

# DO DECISION-MAKERS PREFER IDEAS ON WHICH THEY HAVE PERSONALLY WORKED?

## IKEA EFFECT AND PREFERENCE OF START-UP IDEAS\*

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### ABSTRACT

This article aims to determine whether the IKEA effect (i.e., the effect of pure effort) changes decision-maker's opinion about a start-up business project. This quantitative study uses non-parametric rank-based tests (Mann-Whitney-Wilcoxon and Kruskal-Wallis) to determine whether experimental manipulations change respondents' opinions statistically significantly. The research sample consists of 259 participants. The consensus from the literature review is that the IKEA effect influences the evaluation of tangible and intangible objects alike. However, the results of the two experiments described in this paper suggest that the sheer effort involved does not statistically significantly change the opinion of a start-up business project. However, all things being equal, prior exposure to a start-up project does have a statistically significant positive effect on decision-makers' opinion on that project. The main conclusion from this study is that the IKEA effect does not seem to impact the perceived attractiveness of intangible objects if we carefully distinguish between the I-designed-it-myself effect and the IKEA effect. This could help map the cognitive biases that distort decision-makers' judgments – especially in areas where the evaluation of business projects under conditions of data scarcity is common (such as seed-stage investments). The article highlights a theoretical distinction between the IDIM and the IKEA effect that seems to be missing in many articles in this area of research. It also addresses the research gap regarding the impact of the IKEA effect on the liking of intangible objects.

**KEYWORDS:** *entrepreneurship; cognitive bias; IDIM effect; IKEA effect; decision making*

### 1. INTRODUCTION

Business decisions are not always programmed, quantitative, or even completely rational. Due to a turbulent environment or a lack of historical data, the decision-making process may lack an essential

foundation. Entrepreneurial decisions are particularly vulnerable to this type of problem as they are often qualitative, are made in newly established companies (making it difficult to have relevant historical data), and relate to innovative products or services (making the historical data problem even more challeng-

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ing). Setting up new businesses (especially technology-based businesses) is characterized by the need to decide and act in the face of uncertainty. The outcomes of the market selection and commercialization process are risky and unpredictable (Reymen et al., 2015). Ries (2011) defined a start-up as a human institution designed to deliver a new product or service under extreme uncertainty. Blank and Dorf (2012) described a start-up as a set of untested hypotheses.

Similarly, Christensen (1997) suggested that business plans of innovative companies must be learning and exploration plans rather than execution plans, as the planner initially lacks the data to understand the actual product-market fit and that an optimal plan can only emerge through action. Pomeroy (2018) observed that an industry comprising many start-ups becomes more uncertain overall. Moreover, a start-up's characteristics increase the influence of one key person on decisions (Nguyen-Duc et al., 2021). Thomas and Alluru (2016) found that this can lead to decisions being made and implemented solely based on managers' deeply held personal beliefs.

Due to the above characteristics, decisions in the early stages of innovative projects (when tentative ideas are formulated) may be particularly susceptible to the cognitive biases of decision-makers. Wang and Wang (2017) claim that companies are often faced with problems for which they are not well prepared and solve them using judgment and intuition rather than experience and knowledge. This also applies to decision-makers outside of start-ups - such as early-stage investors. They have little data available, and their decisions are also susceptible to cognitive biases. For example, as Wood et al. (2020) note, angel investors are known to take a "cowboy" approach to their investments, using ad hoc screening methods and lax due diligence, relying on their "gut feeling" and ambiguous heuristics. A whole range of biases appears to influence the decision-making process by creating a personal connection between the decision-maker and the subject of the decision. This article looks at three biases that can lead decision-makers to favor certain ideas: the NIH (Not Invented Here) effect, the IDIM (I Designed It Myself) effect, and the IKEA effect. The IKEA effect is then empirically analyzed.

This article aims to determine whether the IKEA effect (i.e., the effect of pure effort) changes decision-maker's opinion about a start-up business project. Since exerting effort on a business project simultaneously familiarises a person with the project, the second aim is to determine whether the results of pure effort have a greater influence on liking for the business project than pure familiarity under comparable conditions.

Since literature in this research area focuses on

the effects of creative effort on liking both physical objects (such as meals, origami, and LEGO kits) and intangible objects (such as ideas, virtual products, and investment portfolios) or on the effects of pure effort on liking for physical objects, but not on the effects of pure effort on liking for intangible objects, this article attempts to fill the research gap by focusing on the link between pure effort and intangible objects.

