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**Article**

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# Escalating internationalization decisions: intendedly rational, but only limitedly so?

Björn Röber<sup>1</sup> 

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**Abstract** The Uppsala model is commonly considered to be the pivotal approach in internationalization process research and often praised as particularly realistic. Yet at least implicitly and partially, it is also built on the assumption of rationally proceeding decision makers. This article challenges the behavioral assumptions of the Uppsala model and examines whether bounded rationality in the form of escalation of commitment has an influence on internationalization decisions. It demonstrates that this particular behavioral decision-making bias can be a critical factor. Thereby, this article indicates a major shortcoming of the Uppsala model, as it shows that internationalization processes can be maintained for non-rational reasons. It becomes clear that the bounded rationality of decision makers, particularly their limited cognitive capability, presents an issue that internationalization process research, including the Uppsala model, should give greater consideration to.

**Keywords** International business · Internationalization process theory · Bounded rationality · Empirical validity of the Uppsala model · Escalation of commitment

## 1 Introduction

For about 50 years now, internationalization decisions have been a major research topic in international business literature. In the course of time, two different branches of research were able to establish themselves. On one hand, the so-called rational choice view in internationalization research employs a more traditional

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economic understanding of internationalization decisions. This stream of literature includes prominent examples from international business literature such as the eclectic paradigm (Dunning 1980, 1988, 2000), the internalization theory (Buckley and Casson 1991, 2009; Teece 1986), the product life-cycle theory (Vernon 1966), and the transaction cost approach (Hennart 1982). On the other hand, internationalization process (IP) research offers a processual and—allegedly—rather behavioral understanding of internationalization decisions. The latter includes in particular the Uppsala model (Johanson and Vahlne 1977, 1990, 2009; Vahlne and Johanson 2017), which stands out as the state-of-the-art theory in the field of IP research. This particular theory is often said to show a strong interest in the decision-making of managers under realistic conditions (Forsgren 2002). Often, it can also be read that the Uppsala model distinguishes itself, as it aspires to employ the perspective of bounded rationality to describe and explain internationalization decisions (Andersen 1997; Andersson 2000; Sullivan and Bauerschmidt 1990). Considering its continued prominence (Coviello et al. 2017; Hadjikhani et al. 2014; Meyer and Thaijongrak 2013; Welch et al. 2016), it is no exaggeration to state that the Uppsala model continues to be the central theory in its field. With its understanding of internationalization decisions, “it set the stage [...] for the study of internationalization positions, paths, and processes, and much of the subsequent literature on internationalization” (Hutzschenreuter et al. 2007: 1056).

Yet, despite its appraisal, we do not know whether the Uppsala model is as behavioral, as it is claimed to be. At least there is room to be skeptical concerning the amount of recognition that bounded rationality actually enjoys in this pivotal approach in IP research. On a theoretical basis, one must note that the Uppsala model postulates that decision makers in internationalization processes are confronted with limited information availability and that they, therefore, proceed as rationally as possible, i.e., step-by-step. According to the theory, decision makers must maintain a balance between perceived and tolerable market risks in this process, while cognitive dispositions are not foreseen. Therefore, it seems as if the Uppsala model understands internationalization decisions at least implicitly to be the result of rational reflections by decision makers, who possess the cognitive capability to assess their actions rationally (Röber 2018). Yet, this understanding would not be fully compatible with Simon’s definition of bounded rationality, who states that decision makers have to cope with limited information availability as well as with a limited computational capability to process the available information (Simon 1990). Thus, the supposedly behavioral Uppsala model could be marked by a somewhat incomplete consideration of bounded rationality, and therefore, we do not know if actual decision makers comply with the theory’s rationality postulate. On a practical basis, one cannot help, but realize that the Uppsala model is marked by certain inconsistencies with regard to its validity in reality. If the internationalization process according to the postulate of the Uppsala model was true, and if managers always maintained a balance between perceived and tolerable market risks, internationalization failures should not be a reality. Yet, instances of internationalization failures are frequent. One might consider the first market entry of IKEA in Japan (Jonsson and Foss 2011). After market entries to Norway (1963), Denmark (1969), Switzerland (1973), and Germany (1974), the furniture retailer

decided to enter Japan in 1974. After “a rather painful and expensive” (Jonsson and Foss 2011: 1086) experience, IKEA abandoned the market in 1986. Likewise, the Latin-American and Chinese activities of the American home improvement supplies retailing company Home Depot can be seen as typical internationalization failures (Bianchi and Ostale 2006), which are—at least in this severity—unforeseen in the Uppsala model. The company entered Canada in 1994, Chile in 1998, Argentina in 1999, Mexico in 2001, and China in 2006 (Bianchi 2006). While the Canadian and Mexican businesses thrived well, Home Depot had to pull out of Argentina and Chile by 2001 as well as of China by 2012. In none of these cases, one has the impression that managers fulfilled the postulate of the Uppsala model in the form of a maintained balance between perceived and tolerable market risks. Considering the years of presence in the respective markets, the mentioned internationalization instances rather bear similarity with the behavioral decision-making bias ‘escalation of commitment’ (Bazerman et al. 1984; Berg et al. 2009; Brockner 1992; Brockner and Rubin 1985; Brockner et al. 1979, 1981, 1982, 1986; Gomez and Sanchez 2013; Hsieh et al. 2015; Nathanson et al. 1982; Ross and Staw 1986, 1993; Salter et al. 2013; Sharp and Salter 1997; Sleesman et al. 2012, 2018; Staw 1976, 1997; Steinkühler et al. 2014; Whyte 1986). Yet, such a (cognitive) decision-making bias is not foreseen in the Uppsala model, and therefore, an empirical display of escalation of commitment (as an example of bounded rationality and the limited computational capability of decision makers) would constitute an inconsistency of the theory. As the Uppsala model has not yet been tested in this regard, this study addresses a substantial research gap.

A complete consideration of bounded rationality, i.e., considering the limited information availability as well as acknowledging the limited computational ability of decision makers, is a necessary precondition for the development of a realistic abstraction of the internationalization processes of firms. If bounded rationality is not considered in its full extent, internationalization failures such as the above given examples cannot be sufficiently explained by the Uppsala model and international business scholars will record a disparity between theory and practice. Against this backdrop, it is worthwhile to scrutinize the leading IP theory, the Uppsala model.

In this light, it is the overall research objective of the present study to close the above-outlined research gap and to contribute to international business literature with an exploration of bounded rationality in the context of internationalization decisions. More specifically, the Uppsala model is subjected to a critical review, which challenges the theory’s implicit idea of rationally proceeding decision makers. It has been selected as the research object, as it is the most prominent theory in IP research and as it has not yet been scrutinized in this regard before. Therefore, the present study aims at a demonstration of a display of non-rational escalation of commitment (as an example of bounded rationality) in internationalization decisions. Such a display would contradict the Uppsala model’s postulate of a maintained balance between perceived and tolerable market risks and indicate a potential shortcoming of the pivotal theory in IP research. To meet the research objective empirically, this paper is built on a randomized experiment under laboratory circumstances. Experiments in social sciences own the distinct advantage of keeping dependent and independent variables under control and allow reliable

statements regarding the causality of effects (Falk and Heckman 2009). Despite these benefits, this research method must be considered a novel approach in the field of international business (Buckley et al. 2007; Yang et al. 2006; Zellmer-Bruhn et al. 2016). At the same time, it should be clarified that the present study does not aim at a further exploration of the concept of escalation of commitment. The latter serves primarily as an example of bounded rationality to showcase an inconsistency of the Uppsala model.

Besides the above-outlined theoretical contribution, the present study also contributes to business practice: it investigates whether managers, who deal with matters of internationalization, are likely to be impacted by escalation of commitment. Firms may run the risk of maintaining internationalization processes for the wrong, i.e., non-rational, reasons due to the escalation problem. This could present an issue for practitioners, which might have been overlooked by international business scholars up to now.

The remainder of the article is structured as follows: Sect. 2 deals with the state of research as well as the development of hypotheses. Section 3 explains the empirical approach as well as the laboratory structure. Section 4 presents the statistical results. Finally, the paper concludes with a discussion and a conclusion (Sect. 5) as well as with some remarks on research limitations (Sect. 6).

