According to your review of the project's status, you have identified two possible courses of action.

The first course of action is to *launch **SoftBiz/SoftBiz2014** as previously scheduled* without correcting the recently discovered bugs. These bugs could be corrected at a later date with a service pack issued to customers. Choosing this course of action allows you to launch this year. However, it creates the risk of alienating customers and it might also have repercussions in terms of market acceptance. The second course of action is to *delay the launch of **SoftBiz/SoftBiz2014***, initiate a 4-month investigation into the extent and nature of the bugs and what it may take to correct them and then reevaluate the feasibility of launching the product at that time. Recommending this course of action will delay the completion of the project to 2015, which means that ComSoft risks being beaten to market by one or more competitors.

You must decide which one of these courses of action to recommend to ComSoft's Executive Committee.

Appendix 2: Measures

Willingness to continue
Willingness to continue 1: Please indicate what you will recommend and how strong that recommendation will be. (8-point scale with answers ranging between "definitely recommend delay" to "definitely recommend continue as planned").
Willingness to continue 2: Please indicate how much you agree with the following statement: "I will certainly continue with the launch of the project as planned (i.e., without delaying it.)" (8-point scale with answers ranging from "strongly disagree" to "strongly agree").
Selective perception. All items were on a 7-point scale ranging from "strongly disagree" to "strongly agree". Subjects were asked to "Please indicate how much you agree, or disagree, with each of the following statements".
Selective perception 1: For this product, I believe that being first to market is a more important measure than delivering bug-free software.
Selective perception 2: For this product, I believe that delivering bug-free software is more important than being first to market.
Problem recognition. All items were on a 7-point scale ranging from "strongly disagree" to "strongly agree". Subjects were asked to "Please indicate how much you agree, or disagree, with each of the following statements". Note that all items were reverse coded.
Problem recognition 1: I believe that the bugs will not require much effort to fix.
Problem recognition 2: From a technical perspective, I do not believe that the product has any serious bugs.
Problem recognition 3: I believe that the bugs discovered in the product are minor in nature.
Problem recognition 4: I do not see any major problems with this project.
Illusion of control. Item was measured on a 7-point scale ranging from "strongly disagree" to "strongly agree". Subjects were asked to "Please indicate how much you agree, or disagree, with each of the following statements".
Illusion of control 1: If 50% of consumers react unfavorably to buggy software, I could convince more than half of them to overlook the bugs and regard the product favorably

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