The article is organized as follows: a literature review is provided, hypotheses are developed, the experimental methodology is discussed, and the experimental results are presented and discussed. The article concludes with a presentation of the study's limitations and recommendations for future research.

## 2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

NIH was the subject of a 1967 master's thesis by R. Claggett, who wrote about NIH as a phenomenon widely recognized in business and administration. NIH was defined as resisting the adoption of an innovation from a source outside the organization (Claggett, 1967). In a seminal paper in this field, Katz and Allen (1982) described the tendency of laboratory teams to increase their performance in the first 1.5 years of their tenure, then stabilize for about 3.5 years, and finally decline. The authors explain this tendency by the decline in communication between group members and between the group and important external sources of information. This seems to describe an initial lack of competence coupled with the willingness to communicate and learn, followed by competence and willingness to communicate, and finally, the (subjectively) greatest competence in the field (or at least the possession of the best information about local conditions and preferences), so that no outside input is sought or accepted. In this way, as Hannen et al. (2019) note, an individual develops a negative attitude towards external knowledge. The individual develops a cognitive filter that leads to a tendency, as Weissenberger-Eibl and Hampel (2021) suggest, to devalue or reject external input and ignore its objective value. More broadly, Menon et al. (2006) concluded that people who judge the usefulness of knowledge or ideas they have encountered make themselves a factor in the judgment process rather than being objective. The authors of numerous other papers have also observed cognitive rigidity, resistance, and rejection of external ideas (e.g., Arias-Perez and Velez-Jaramillo, 2022; Lee, 2022; Amann et al., 2022).

The concept of the IDIM effect has been defined by Franke et al. (2010, p. 125) as *"the value increment a subject ascribes to a self-designed object, arising purely from the fact that she feels like the originator of that*

object.” Similarly, Shmueli et al. (2015) conceptualized IDIM as the tendency to overvalue self-designed products. The concept seems very similar to NIH – the difference lies in the formulation, which focuses on overvaluing one’s ideas rather than undervaluing the ideas of others. The main feature of the objects of the IDIM effect is the creative contribution of the decision maker, who can tailor the object precisely to their aesthetic or functional preferences. In their experiment, Mochon et al. (2012, p. 363) observed that participants tended to rate a self-assembled IKEA box higher than an identical box assembled by someone else. Compared with IDIM, the authors removed any functional or aesthetic difference, customization, or fun that would make one’s own creation more desirable. This effect has been labeled the IKEA effect. This tendency has been the subject of numerous experiments and publications – mainly in consumer psychology and other areas such as nutrition and public health (to influence dietary and lifestyle choices). Relevant work includes (Raghoebar et al., 2015), (Reychav et al., 2019), (Dohle et al., 2014) and (Troye and Supphellen, 2012). The tendency to consider the time required to assemble objects as a factor that increases the value of these objects seems to contradict classical economic theory. Time is considered a valuable resource (e.g., Becker, 1965), so time spent on a product should theoretically reduce the perceived value of that product. Inzlicht et al. (2018) found that a similar conclusion can be de-

rived from prominent cognitive psychology and neuroscience models. Since (physical or mental) effort is costly, humans and animals tend to avoid it. Nevertheless, under experimental conditions, rats, pigeons, starlings, and locusts value food rewards that follow high effort more than identical foods that follow low effort. In a neuroimaging study, Ma et al. (2014) also concluded that effort can increase the subjective evaluation of rewards. Köcher and Wilcox (2022) even found that in tasks performed by a user who has self-assembled a tool, subsequent performance is improved (compared to using an identical but non-self-assembled tool). Many of the pioneering experiments in this field have dealt with physical objects. However, other studies have shown that an attachment can develop with intangible objects (see Table 1). In an experiment designed with S. Spiller and R. Barkan, Ariely (2010) tested subjects’ attachment to their solution ideas for some problems posed by the experimenters. Subjects were asked to suggest a solution to a problem and were instructed to use keywords given to them in the form of a list. The list consisted of words representing a solution the experimenters desired and some of their synonyms. This made the subjects feel like the authors of certain solutions (and yet the solutions were functionally identical). Nonetheless, subjects preferred their solutions, although this was not due to their objective superiority or suitability to a person’s preferences.