## 2 Theoretical background and hypotheses

### 2.1 Internationalization decisions according to the Uppsala model

Scholars in the field of international business have dedicated themselves to the subject of internationalization decisions over the past few decades. In doing so, two fundamentally different views turned out to be dominant (Andersson 2000). One stream of literature offers a rather traditional economic point of view on the internationalization of firms. This perspective draws on economic theories to explain foreign direct investment decisions (Björkman and Forsgren 2000; Forsgren and Johanson 2010). Beyond the research object of the firm, it considers the wider functioning and the structure of the economic system as parts of internationalization decisions (Vahlne and Johanson 2013). In this regard, the eclectic paradigm (Dunning 1980, 1988, 2000), the internalization theory (Buckley and Casson 1991, 2009; Teece 1986), the product life-cycle theory (Vernon 1966), and the transaction cost approach (Hennart 1982) can be seen as prominent exponents. This stream of literature is sometimes even called the “rational choice view” in internationalization research (Andersson 2000: 64; Kobrak et al. 2018). The second stream of literature aims at shedding light upon the development process of international businesses over time (Schmid 2002). While it is influenced by the studies of Penrose (2009), Cyert and March (1963), as well as Aharoni (1966), it is primarily connected with the names of a group of Scandinavian researchers (Carlson 1966; Forsgren and Johanson 2010; Johanson and Vahlne 1977; Johanson and Wiedersheim-Paul 1975). The joint works of Jan Johanson and Jan-Erik Vahlne stand out as the most prominent publications of this group (Andersen 1993). Starting

in 1977, they began to develop the Uppsala model as a processual theory on internationalization (Johanson and Vahlne 1977, 1990, 2009; Vahlne and Johanson 2017).

The Uppsala model defines the currently prevailing perspective within the field of internationalization research. It is commonly considered to be a realistic abstraction due to its processual perspective on the internationalization of firms (Schmid 2002) and—as already stated in the introduction to this study—it enjoys immense popularity in international business literature (Coviello et al. 2017; Hadjikhani et al. 2014; Hutzschenreuter et al. 2007; Meyer and Thaijongrak 2013; Sullivan and Bauerschmidt 1990; Schmid 2002; Welch et al. 2016). Yet, it is not only due to its processual perspective that the Uppsala model has shaped IP research considerably. The Uppsala model was and continues to be leading the way for rather behaviorist IP studies, as it takes the behavioral theory of the firm (Cyert and March 1963) into account and as it emphasizes the role of knowledge in the internationalization process. In doing so, it remains one of the most cited behavioral IP approaches, somewhat dwarfing other—none the less still significant—behavioral IP studies such as the works by Aharoni (1966) or Luostarinen (1979).

Fundamentally, the Uppsala model consists of two parts. On one hand, it is built on an empirical basis, which is reflected in an identified pattern of internationalization. On the other hand, it presents a theoretical model of internationalization. The recurring pattern that Johanson and Vahlne identified is shaped by the so-called establishment chain (Johanson and Vahlne 1977). It is the principal insight of the establishment chain that the internationalization of a firm in a specific country develops in four successive stages (no international activities, exports, sales subsidiaries, and manufacturing facilities). Furthermore, the internationalization pattern is shaped by a successively growing psychic distance to targeted markets. The Uppsala model defines psychic distance as “the sum of factors preventing the flow of information from and to the market” (Johanson and Vahlne 1977: 24). Specifically, it is about, for example, differences in language, education, business practices, culture, and industrial development (Johnston et al. 2012). It is argued that firms begin to internationalize in markets that they understand best, as this reduces market risks and uncertainties (Johanson and Vahlne 1990). With increasing internationalization knowledge, markets characterized by more psychic distance come into question for further internationalization steps (Forsgren and Johanson 2010). It is the overall conclusion of the Uppsala model’s empirical section that the internationalization pattern of firms is shaped by steadily increasing internationalization knowledge as well as by a continuous progressive expansion towards high psychic distance markets over time (Petersen et al. 2003).

Based on their empirical insights, Johanson and Vahlne developed a theoretical model according to which a firm’s progressive expansion and increasing foreign market involvement are rooted in the gradual accumulation of knowledge (Sullivan and Bauerschmidt 1990). The authors consider their model as an abstraction of “an interplay” between knowledge development and increasing foreign market commitments in reality (Johanson and Vahlne 2006: 166). The Uppsala model depicts this interplay with a differentiation between ‘state’ and ‘change’ aspects of internationalization. The former consists of ‘market commitment’ as well as ‘market

knowledge’ and the latter of ‘commitment decisions’ as well as ‘current (business) activities’. Due to an assumed reciprocal and repeated affecting between state and change aspects (e.g., high market knowledge is followed by new commitment decisions, which increase market commitments in return), the Uppsala model can be regarded as a dynamic approach (Andersen 1993; Johanson and Vahlne 1977). It assumes that decision makers in internationalization processes are confronted with limited information availability and that they respond with step-by-step internationalization decisions. In this process, commitment decisions can be viewed as the reaction to the perceived risks and opportunities of current activities. According to the Uppsala model, a decision maker will incrementally extend the internationalization of a firm until the existing market risk ( $R_i$ ) reaches the firm’s maximum tolerable market risk ( $R_i^*$ ). With increasing market knowledge, the maximum tolerable market risk is increasing as well, and further internationalization efforts are made. The model foresees uncertainty-reducing commitment decisions if  $R_i$  exceeds  $R_i^*$  (Johanson and Vahlne 1977). A cognitively distorted decision-making pattern (such as under escalation of commitment) is not foreseen in the theory.

Against this backdrop, one could argue that the Uppsala model considers decision makers at least implicitly to be rational actors. First and foremost, this is supported with the Uppsala model’s assumption that they weight consistently and purposefully between  $R_i$  and  $R_i^*$ . This implies the ability of an evaluation regarding the internal and external environments of the firm. Even if this happens under the restriction of incomplete knowledge, consistent and purposeful decisions are typical neoclassical behavioral assumptions. Therefore, the Uppsala model considers decision makers to be rational actors—under the limiting restriction of incomplete knowledge.

## 2.2 Escalation of commitment

### 2.2.1 *What is escalation of commitment?*

Escalation of commitment is a well-explored concept that has been empirically documented in different contexts and refers—generally spoken—to the tendency of decision makers to escalate an “ineffective course of action” (Brockner et al. 1986: 109). Frequently, it is also associated with the terms ‘sunk cost effect’, ‘entrapment’, or ‘too much invested to quit’ (ibid.; Staw 1976; Teger 1980). For the context of the present study, escalation of commitment is treated as a representative of bounded rationality, as it presents a deviation from classical, rational choice based decision-making literature (Donthu and Unal 2014). It is applied to test the behavioral assumptions of the Uppsala model that are mentioned in the previous section. Under escalation of commitment, decision makers refuse to acknowledge a negative feedback, since they are subjected to a self-enforcing behavioral bias, which misleads them to consider the previous decision outcomes for the current decision problems. Multiple theoretical explanations have been developed for this phenomenon and different determining factors have been identified (Sleesman et al. 2012). Following Festinger’s dissonance theory, for

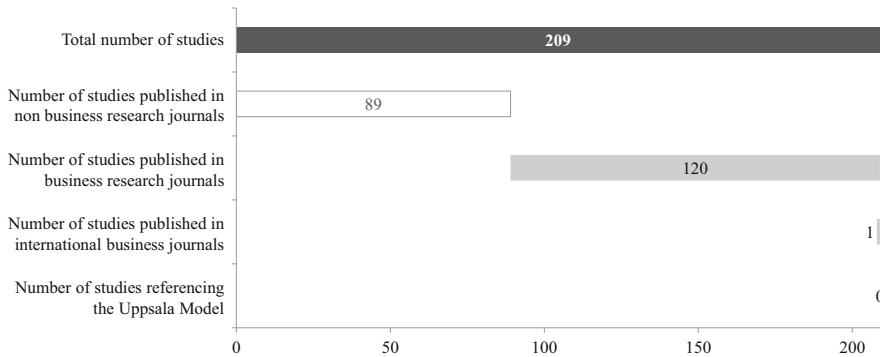
example, escalation of commitment could be caused by a cognitive incompatibility between, on one hand, the decision-maker's knowledge and, on the other hand, his/her initial attitudes and motivations (Beauvois et al. 1993; Festinger 1957). From an orthodox economic point of view, this should not happen. A rational decision maker would consider the involved information at each decision period, respectively, and come to a justifiable conclusion based on the prospects of the available alternatives and regardless of the previous decision outcomes. Escalation of commitment, thus, presents one of the behavioral biases that distort the rational judgment and decision-making capabilities of administrators—making it an adequate example of bounded rationality.