TABLE 1. Literature on effects of self-design and effort about physical and intangible objects

	IDIM Effect of self-design (which includes effort)	IKEA Effect of pure effort (no self-design)
Physical objects	A dish composed of ingredients chosen by participants (Troye and Supphellen, 2012) Paper holiday decoration (Buechel and Janiszewski, 2014) Planning and preparing meals (Radtke et al., 2019)	Origami; IKEA boxes (Mochon et al., 2012) Tikka masala dinner kit (Troye and Supphellen, 2012) Milkshakes (following recipe) (Dohle et al., 2014) Peacock-shaped vegetable snacks, following an example (Raghoebar et al., 2017) Educational science kits, LEGO kits, wooden construction kits (Walasek et al., 2017)
Intangible objects	Mass-customization online toolkit – various virtual products (Franke et al., 2010) Solutions to problems (Ariely, 2010) Mass-customisation online toolkit – T-shirts (virtual) (Ling et al., 2020) Stock portfolios (Ashtiani et al., 2021) Stock portfolios (Brunner et al., 2022)	Solutions of problems – jumbled word set experiment (Ariely, 2010) <b>Research gap</b>

Thus, in the literature reviewed, there were examples of studies of preference for intangible objects and preference for objects based solely on the effort expended, but virtually no examples of studies of the effect of pure effort on preference for intangible objects. The only exception was a study conducted by D. Ariely, S. Spiller, and R. Barkan and mentioned in (Ariely, 2010). In one of the experiments, participants were asked to put together an idea from a set of words given in random order. This task was sufficient to influence their preference for the idea. The lack of further research on this subject represents a gap in the literature. Since replicating experiments and constructing experiments that test the same hypotheses is the way to increase the reliability of the results, it seems that at the moment, the hypothesized relationship between pure effort and preference for intangible objects is supported by relatively weak evidence, but on the other hand is not directly refuted by any evidence. For this reason, we consider this research gap worthy of further experimental exploration.

The research gap seems relevant to biased perceptions of early-stage business ideas as it involves a lot of non-creative efforts by decision makers, e.g., investors (e.g., analyzing the business opportunity, verifying the claims of start-up founders, checking their calculations). Therefore, this paper investigates whether decision-makers favor innovative business ideas in which they have invested effort (but no creative input) over ideas to which the decision-maker has no connection. In other words, the paper focuses on the IKEA effect concerning business ideas.

Some authors have conflated the effects of NIH, IDIM, and IKEA. Ashtiani et al. (2021, p. 2) stated: "Norton et al. (2012) defined the IKEA effect as 'the increase in valuation of self-made products'". Previously, Franke et al. (2010) had labeled this phenomenon the "I designed it myself effect." Ashtiani et al. thus clearly regarded IKEA and IDIM as synonyms. The design of the experiment in (Ashtiani et al., 2021) also appeared to address the IDIM effect (the tendency of investors not to panic sell portfolios they have put together as opposed to portfolios put together by financial advisors). However, the authors refer to it as the IKEA effect. In addition, Ling et al. (2020, pp. 365-366) write: "Users are willing to pay a much higher price for self-designed products than for standard products. This phenomenon is known as the IKEA effect". They seem to summarise all the effects mentioned above under the term IKEA effect.

Similarly, Brunner et al. (2022) studied IDIM and called it the IKEA effect in another experiment on self-constructed financial portfolios. In addition, Richards and Linder (2021, p. 1660) defined the IKEA effect as an effect in which "people place more value

on items or interventions they create" and suggested that self-creating an antibiotic treatment kit produces the IKEA effect. Thomas and Alluru (2016, p. 10) categorize any case of "falling in love with your work" under the IKEA effect.

However, we emphasize that the three effects in this article are not synonymous. Based on the definitions and the designs of the experiments presented in the literature, we distinguish strongly between NIH/IDIM (preference for self-designed solutions) and the IKEA effect (preference based solely on the labor invested in the construction). We will try to analyze only the latter of these effects. Similarly, Buechel and Janiszewski (2016) experimented with decoupling and integrating effort and creation and found different results (i.e., removing creation makes pure assembly effort unpleasant).

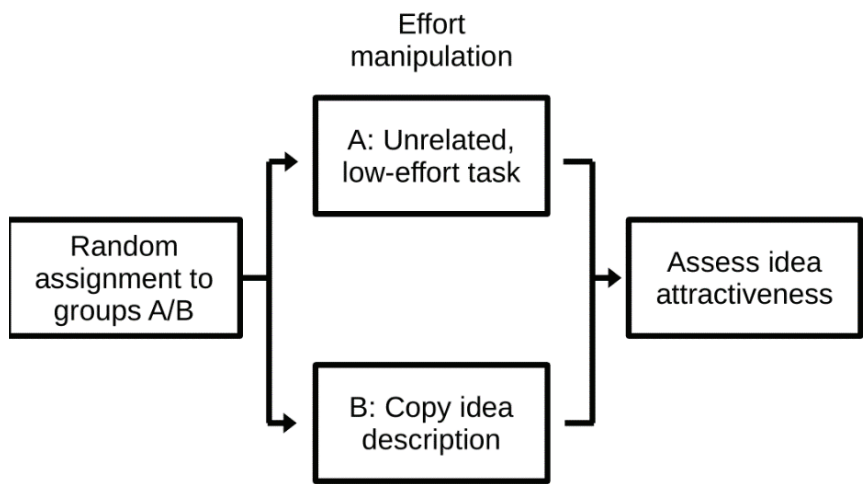
In addition, Raghoobar et al. (2017) proposed a line of research to decouple the IKEA effect from the familiarity effect. Similarly, Ashtiani et al. (2021) noted that IDIM/IKEA appears to be intertwined with the familiarity effect. Since subjects simultaneously exerted effort towards an object and became familiar with the object, the observed preference increase could be (at least partially) due to familiarity. In this paper, we experimentally test this hypothesis by comparing the increase in preference caused by the IKEA effect with the increase in preference for the same idea but caused by pure familiarity.

We therefore put forward three hypotheses:

- H1: *Exerting effort towards an idea increases preference for that idea.*
- H2: *There is a monotonic relationship between the effort expended on an idea and the preference for that idea.*
- H3: *Previous engagement with an idea increases preference for that idea.*

### 3. EXPERIMENT DEVELOPMENT

We have proposed a quantitative approach to this problem. In many seminal experiments in this field of research (e.g., Norton et al., 2012; Franke et al., 2010; Mochon et al., 2012), the strength of the effect is measured by willingness to pay (WTP) using the Becker, DeGroot, Marschak (BDM) technique, sometimes with modifications. We decided not to use BDM or any other WTP technique in this study. First, the objects (business ideas) are not something that participants would be inclined or able to buy (or even reliably put a price for). Second, an experiment by Predmore et al. (2021) showed that 51% of participants in a BDM-based study did not understand the



**FIGURE 1.** Flowchart of Experiment 1  
Source: Authors.

procedure correctly despite receiving specific training to explain BDM in practice. Instead, we opted for a measurement tool loosely based on the one used in (Marsh et al., 2018). To measure the preferences of 3- to 6-year-old children, the authors based their measurement instrument on the categorization of a set of objects: rubbish (a scrap of paper, card, or plastic), a control toy (a small plastic figure), a foam monster and a highly desirable toy (a small plush teddy bear).

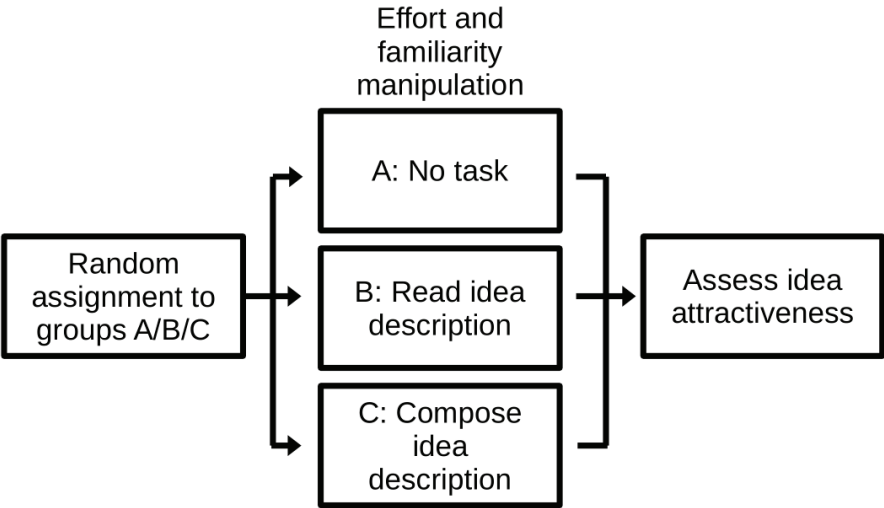
Similarly, the measurement tool used in this study was based on participants rating a consistent set of five business ideas (including the focal business project) in descending order from best to worst. The position of the focal idea in this ranking was used to measure its attractiveness to the participants (1 being the most attractive and five being the least attractive). In the pretests, it was found that idea B was most frequently ranked by participants as the middle idea in the group of five ideas when it was not subject to manipulation. Therefore, this idea was chosen to be the focal idea in the experiments, and all interventions were designed to influence its attractiveness. The choice of the idea with the middle rank was intended to allow it to be moved both up and down the ranking list by the interventions.