In its current sense, escalation of commitment has been well described by Staw (1976, 1981, 1997). According to his structured experiments, a typical escalation situation consists, first, of large amounts of resources, which need to be invested in a specific course of action. Second, decision makers must receive a negative feedback to their chosen course of action sometime later. Finally, decision makers need to have the choice to either withdraw from the course of action or to continue investments. Staw and Ross developed a taxonomy of influencing factors on escalation behavior (Ross and Staw 1993; Staw and Ross 1987, 1989). These factors can be summarized in four different classes under the labels of project, psychological, social, and structural determinants.

1. Project determinants are the objective characteristics of a project. The question of whether or not one withdraws from a failing course of action depends largely on objective features associated with a decision problem and on the related objective utilities of persistence and withdrawal.
2. Psychological determinants are marked by the insight that judgment and decision-making processes on a personal level are easily flawed by erroneous assessments. These erroneous assessments are the result of the challenge that decision makers have to process project information cognitively to determine whether or not to withdraw from or to persist with a project (Sleesman et al. 2012; Street and Anthony 1997).
3. Social determinants recognize that decision-making processes in a group context differ significantly from similar processes executed by individuals alone, as they are shaped by a different decision-making dynamic. For example, in a group context, decision makers may feel the need to defeat their argumentative competitors and, thus, to stick with their previous decision path.
4. The last factor addresses the structural, i.e., the institutional, level of decision-making processes. Once a course of action has been established at the organizational level, a withdrawal is very complicated, as it could possibly involve changes within the organization itself as well as interfering political interests.

A particularity of escalation of commitment is the circumstance that it is not only a multi-factored behavioral bias in judgment and decision-making processes. Moreover, the above-mentioned influencing factors unfold their effect with temporal dependence. They contribute in a self-perpetuating manner to an aggravating cycle and jointly constitute the escalation bias: A little bit of escalation





**Fig. 1** Body of literature

(induced by one factor) leads to further escalation judgments in the future (induced by other factors). Thus, from a processual perspective, the different factors of escalation of commitment accumulate over a series of periods (Brockner et al. 1979; Staw and Ross 1989).

### 2.2.2 Literature review of escalation of commitment in the context of IP research

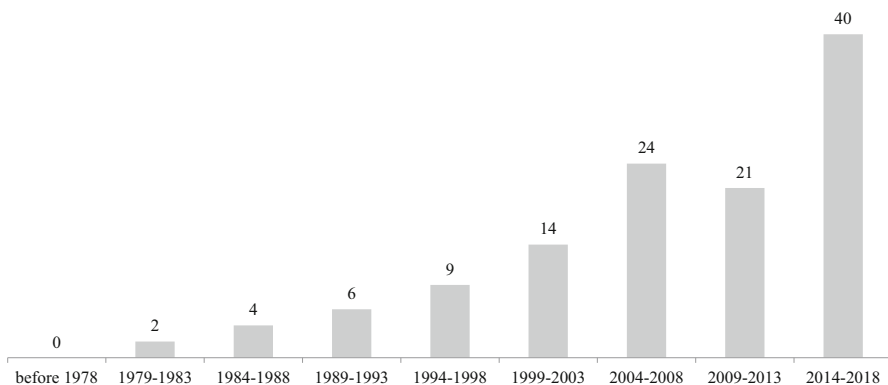
Although the concept of escalation of commitment has been well documented in various academic fields, it is somewhat under-researched in the context of internationalization processes. The deficit is best measured with a literature review on the interface of escalation- and IP research. A literature review is a valid approach and a necessary step to structure and map the relevant intellectual territory of a research question (Seuring and Müller 2007; Tranfield et al. 2003). The underlying literature material for the present review was collected with the help of the academic database EBSCO. Articles were deemed to be relevant if they mentioned “escalation of commitment” in the title or in the abstract of the study. Subsequently, it was examined whether the articles were published in journals from the fields of business research. As a next step, articles in journals from the sphere of international business were recorded. In addition, it was investigated whether the abstract mentioned the Uppsala model. Finally, the year of publication was documented. For the present study, journals are considered to be from the fields of business research if they are listed in the VHB-JOURQUAL 3 index, which represents the official journal ranking of the German Academic Association for Business Research. Schrader and Hennig-Thurau (2009) have argued in the pages of Business Research that it is the most influential journal evaluation approach in German-speaking countries. Journals are considered to be from the sphere of international business if they are listed in the corresponding VHB-JOURQUAL 3 sub-category (VHB-JOURQUAL 3/INT).

The basic body of literature comprises 209 papers. As shown in Fig. 1, the distribution of articles reveals that a majority of the publications has been printed in business research journals (120 papers). All the other academic disciplines (e.g.,

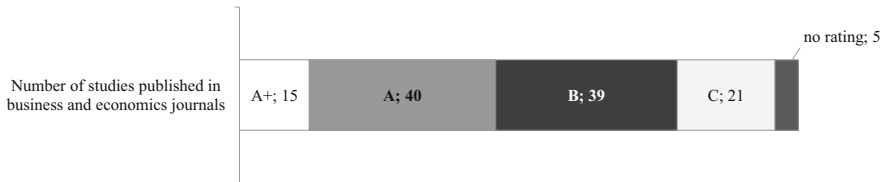
psychology or computer sciences) account for 89 publications. The distribution underlines that the concept of escalation of commitment is highly relevant for studies in the fields of business research. It must also be noted, however, that there is only a single publication in a journal from the sphere of international business (Brody et al. 2006). Furthermore, not even a single paper attempted to link the research stream on escalation of commitment with the Uppsala model. Therefore, one must record that research on escalation of commitment is almost non-existent in the field of international business and that the Uppsala model has not yet been tested with the help of this behavioral bias up to now.

This circumstance becomes ever more surprising if the allocation of the publications is also taken into consideration. While escalation of commitment is a topic that has now been researched for almost four decades, it is striking to see that the number of corresponding publications in business research journals has strongly risen over the course of the past years (as presented in Fig. 2). This indicates a high relevance of the behavioral bias for the fields of business research—making the low prevalence of international business journals among the business research outlets ever more surprising. In addition, it can be recorded that research on escalation of commitment becomes frequently published in well-established and well-ranked journals: 94 out of the 120 business publications have been published in journals ranked “B” or better (according to the VHB-JOURQUAL 3 index; see Fig. 3).

Considering these results, it is arguably justified to state that escalation of commitment is currently overlooked by IP researchers. Among the exceptions are Benito and Welch (1997), who mentioned the behavioral bias *inter alia* as an inhibitor for the de-internationalization of firms—yet without further immersion. Furthermore, escalation of commitment has been identified as a relevant topic by Matthyssens and Pauwels (2000) who studied the subject as a possible cause for erroneous judgments in international market exit dilemmas and in a marketing-related context. With these findings in mind, one should consider escalation of commitment as a plausible explanation for non-rational internationalization decisions and as a possible contradiction to the Uppsala model.



**Fig. 2** Allocation of (business research) articles on escalation of commitment over time



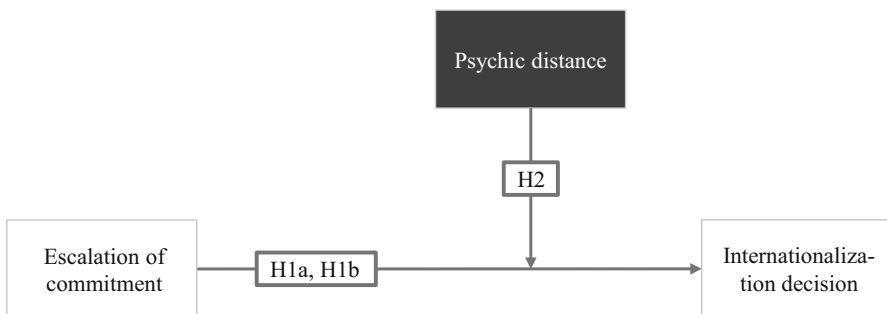
**Fig. 3** Allocation of (business research) articles on escalation of commitment by journal ranking

## 2.3 Hypotheses

The present study is taking a closer look at two hypotheses. First, it will be investigated whether or not there is a general impact (or direct effect) of escalation of commitment on internationalization decisions. Second, particular attention is paid to the psychic distance to targeted markets, which could develop a moderating influence on the effect of escalation of commitment (Fig. 4).