In our experiments, we used interventions that were designed to form a specific bond between a participant and a business idea:

- a sense of having exerted effort towards an idea

- (but no self-design);
- pure familiarity (but not effort nor self-design);
- no connection to the idea.

In Experiment 1, participants were randomly assigned to one of two groups. Group A was the control group. Participants were asked to read a series of seven very short text passages. Four of these (1,3,5,7) were parts of the story of Little Red Riding Hood, and the others (2,4,6) were sections of text relating to sport, accounting, and machining. Participants were asked to write down the numbers of the text modules that formed a very abbreviated version of the Little Red Riding Hood story. In this way, their effort was virtually non-existent (very short reading and writing down four digits) and unrelated to the next phase of the experiment (in which the participants' opinion of the attractiveness of the focal business idea was measured). Group B was the effort condition group. Participants were asked to handwrite a 77-word text fragment without changing anything. The text was functionally similar (although worded slightly differently) to the focal business idea, the attractiveness of which the participants were asked to evaluate in the following phase of the experiment. After copying the description, the participants' opinions on the attractiveness of the focal business idea (functionally the same as the idea just described) were measured using the same instrument as in group A. An experimental flowchart is shown in Fig. 1.



**FIGURE 2.** Flowchart of Experiment 2  
Source: Authors.

In Experiment 2, the participants were randomly assigned to one of three groups. Group A was the control group – no interventions were applied, and the participants’ opinions about the attractiveness of the focal business idea were measured. Group B was the group with the familiarity condition. These participants were asked to read a short press release describing a start-up acceleration program event (“demo day”). The press release focussed on one of the projects. The project described was functionally identical to the focal project (although the wording was slightly different). The participants’ opinion of the attractiveness of the focal business idea was then measured in the same way as for Group A. Group C was the group with the effort condition; the task of these participants was to turn a list of characteristics into a complete handwritten business description. The participants decided on the exact wording of the idea description produced, but the participants themselves did not contribute any part of the business idea itself. After the description was written, the participants’ opinion of the attractiveness of the focal business idea (which was functionally identical to the one just described) was measured similarly as in groups A and B. In addition, the effort of participants in group C was quantified by counting the number of words they used in their handwritten descriptions. Suppose the effort exerted on an object explains the preference for the object. In that case, there should have been a positive monotonic relationship between these two

variables (or, in other words, a negative monotonic relationship between the number of words and the position of the focal idea in the ranking list). An experimental flowchart is shown in Fig. 2.

Experiment 1 was conducted with 78 first- and second-year undergraduate students from the Faculty of Management at AGH University in Krakow, Poland. Experiment 2 was conducted with 181 first and second-year undergraduate students from the Faculty of Humanities and the Faculty of Management at AGH University. (The original sample size in Experiment 2 was 185 students, but four were excluded because they did not fulfill the tasks set during the experimental manipulations).

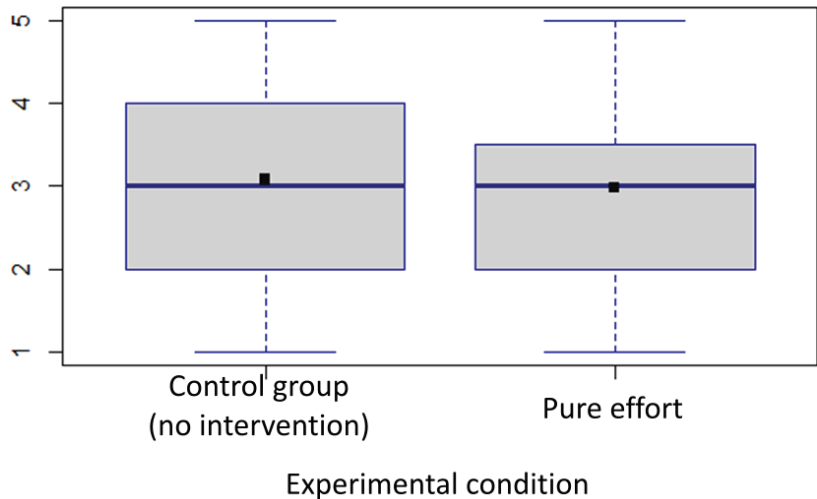
As the data was on an ordinal scale and no firm assumptions could be made about its distribution, non-parametric statistical tests were used in this paper: the Mann-Whitney-Wilcoxon test and the Kruskal-Wallis test.

### 4. RESULTS

The results of Experiment 1 are presented in Figure 3. As a result of the manipulation, the distribution of the results moved slightly towards a higher liking.