### 2.3.1 Hypotheses H1a and H1b

To hypothesize about the impact of escalation of commitment on internationalization decisions, first, one has to understand how rational, i.e., non-committed, decision makers should handle failing courses of action in comparison with decision makers under escalation of commitment. In a scenario of internationalization process decision-making, an initial internationalization decision in the form of an investment is taken on the grounds of project economics. Continued internationalization investments signify the maintenance of an internationalization process. Clearly, it must be mentioned that internationalization decisions have further implications than the investment alone. For example, the Uppsala model considers the market entry mode as a central part of the internationalization decision. Although higher market entry modes go along with higher investments (an FDI typically requires more capital than a market entry via exports), the here outlined reduction of internationalization decisions to further internationalization investments presents a deviation from the Uppsala model and a measure of simplification



**Fig. 4** Research model

(see also Sects. 3.1 and 6). Nevertheless, as soon as the original objective of an attempted internationalization is missed, i.e., the resulting costs are bigger than the corresponding benefits, rational decision makers should be characterized by an increased readiness to withdraw from a course of action and should, therefore, reduce their internationalization investment. In contrast, decision makers under escalation of commitment should act differently. Principally, their readiness to withdraw should also be increased due to a received negative economic feedback. The readiness, however, is balanced by the escalation bias (i.e., the joint project, psychological, social, and structural factors of escalation of commitment—see also Sect. 2.2.1). As a consequence, the internationalization process will be continued with a further—potentially worse—negative economic feedback in the future. Decision makers under escalation of commitment will, therefore, reinforce their internationalization decisions regardless of their success. Against this line of argumentation, the following hypothesis can be noted:

*Hypothesis H1a:* managerial decision makers in internationalization processes, who are under escalation of commitment, will rather act contrary to the logic of rational choices compared to a non-committed peer group. This means that they will reinforce their internationalization decisions regardless of the resultant economic success of their venture.

This hypothesis, however, only allows for an investigation and a comparison between two groups (non-committed decision makers versus decision makers under escalation of commitment). It does not generate any insights into the effect of commitment at the individual level of a single administrator or, in other words, into the group of decision makers under escalation of commitment in more detail. Yet, such an insight is necessary to fully demonstrate the impact of escalation of commitment on internationalization decisions. To compensate for this potential shortcoming, the present study includes another hypothesis covering the relation between a decision-maker's individual degree of commitment and his/her internationalization investments in failing courses of action. It is the assumption that there will be a relation between the individual degree of commitment of a decision maker and his/her internationalization decision in the future, because escalation of commitment is a self-enforcing bias. Hypothesis H1b complements H1a and includes the individual perspective that the latter is missing. Jointly, both hypotheses have the potential to demonstrate that there is a general impact of escalation of commitment on internationalization decisions.

*Hypothesis H1b:* managerial decision makers will act increasingly contrary to the logic of rational choices with higher (individual) degrees of commitment. This means that the internationalization decision of an internationalization manager will be reinforced regardless of the resultant economic success of his/her venture but in dependence of the decision-maker's degree of commitment.

### 2.3.2 Hypothesis H2

In addition to the hitherto presented argumentation of a general impact (or baseline effect) of escalation of commitment on internationalization decisions, it is important to take psychic distance into account as a potential moderator with regard to the

baseline conjoint Hypothesis H1. Considering the well-established ‘liability of foreignness’ argument in international business (Zaheer 1995) as well as current publications on psychic distance (Dow and Karunaratna 2006; Hutzschenreuter et al. 2014), it can quite principally be stated that the more different a targeted market is—from the perspective of the concerned decision maker at least—“the more difficult it will be to collect, analyze and correctly interpret information about it, and the higher are, therefore, the uncertainties and difficulties—both expected and actual—of doing business there” (Håkanson and Ambos 2010: 195). In other words, increasing levels of psychic distance to targeted markets go along with increasing levels of uncertainty and risk. In the context of the Uppsala model, increasing levels of psychic distance should have a direct effect on internationalization decisions due to an inclination of decision makers to avoid uncertainty and risk in internationalization processes (see also Sect. 2.1). As a consequence, internationalization investments in markets characterized by a marginally increased psychic distance should be more attractive to decision makers than internationalization investments in markets characterized by a substantially increased psychic distance. However, notwithstanding this direct effect (which is beyond the scope of this paper), psychic distance should also have a moderating influence on the impact of escalation of commitment on internationalization decisions.

The impact of escalation of commitment, i.e., the deviation from rational choices, should be strengthened under the condition of increasing levels of psychic distance. This ought to be the case, because increasing levels of psychic distance have the potential to affect the propensity for persistence of decision makers in escalating internationalization processes. Under the condition of an only marginally increased psychic distance, the propensity for persistence of committed decision makers is likely to be high, because their risk awareness and risk perception will (rightly so) not be triggered (after all, uncertainty and risk should be rather low in corresponding situations). Under the contrasting condition of a substantially increased psychic distance, the propensity for persistence should remain high, because the psychic distance context will still not trigger the risk awareness and risk perception of concerned decision makers. This should be due to the circumstance that decision makers under escalation of commitment are known to be prone to a reduced risk assessment capacity (Drummond 2014; Weber and Zuchel 2005). The constantly high propensity for persistence, however, goes against rational choice principles, since a rational decision maker would change his/her propensity for persistence in accordance with the psychic distance decision-making context. In short, increasing levels of psychic distance should go largely unnoticed by decision makers in escalating internationalization processes, thereby rendering the growing uncertainty and risk that is prevalent in such a context to be irrelevant. As a result, decision makers in escalating internationalization processes are likely to maintain an international venture somewhat regardless of the available information on increasing levels of psychic distance. Thereby, they are eventually diverging further from rational choices (under rational choices, one would account for all available information). Hence, increasing levels of psychic distance have the potential to moderate the effect of escalation of commitment on internationalization decisions in such a way that the impact of the escalation bias is strengthened under

corresponding psychic distance conditions. Such a moderating effect is distinct from the direct effect of psychic distance, because it unfolds its effect via the propensity for persistence of decision makers in internationalization processes.

*Hypothesis H2:* the impact of escalation of commitment on internationalization decisions, i.e., managerial decision-makers' deviation from rational choices in escalation scenarios, will be strengthened under the condition of increasing levels of psychic distance.

### 3 Method

To meet the research objective empirically, the present study is built on a randomized experiment under laboratory circumstances. Randomized experiments are marked by a high internal and a low external validity and allow for a causal interpretation of identified effects, since no interfering factors need to be taken into account (Falk and Heckman 2009). As an applied research methodology in international business, however, randomized experiments have only played a minor role in the past. This statement is supported by Zellmer-Bruhn and colleagues, who argued in the well-renowned pages of the *Journal of International Business Studies* that “experiments are largely absent from international business literature and [...] that they shouldn't be” (Zellmer-Bruhn et al. 2016: 399).

#### 3.1 Variables and operationalization

##### 3.1.1 Dependent variable

The ‘internationalization investment’ of test subjects serves as the dependent variable of the randomized experiment. A decision for continued internationalization investments translates into a continued internationalization process. For a better comparability between subjects, it is measured as the ratio of invested resources (in the current decision-making period) to available resources instead of absolute numbers. An internationalization exit equates to an internationalization investment of zero.

##### 3.1.2 Independent variables

Two independent variables are accounted for. Both relate to the commitment of test subjects. Fundamentally, one must consider whether or not a subject is already committed to a course of action. Hence, a dummy variable ‘commitment’, with the categories of ‘committed’ and ‘non-committed’, is used. Subjects are considered to be committed if they were exposed to the escalation bias and its influencing factors. For this purpose, they had to carry out a resource allocation in the beginning of the randomized experiment. In addition, the specific ‘degree of commitment’ of a single test person is also included under particular attention of Hypothesis H1b. The degree is measured as the ratio of the accumulated internationalization investment

of a decision maker (of the previous decision-making periods) to his/her initially available resources.