The data of the result distribution are shown in Table 2. The Mann-Whitney-Wilcoxon test was used to compare the independent samples to test the hypothesis. The null hypothesis was that the position

Ranking position



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**FIGURE 3.** Results of Experiment 1 – box plot of preference ranks of the focal business idea (1 – best idea; 5 – least attractive idea)  
Source: Authors.

data of the control and effort-only groups were identical. The null hypothesis cannot be rejected since  $U = 799.5$  and the  $p$ -value = 0.6919 (greater than the

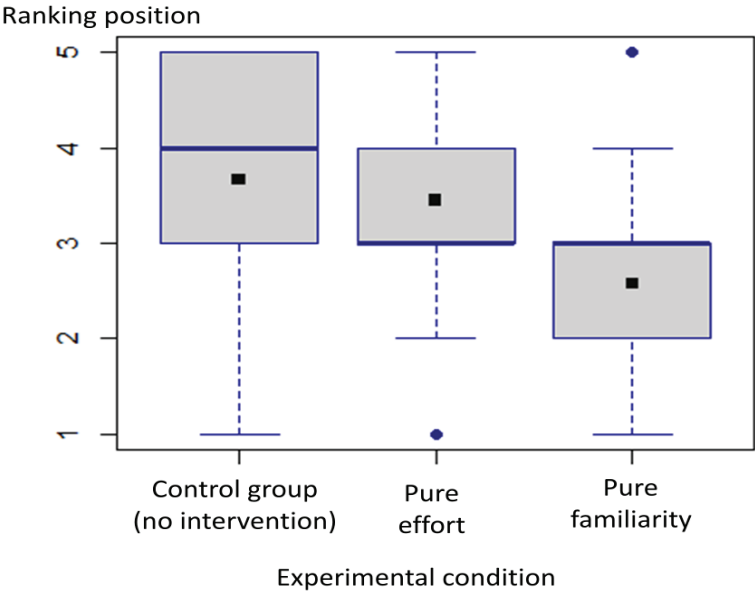
significance level of 0.05).

Results of Experiment 2 are shown in Figure

**TABLE 2.** Results of Experiment 1 – preference ranks of the focal business idea (1 – best idea; 5 – least attractive idea)

Measurement	Condition	
	Control (no intervention)	Pure effort
Number of participants	39	39
First quartile	2	2
Median	3	3
Third quartile	4	3.5
Interquartile range	2	1.5
Mean	3.08	2.97
Standard deviation	1.40	1.06

Source: Authors.



**FIGURE 4.** Results of Experiment 2 – box plot of preference ranks of the focal business idea (1 – best idea; 5 – least attractive idea)  
Source: Authors.

4. As a result of the effort manipulation, the distribution of results shifted slightly in the direction of higher liking (even more so due to the familiarity manipulation).  
The data of the result distribution are shown in Table 3. The Kruskal-Wallis test was used to determine whether there was a statistically significant difference between the medians of the three independent groups. The Kruskal-Wallis test was used to determine whether the distributions of the populations were identical. The null hypothesis was that the position data of the control, the pure effort, and the pure familiarity group are identical ( $H = 24.64$  [ $df = 2$ ] and  $p\text{-value} = 0.00004462$ ); the null hypothesis

is therefore rejected.  
Since the results of the Kruskal-Wallis test were statistically significant, it was appropriate to perform the Dunn test to determine which groups differed. The  $p$ -values of the Dunn test for multiple comparisons, adjusted using the Bonferroni method, are shown in Table 4.  
The Dunn test showed that pure effort did not change the participants' evaluation of the business idea statistically significantly. However, the participants' prior familiarity with the idea changed their assessment of the business idea statistically significantly.

**TABLE 3.** Results of Experiment 2 – preference ranks of the focal business idea (1 – best idea; 5 – least attractive idea)

Measurement	Condition		
	Control (no intervention)	Pure effort	Pure familiarity
Number of participants	62	56	63
First quartile	3	3	3
Median	4	3	3
Third quartile	5	4	3
Interquartile range	2	1	1
Mean	3.66	3.45	2.57
Standard deviation	1.32	1.06	1.24

Source: Authors.



TABLE 4. Results of Experiment 2 – Dunn test results

Comparison	Z-value	p-value (unadjusted)	p-value (adjusted)
Control (no intervention) – Pure effort	0.99686	0.318845	0.956535
Control (no intervention) – Pure familiarity	4.7290	0.000002	0.000006
Pure effort – Pure familiarity	3.6057	0.000311	0.000934

Source: Authors.