### 3.1.3 Moderating variable

For the investigation of a moderating effect of increasing levels of ‘psychic distance’, cultural distance is introduced as a less abstract proxy measure. Cultural distance is expressed in values between zero (full-cultural congruence) to 100 (full-cultural incongruence). Higher values of cultural distance imply an increased risk of failure for internationalizing companies due to an associated higher level of uncertainty. The use of a 100-point rating scale can be frequently seen in experimental studies in the fields of business research (Asay et al. 2018; Chernev 2003; Grant et al. 2018; Kennedy 1993; O’Donnell and Prather-Kinsey 2010). As for the present study, the scales in corresponding publications typically do not build on established frameworks. They are much rather selected to provide test subjects with an intuitive and simple measure for the procedure of the experiment.

The here outlined operationalizations present significant yet justifiable simplifications of more complex realities. First, it must be pointed out that an internationalization decision according to the Uppsala model goes beyond an internationalization investment. As outlined in Sects. 2.1 and 2.3.1, the theory also considers the establishment chain of internationalization, i.e., the entry mode, as part of the internationalization decision. Differing slightly, this study follows a simpler approach by focusing on the investment alone. It takes into consideration that the decision for a market entry mode is not unrelated to an internationalization investment: After all, capital expenditure is—unlike in the case of exports—an indispensable precondition for wholly owned subsidiaries abroad (Oesterle and Röber 2017). Second, the understanding of commitment in the Uppsala model goes beyond the relatively simple ratio of accumulated internationalization investments to initially available resources as it also considers the lack of transferability of investments, i.e., the permanence of the commitment. The benefit of the here applied simplification lies in the enabling of a comparison between subjects while not confronting them with more complex factors (which could affect the procedure of the study adversely). The same applies to the operationalization of psychic distance as a third measure of simplification. According to the Uppsala model, psychic distance is not only related to cultural factors. It is additionally put together from differences in language, education, business practices, and industrial development (Johnston et al. 2012). Nevertheless, studies have shown that cultural distance is often used as a “proxy for psychic distance” (O’Grady and Lane 1996: 311) and that “it is not rare for researchers” to use these two concepts “interchangeably” (Brewer 2007: 47). Although worth discussing (Sousa and Bradley 2008), this could be due to the fact that psychic distance factors are somewhat culturally influenced (Fletcher and Bohn 1998). Against this background, the present study builds on a congruence of cultural and psychic distance instead of a conjoint and complex measure of all of the factors mentioned above. While it comes at the cost of a neglect of the other psychic distance aspects, this operationalization makes the construct of psychic distance more palpable for the test

subjects. For the same reason, cultural distance is expressed in values on a 100-point rating scale. Despite the here presented arguments, the mentioned simplifications lower the explanatory power of the present study and should be kept in mind while reading the empirical analysis (as also stated in Sect. 6 on the research limitations).

### 3.2 Test subjects, data collection, and randomization

Subjects of the randomized experiment were 100 female and male postgraduate students at the University of Stuttgart, Germany. The participants were required to pursue (or to have completed) coursework in the fields of business and economics. Although experimental studies are sometimes criticized for the consultation of students as test subjects, students are often participating in experiments as decision-making representatives for various decision contexts in social sciences (Peterson 2001). The obvious problem with this practice lies in the question of whether students have sufficient skills and experiences to take over the part of professional decision makers (Falk and Heckman 2009). Experimental researchers respond with the statement that one should rather pose the question whether the judgement and the decisions of students resemble those of professional decision makers. In fact, a number of studies indicate that there are only few discrepancies between the behavior of students and professional decision makers in experiments (Elliott et al. 2007). Furthermore, Staw argues that students come into question for studies that investigate problems that are “more hard-wired than socialized” (Staw 2010: 411). With regard to escalation of commitment, this argumentation makes sense: There are no signs that a specific skillset lowers the odds of being affected by escalation of commitment. The escalation bias cannot be effectively counteracted with skills, and therefore, professional decision makers are not immune to this cognitive disposition (despite their experiences). Between the different views on this issue, the truth should be located somewhere in the middle. Ultimately, the research setting must be cautiously selected against the background of the research field and objective (Staw 2010; Thomas 2011).

The data collection was conducted in four separate appointments. It was supported by the insights of a preliminary pretest, which had been conducted with a smaller sample to check for the overall operability and manipulation of the experiment. Test subjects were assigned randomly and evenly to a treatment and a control group. The experimenter had no influence on the randomization, i.e., the group assignment was entirely coincidental. Major differences between the samples with regard to the participants’ age and educational background were ruled out, because there was already a high degree of homogeneity across all participants in the first place (after all, test subjects were exclusively university students). Furthermore, subjects were only permitted to participate in a single appointment as a preventative measure against distorted experimentation effects.

### 3.3 Procedure

The procedure of the experiment followed a between-subjects design. It can be divided into a basic scenario, which presented a simulation of an underlying



internationalization process in a general context, as well as in an interlude of the basic scenario, in which some context information regarding the involved psychic distance was modified. Any information on the research problem and motivation was obviously concealed from the test subjects. For the experiment, subjects received a paper-based copy of the simulated internationalization process scenario.

### 3.3.1 Basic scenario

The basic scenario of the simulated internationalization process consisted of three consecutive decision-making rounds. Every round signified the end of a 3-year period in which the circumstances of the scenario had changed. Over the span of the experiment, the treatment group was exposed to the escalation bias in the form of its influencing factors. Prior to the first decision-making round, subjects were familiarized with the background of the scenario. The participants were told that they were employed by the fictional Swabian firm 'SAG', which showed typical characteristics for firms that are addressed by the Uppsala model (e.g., it was a medium-sized to large supplier of industrial goods). In addition, test subjects were informed that the firm was founded in 1980 and that it went through a phase of rapid growth initially. In the recent past, however, the company was confronted with a stagnating development. In response to this stagnation, the firm decided to pursue an international expansion strategy and to enter a new international market.

*Round 1:* the aim of the first round was to develop an initial level of commitment among the participants of the treatment group. Therefore, the (non-committed) control group was excluded in this stage of the experiment. Subjects of the treatment group, however, found themselves in the role of an internationalization manager, who had to take a decision concerning a new market entry. They had an internationalization budget of 50 million euros at their disposition and were requested to maximize the returns on their investment. Laboratory experiments inevitably run the risk of documenting non-representative decisions due to a lack of consequences for test subjects. While it is ultimately not possible to dissolve the 'play-like' character of experiments entirely, an incentive-based reward scheme diminishes this shortcoming. Against this background, 50 million euros in the simulated scenario were equivalent to five euros in reality. This amount was previously paid out and served as remuneration to the participants. Subjects were told that relative profits and losses in the simulation were directly applicable to their remuneration. Hereupon, subjects were presented with two target markets, A and B. There were no significant differences between these markets. Furthermore, subjects were informed that SAG expected to break-even within 3 years in either market, i.e., until the next decision round. Optimistic estimations, however, also saw the possibility of a 25% return on investment (ROI) after 3 years. Thus, project economics were promising for market A as well as for market B. At the end of the first round, subjects of the treatment group were asked to take an internationalization decision and to invest at their discretion in either country.

*Round 2:* in the second round, subjects of the treatment group were confronted with a negative feedback. Regardless of the chosen target market, all participants in the experiment were informed that their internationalization choice fell short of

expectations. Neither a 25% ROI nor the break-even point was reached. All resource allocations from the previous round were retained by the experimenter. Furthermore, subjects were told that a solid forecast for the future development of SAG in the new market was hardly possible. Thus, the previously promising project economics turned into a questionable or even negative factor. At the same time, however, test subjects were confronted with a dilemma, because psychological and social forces for persistence were introduced into the simulation. As described in the theoretical background of this article, psychological and social factors are part of the escalation bias and, therefore, need to be taken into consideration for the manipulation of the treatment group. As a psychological impulse, they were reminded of their confident market analysis in the first round as well as of their responsibility to reach the objective of the international expansion. As a social impulse, subjects received the information that the project team for the internationalization was of the opinion that the current process was not wrong. Any change to the decision path would have been interpreted as fickle action by their side. The second round was also the first round of participation for the control group. Respective subjects received the information that they substituted a manager, who took an internationalization decision 3 years ago. Subjects of the control group knew that their predecessor had reason to believe that a 25% ROI or at least a break-even was feasible. Likewise, however, subjects knew that the initial targets were missed. Thus, they were as well informed as the treatment group about the international venture. Finally, the treatment and the control group were separately asked to take a decision for or against continued investments in the internationalization process. Subjects of the control group received a ‘cloned’ budget. This means that there was a doppelgänger of every participant of the treatment group, who received the same amount of resources. Subjects had the opportunity to safeguard the remainder of their initial budget and to keep it as remuneration if they decided for an internationalization exit.