The effort was quantified by counting the number of words participants used in their handwritten descriptions. On average, each description was 78 words long (min. – 29; max. – 132), similar to the texts used in Experiment 1 (77 words). The Spearman rank correlation between the length of the idea description (word count) and the rank position of the idea was calculated. The hypothesized result was a negative correlation (the higher the word count, the more favorable the rating [1 – high; 5 – low]). The calculated values were  $\rho = 0.15$ , p-value (two-sided) = 0.27, N = 56. These results indicate that there was no statistically significant monotonic relationship between the effort put into the idea and the liking of the idea.

Thus, the validity of the hypotheses was determined as follows:

- H1: *Exerting effort toward an idea increases the preference for that idea (not supported).*
- H2: *There is a monotonic relationship between the amount of effort exerted towards an idea and the preference for that idea (not supported).*
- H3: *Prior exposure to an idea increases the preference for that idea (supported).*

5. DISCUSSION

There can be several explanations for the results of the experiments. The first would be to deny the existence of the IKEA effect (as defined in this paper). This would align with the results of the experiments by Buechel and Janiszewski (2014). Their general finding was that a positive evaluation of effort depends on positive engagement in the work process. The way to turn positive engagement into a negative one was to decouple creativity from assembly effort; this would mean that the IDIM effect works, but the IKEA effect does not. However, in the experiments of other studies (such as (Mochon et al., 2012) or (Walasek et al., 2017)), the task was intentionally not creative; nevertheless, the work led to an increased evaluation of a product.

The second explanation would, therefore, have

to do with mediating factors, the first of which is the feeling of competence. Mochon et al. (2012) found that a sense of competence contributes to people valuing their products more. Similarly, Norton et al. (2012) pointed out that self-efficacy is important in overvaluing a self-assembled object; task fulfillment is critical to the resulting sense of competence. Walasek et al. (2017) pointed to the sense of ownership as an important factor contributing to the higher valuation of self-assembled products. Brunner et al. (2022) suggested that a completed owned product serves the psychological function of signaling competence to others and is also a means of self-expression. Walasek et al. (2017) and Köcher and Wilcox (2022) also pointed to the issue of object identity – the assembly of an object does not lead to the overvaluation of a similar (or even identical) object. Brunner et al. (2022) pointed to the fact that some objects are less likely to elicit a psychological overvaluation effect than others; for example, financial portfolios (which are intangible) are more difficult to use for self-presentation and demonstrating competence to others. In this study, the object had some distinct characteristics:

- intangible (being a business idea);
- experiment participants did not own it;
- experiment participants did not put any creative input into it.

This combination of characteristics could mean that business ideas are less likely to be subject to the IKEA effect.

It seems worth noting that the participant’s task in Experiment 2 Group C was not as mundane as in Experiment 1. It involved some creative input (but only concerning the formulation of the business idea – not the idea itself). This did not produce a different result in the participants’ idea evaluation. This result does not seem consistent with the experiment by Spiller, Barkan, and Ariely (Ariely, 2010), in which the words were mixed up.

Since our experiment did not involve creative input, we found no reasons to reject or support the conclusions suggested in the literature about the IDIM effect in intangible objects, namely that decision-makers may be susceptible to the IDIM effect in

situations where they are asked to evaluate the attractiveness of a business idea. In other words, if their input is creative and shapes the business idea meaningfully, we cannot rule out that their liking for the project increases. However, we found no results that support the conclusion that decision-makers are susceptible to the IKEA effect. If their input is only pure effort and does not give them a sense of authorship, competence, and self-efficacy, this does not lead to a greater liking for the idea.

## 6. CONCLUSIONS AND IMPLICATIONS

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### 6.1 Theoretical contributions

The boundary between the IDIM and IKEA effects appears to be largely blurred in the research papers cited. In our literature review, we attempt to contribute to the theory of cognitive biases in decision-making by drawing a clear distinction between these two effects. Based on the review of the definitions in the papers and the design of the experiments presented in these papers, we propose to draw the border at creativity. As the “designed” part in IDIM suggests, the effect exerted on decision-makers’ preferences by their creative input to the object of a decision falls under the IDIM effect. The influence of mere effort without any creative control over the outcome, similar to assembling IKEA furniture, should be considered the IKEA effect. Our concept of creativity is particularly linked to the ability to shape the outcome of a process.