*Round 3:* after another three fictional years, test subjects of the treatment group (that is to say, the ones who decided to continue the internationalization process in Round 2) were informed that SAG was still in dire straits in the new international market and that the future outlook remained insecure. Given the time that had passed since the initial internationalization decision, project economics needed to be evaluated as negative and not just as questionable any longer. Notwithstanding, the psychological and social factors for persistence of the previous decision round were left largely unmodified: on one hand, subjects were—once again—reminded that their initial market analysis was seemingly flawless to increase their decision confidence. On the other hand, they were told that a strategic turn-around at this point could lead to the criticism that they reacted too late. In addition to the largely unmodified psychological and social forces for persistence, a new structural dimension was introduced in the experimental simulation. As in the case of psychological and social factors, structural forces are part of the escalation bias and, therefore, need to be considered for the manipulation of the treatment group. For this, subjects were informed that the project team, which was already relatively convinced of the internationalization decision in the previous round, was now certain that the new market presence constituted a ‘core element’ of SAG’s strategy.

To some extent, this highlighted that the internationalization process was institutionalized at this point. The remaining participants of the control group received the identical information as the treatment group. Therefore, the unsatisfactory situation of SAG in the new market must have been clear to every participant in the experiment regardless of the group allocation. At the end of the third round, the remaining participants of the treatment and of the control group were once again separately asked whether or not they wanted to continue the internationalization process and to invest at their discretion.

### 3.3.2 *Interlude of the basic scenario*

After the test subjects took their decision for or against continued internationalization investments in Round 2, they were required to indicate how they would have decided if the scenario was altered in the then described manner. Although following a between-subjects design, this setting of the experiment was inspired by repeated-measures studies: In the interlude of the basic scenario, some context information regarding the involved psychic distance to the targeted market was modified. To simultaneously test for an increase as well as for a decrease of psychic distance, the treatment and the control group were split up and divided into two subclasses (i.e., four subgroups, each with 25 subjects). Half of the participants of the treatment, as well as half of the control group, received the information that the cultural distance to the targeted market was now lower than in the basic scenario, in which the cultural distance to the targeted market was defined to be 50. In the interlude for the first half of participants, it was initially reduced to 25 and then lowered even further to a value of five. Since cultural distance could have been perceived differently by the test subjects, they were informed that the value of 25 was equivalent to low cultural distance and that the value of 5 was equivalent to very low cultural distance. The participants received the information that low cultural distance implies less uncertainty and, therefore, less risk with regard to the internationalization outcome. In contrast, the two other halves of the treatment and control group received the information that the cultural distance to the targeted market was now higher than in the basic scenario. In their interlude, it was first increased to a value of 75 (high cultural distance) and then raised even further to 95 (very high cultural distance). Accordingly, they were informed that high psychic distance implies more uncertainty and more risk with regard to the internationalization outcome. After the modification of the psychic distance information, the participants were asked how they would have reacted in the light of the altered decision context.

## 4 Findings

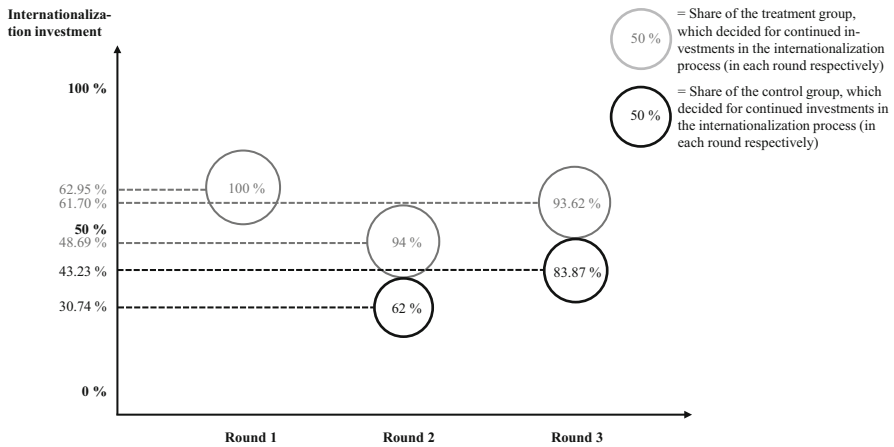
### 4.1 Pretest

As stated above, a preliminary pretest with a smaller sample size ( $N = 20$ ) has been conducted prior to the final data collection phase. As the perception of provided

information in social science experiments may vary, the implementation of a pretest is advisable for test-theoretical considerations (Eschweiler et al. 2007). In the light of potential misinterpretations by test subjects, it helps to assess the overall operability of the experiment. First, this refers to the comprehensibility of the experiment. A pretest with a significantly smaller sample size helps to ensure that the test subjects of the final large-scale experiment understand and process the given information as intended. Second, the pretest helps to assess whether or not the conducted manipulation was fruitful and resulted in a measurable effect. It provides an insight into the participants' awareness of the independent factors and thereby verifies the effectiveness of the manipulation (against this background, an additional manipulation check was foregone). Overall, the pretest showed that the internationalization simulation was clear and comprehensible for the test subjects and that the manipulation of the treatment group was effective. Throughout the pretest, the results of the treatment and control groups were clearly distinct. The participants of the treatment group invested 65%, 52.25%, and 53.5% of their funds in the first, second, and third rounds, respectively. Nobody withdrew from the chosen internationalization path until Round 3, in which three out of 10 test subjects decided for an internationalization exit. In contrast, the participants of the control group invested merely 33.49% and 36.81% of their available resources in the second and third rounds. Furthermore, four out of 10 of test subjects exited the internationalization process in the second round and one additional participant withdrew in the third round. The differing decision outcomes are indicative for an effective operationalization and manipulation.

## 4.2 Findings for H1a

H1a postulates that managerial decision makers under escalation of commitment will reinforce their internationalization decisions regardless of the resultant economic success of their venture (unlike their non-committed counterparts). Thus, the independent nominal factor 'commitment' influences the dependent metric variable 'internationalization investment'. This hypothesis is approached with a one-way ANOVA (H1a could have also been tested with a  $t$  test, because it is equivalent to the  $F$  test as long as only two group means are compared). The randomized experiment revealed the insight that the group of committed test subjects invested significantly more capital for the maintenance of the internationalization process despite its unfavorable outcome throughout the simulation [ $M_{(\text{Round } 2)} = 0.4869$ ,  $M_{(\text{Round } 3)} = 0.6170$ ]. In contrast, the non-committed peer group was much more reluctant with regard to an additional funding of the internationalization process [ $M_{(\text{Round } 2)} = 0.3074$ ,  $M_{(\text{Round } 3)} = 0.4323$ ]. These numbers are best illustrated with Fig. 5. It shows quite clearly the contrast between the group of committed and non-committed test subjects. In the first decision-making round, all of the participants of the treatment group ( $N = 50$ ) decided for an investment initially. In average, test subjects of the treatment group allocated 62.95% of their funds to one of the available markets. In the second round, 94% ( $N = 47$ ) reinforced their internationalization decision at an average reinvestment rate of 48.69% of their remaining capital. In the third round, 93.62% of the



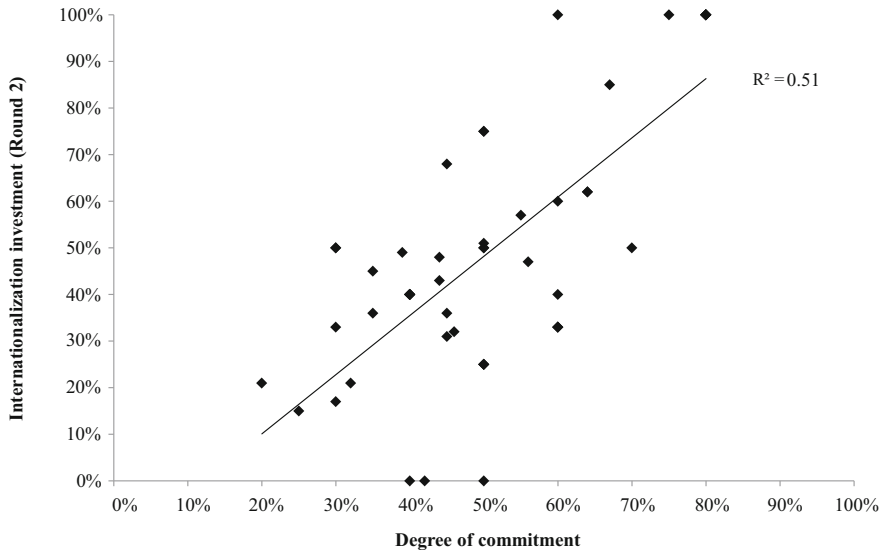
**Fig. 5** Results of the basic scenario

remaining treatment group (i.e., 88% of its initial basis;  $N = 44$ ) allocated an additional 61.7% of their residual funds to the internationalization process. After three decision rounds, only six out of 50 participants of the treatment group seized the opportunity of an internationalization exit at some point during the simulation. In contrast, only 62% of the participants of the control group ( $N = 31$ ) decided for a continued internationalization in the second decision-making round (at an average reinvestment rate of 30.74% of their remaining funds). In the third round, 83.87% of the remaining control group (i.e., 52% of its initial basis;  $N = 26$ ) allocated an additional 43.23% of their available capital to the internationalization process. Ultimately, 24 out of 50 participants of the control group seized the opportunity of an internationalization exit at some point during the simulated internationalization process.

The conducted one-way ANOVA supports the assumption that the disposition of an increased commitment among decision makers leads to higher investments and persistence in internationalization decisions—even in times of failure. The measured decision-making differences between the group of committed and non-committed test subjects were statistically significant in the second round ( $F = 9.243$ ,  $p = 0.003^{**}$ ) as well as in the third round ( $F = 5.769$ ,  $p = 0.019^*$ ).

### 4.3 Findings for H1b

H1b postulates that the internationalization decision of a manager will be reinforced in dependence of the decision-maker's individual 'degree of commitment'. Hence, this hypothesis does not address a comparison between groups. Instead, it investigates committed decision makers in more detail. To cover this hypothesis, a simple linear regression has been conducted with the 'degree of commitment' as the independent variable for the second and third decision-making rounds, respectively. The investigated population for the second round is identical with

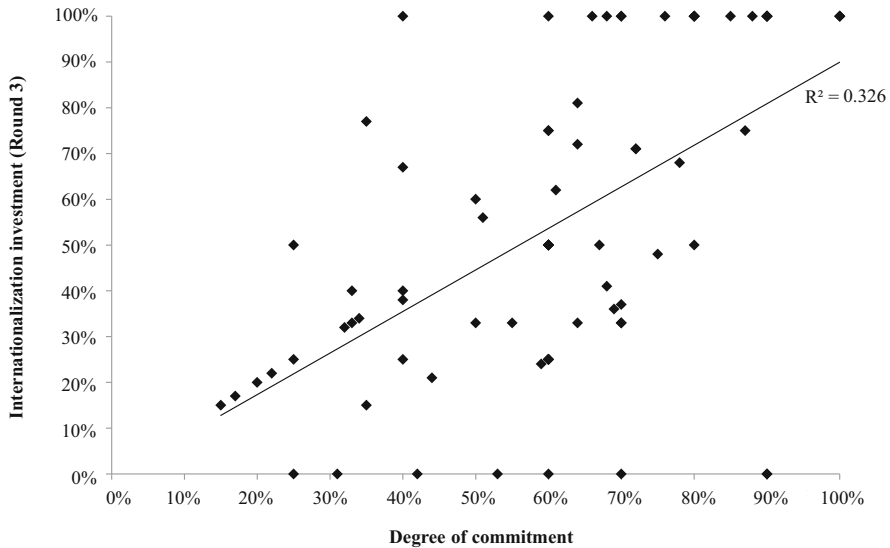


**Fig. 6** Scatterplot Round 2

the treatment group ( $N = 50$ ), since the concerned participants were the only ones who were subjected to a certain ‘degree of commitment’ in the beginning of the experiment. Thus, in Round 2, the ‘degree of commitment’ can only be determined for the corresponding test subjects. In the third decision-making round, however, the situation is different. Test subjects of the control group, who decided for continued investments in Round 2, were also committed to their course of action by the time of the third decision-making round. Clearly, these participants were committed to a smaller extent. Nevertheless, it is possible to determine their individual ‘degree of commitment’ in Round 3. Therefore, they were added to the investigated population for the analysis of H1b. Hence, there is a population influx. Besides the share of the treatment group that reinforced the internationalization decision in Round 2 (94%,  $N = 47$ ), there is also the share of the control group that decided for further internationalization investments (62%,  $N = 31$ ). As a result, the investigated population for the third decision-making round equated a total of  $N = 78$ .

For the second decision-making round, the correlation examining the relation between the decision-maker’s ‘degree of commitment’ and his/her internationalization investment was significant at the 0.001 level and in the expected positive direction ( $r = 0.714$ ). The regression revealed that the independent variable (‘degree of commitment’) accounted for 51% ( $R^2 = 0.51$ ) of the variability in the dependent variable (‘internationalization investment’). The regression was statistically significant ( $p < 0.001^{***}$ ) (Fig. 6).

In addition, for the third decision-making round, the correlation examining the relation between the decision-maker’s degree of commitment and his/her internationalization investment was significant at the 0.001 level and in the expected



**Fig. 7** Scatterplot Round 3

positive direction ( $r = 0.571$ ). With regard to the regression results, it can be stated that the independent variable ('degree of commitment') accounted for 32.6% ( $R^2 = 0.326$ ) of the variability in the dependent variable ('internationalization investment'). As for the second round, the regression was statistically significant ( $p < 0.001^{***}$ ) (Fig. 7).

#### 4.4 Findings for H2

Hypothesis H2 postulates that the impact of escalation of commitment on internationalization decisions will be strengthened under the condition of increasing levels of psychic distance. Thus, the moderating ordinal variable 'psychic distance' should influence the relationship between the independent factor 'commitment' and the dependent variable 'internationalization investment' in such a way that the impact of the escalation bias is strengthened when the level of psychic distance is increasing. This hypothesis will be approached with a two-way ANOVA, which allows for an evaluation of the effect of two independent factors on a single-dependent variable. It assesses the main effect of both factors individually and enables the consideration of an interaction effect. The data for the analysis of H2 stems from the interlude of the basic scenario of the randomized experiment.

The data analysis supports the assumption that increasing levels of psychic distance have a moderating effect on the impact of escalation of commitment on internationalization decisions, since a statistically significant interaction term between 'commitment' and 'psychic distance' was measurable ( $F = 4.152$ ,  $p = 0.043^*$ ). This means that the psychic distance context as well as the prevalence of commitment had a simultaneous influence, which provided a stronger effect than

a merely additive one, on the decision-making outcome of the test subjects in the simulated internationalization process. A closer look at the result reveals that committed decision makers were diverging from rational choices when the level of psychic distance was increasing. This indicates that the impact of escalation of commitment is strengthening in the corresponding situations. Although the average internationalization investment of the committed test subjects [ $M_{(\text{very low PD})} = 0.5533$ ,  $M_{(\text{low PD})} = 0.5081$ ,  $M_{(\text{high PD})} = 0.4421$ ,  $\text{Mean}_{(\text{very high PD})} = 0.4248$ ] as well as of the control group [ $M_{(\text{very low PD})} = 0.5007$ ,  $M_{(\text{low PD})} = 0.3953$ ,  $M_{(\text{high PD})} = 0.2399$ ,  $M_{(\text{very high PD})} = 0.1120$ ] decreased with increasing levels of psychic distance, it is clear to see that subjects under escalation of commitment diverted from rational choices in high and very high psychic distance situations. This is expressed in the spacing between the two graphs in Fig. 8, which grows further apart with increasing levels of psychic distance. Therefore, it depicts an ordinal interaction between the commitment of the test subjects and the psychic distance decision-making context.

With regard to the findings for Hypothesis H2, however, it should be noted that a reverse interaction effect (in which the independent variable ‘commitment’ is moderating the direct effect of ‘psychic distance’ on the dependent factor ‘internationalization investment’) cannot be entirely ruled out. The measured interaction term allows this interpretation as well because—from a statistical standpoint—it purely reflects a multiplication of the independent and moderating variables. One could, however, rebut this limiting aspect with a reference to the procedure of the interlude of the basic scenario, in which the manipulation of commitment as well as the first internationalization investment temporally preceded the psychic distance alterations. Only in the second decision-making round and after

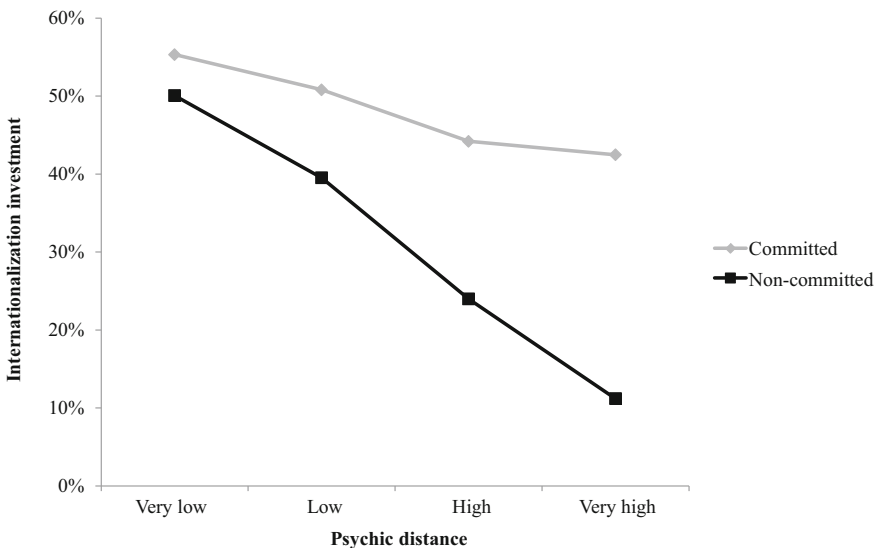


Fig. 8 Ordinal interaction of commitment and psychic distance



the modification of the psychic distance information, subjects were once more asked to reassess their previous internationalization investment. Hence, the variations of psychic distance information should have impacted an already taken internationalization decision, which reflected the relationship between the independent factor ‘commitment’ and the dependent variable ‘internationalization investment’. Therefore, the intended moderation of the baseline hypothesis seems to be more likely than a reverse interaction effect.

## 5 Discussion and conclusion

The statistical results of the randomized experiment support the hypotheses of this study. There were significant decision-making differences between the treatment and control groups. The share of committed test persons, who continued the internationalization process despite its failing outcome, was continuously high throughout the decision-making stages of the experiment. One can, furthermore, record a clear relation between the individual degree of commitment of a decision maker and his/her subsequent internationalization decision. In contrast, non-committed and rather rational decision makers are apparently characterized by an increased readiness to exit an internationalization process once the attempted internationalization targets are missed. How can these results be explained? For one thing, the treatment group seems to have paid less consideration to the signals of internationalization failure than the control group, which was not exposed to an escalation bias. The latter tended to follow the implicit rational choice principles of the Uppsala model, and withdrew more frequently from the international venture to secure the remaining funds. Furthermore, committed decision makers were affected by the escalation bias (in the form of psychological, social, and structural forces for persistence) to which they were exposed as part of the procedure. Earlier studies provide various explanations for why decision makers fall for the escalation bias in general contexts. Personal responsibility for the initial decision (Staw 1976) and the amount of sunk costs (Arkes and Blumer 1985) are just two of the most cited. Another factor could be the excessive optimism which is typical for committed decision makers (Juliussen 2006; Meyer 2014, Slesman et al. 2018). Regarding the impact of escalation of commitment on internationalization decisions, all of this supports the assumption that decision makers in internationalization processes are indeed prone to this particular behavioral bias.

Although with overall weaker evidence, the statistical results also support the second hypothesis of the present study: The impact of escalation of commitment on internationalization decisions is strengthened under the condition of increasing levels of psychic distance. Apparently, increasing levels of psychic distance have the potential to affect the propensity for persistence of decision makers in escalating internationalization processes in such a way that it remains constantly high. The psychic distance context does not seem to trigger the risk awareness and risk perception in corresponding situations. Quite the contrary, increasing levels of psychic distance go largely unnoticed by decision makers in escalating internationalization processes. The constantly high propensity for persistence, however, is

not compatible with rational choice principles (which would require a consideration of and a subsequent adaptation to the psychic distance context). It is also inconsistent with the Uppsala model's idea of purposefully proceeding internationalization managers and highlights that the theory's rationality postulate is rather doubtful—especially under the condition of increasing levels of psychic distance. A reverse interaction—although theoretically possible—seems to be rather unlikely: The procedure of the interlude of the basic scenario ensured that the manipulation of the main effect, i.e., the introduction of escalation of commitment, as well as the test subjects' first internationalization decision temporally preceded the psychic distance manipulation, which must have, therefore, unfolded its effect upon an already established baseline relationship. Hence, the result for Hypothesis H2 rather points towards the conclusion that the impact of the escalation bias is somewhat aggravating when increasing levels of psychic distance are added to the internationalization scenario.

Altogether, one can conclude that the display of escalation of commitment during the simulated internationalization process is indicative for a significant shortcoming of the seminal Uppsala model. Apparently, decision makers do not always possess the ability to evaluate their options rationally, and they do not always ponder between the perceived and tolerable market risks. This highlights an inconsistency of the Uppsala model, which tends to ignore the limited cognitive capability of decision makers and which overstresses their rational decision-making powers despite its internal logic and plausibility. With this finding, this study underlines the problem of a disparity between theory and practice in IP research. Managers, who deal with matters of internationalization, can either decide for an international expansion or for a limitation of the international engagement of their firm. Yet, if they are likely to be impacted by escalation of commitment, internationalization processes could be maintained for the wrong, i.e., non-rational, reasons. Thus, the bounded rationality of decision makers, particularly their limited cognitive capability, presents an issue that international business literature should give greater consideration to. Contrary to the theory, internationalization decisions sometimes seem to be “intendedly rational, but only limitedly so” (Simon 1976: xxviii).

## 6 Limitations and suggestions for further research

The findings of this study must be interpreted within the context of some methodological limitations. First, laboratory experiments typically provide a high internal validity, while they come at the cost of a low external validity. This can also be observed in the case of the present study (although countermeasures have been implemented whenever possible). In this regard, one must consider the simplified measures that have already been mentioned in Sect. 3.1: Internationalization decisions are reduced to internationalization investments, market commitment is measured as resource commitment, and psychic distance is equated with cultural distance. The Uppsala model considers the market entry mode as a central part of an internationalization decision. While there is reason to argue that higher entry modes

go along with higher investments, the here applied measure falls short of the complexity of the Uppsala model. The same applies to market commitment, which covers—according to the theory’s authors—two factors: the amount of resources committed and their permanence or transferability. In the case of cultural distance, it must be noted that it is just one aspect of psychic distance among others. Furthermore, a numeric indication of cultural distance is not the most realistic measure, because no manager in business practice has such a scale at his/her disposition. The benefit of the here applied simplifications, however, lies in the enabling of a comparison between subjects without confronting them with more complex factors for the procedure (which could have affected the study adversely). Regarding the external validity, one might also question the monetary incentive of only five euros. Yet, as already stated in Sect. 3.3.1, it is ultimately not possible to dissolve the ‘play-like’ character of experiments entirely. Second, the procedure of the experiment of the present study is marked by some limitations. This refers primarily to the manipulation of psychic distance and the presentation of alternative psychic distance scenarios to the test subjects. One could certainly argue that the psychic distance alterations pointed out the importance of this particular aspect to the test subjects. This may have had an undue influence on them. Furthermore, the here applied procedure does neither consider individual perceptions of psychic distance, which could present another decisive decision factor, nor its relative marginal growth (in practice, a scenario is conceivable in which the absolute psychic distance from the domestic market increases, while the incremental relative psychic distance remains stable). Finally, the proposed explanation for the identified moderating effect of increasing levels of psychic distance is largely based on plausibility and theory and less on empirics. In consideration of these limitations, the present study encourages scholars to engage in follow-up research covering the psychic distance implications in further statistical detail.

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