Our experimental results contribute to the theory of managerial decision-making. The fact that the preference for an idea was influenced by prior exposure shows that decision-makers’ judgment of business ideas depends on factors other than the ideas’ quality. The fact that the IKEA effect does not influence the preference for a business idea helps to capture the cognitive biases in the decision-making process accurately. This is consistent with previous research emphasizing the role of feelings of authorship, competence, and self-efficacy in the effects of the IDIM and IKEA.

### 6.2 Managerial implications

This article deals empirically with the presumed connection between the IKEA effect and the preference for business ideas. The two experiments described in the article have not confirmed the existence of this correlation. The article also attempts to empirically assess whether prior involvement with a business project has a stronger or weaker influence on the preference for this project than the IKEA effect (all

other things being equal). One of our experiments has shown that this is the case to a statistically significant extent. This may have direct managerial implications. In (Codogni, 2019), based on a literature review, the concern was expressed that the IKEA effect could influence the valuation of a start-up company – both among founders and seed capital investors. In the light of the present work, this concern must be reformulated. First, the “IKEA effect” was used in (Codogni, 2019) as an umbrella term that encompassed both the actual “IKEA effect” and the IDIM effect (similar to many other papers in this area of research). Second, the experiments described above show that pure effort does not appear to influence preference for business ideas. While there is no reason to doubt the assumption formulated based on the literature review that the IDIM effect can influence both start-ups and seed capital investors, the experiments presented above suggest that the IKEA effect (understood as the effect of pure effort) does not seem to be an important factor in such situations. Therefore, decision-makers who want to be rational and unbiased do not need to take any action to counteract their bias due to the IKEA effect.

On the other hand, prior exposure to the project via a press article significantly changes the participants’ evaluation of the business idea. This suggests that start-up founders’ efforts to publicize their projects and make them visible and memorable to potential decision-makers can produce positive results. Conversely, decision-makers should be aware of their possible positive bias towards the projects they were aware of. They may need to ensure that their favorable views are based on objective criteria.

### 6.3 Limitations and suggestions for future research

The conclusions presented above are subject to some limitations. Firstly, the experiment participants were a homogeneous age, education, and geographical location group. These characteristics should be considered when implementing this study’s results. Secondly, the manipulation was directly followed by the evaluation of the idea. It is not certain whether the effect of exposure we observed will persist over time. The above limitations point to future research directions, such as replication in different participant groups and testing whether the exposure effect persists. Another promising and important direction is the effect of IDIM on business idea preference. Our literature review suggests that this type of experiment has not yet been conducted. This would reflect the real situation in which creative efforts may systematically distort the valuations of start-ups.

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## PREFERIRAJU LI DONOSITELJI ODLUKA IDEJE NA KOJIMA SU OSOBNO RADILI?

## IKEA EFEKT I PREFERENCIJE START-UP IDEJA

## SAŽETAK

Ovaj članak ima za cilj utvrditi mijenja li IKEA efekt (tj. efekt čistog napora) mišljenje o start-up poslovnom projektu. Ova kvantitativna studija koristi neparametrijske testove temeljene na rangiranju (Mann-Whitney-Wilcoxon i Kruskal-Wallis) kako bi utvrdila mijenjaju li eksperimentalne manipulacije statistički značajno mišljenje ispitanika. Uzorak istraživanja sastoji se od 259 sudionika. Pregled literature sugerira da IKEA efekt jednako utječe na ocjenjivanje opipljivih i neopipljivih objekata. Međutim, rezultati dva eksperimenta opisana u ovom radu sugeriraju da sam napor uložen u projekt ne mijenja statistički značajno mišljenje o start-up poslovnom projektu. No, uz jednake ostale uvjete, prethodno sudjelovanje u start-up projektu ima statistički značajan pozitivan učinak na mišljenje o tom projektu. Glavni zaključak ovog istraživanja je da IKEA efekt ne izgleda kao da utječe na percipiranu atraktivnost neopipljivih objekata ako pažljivo razlikujemo efekt "sam-sam-izmislio" (IDIM) i IKEA efekt. Ovo može biti korisno u mapiranju kognitivnih pristranosti koje iskrivljuju prosudbe donositelja odluka – posebno u područjima gdje je uobičajeno ocjenjivati poslovne projekte pod uvjetima oskudnosti podataka (kao što su investicije u ranim fazama). Članak naglašava teorijsku distinkciju između IDIM i IKEA efekta koja se čini nedostajućom u mnogim radovima u ovom području istraživanja. Također se bavi istraživačkom prazninom vezanom uz utjecaj IKEA efekta na preferencije neopipljivih objekata.

**KLJUČNE RIJEČI:** *poduzetništvo; kognitivna pristranost; IDIM efekt; IKEA efekt; donošenje odluka*

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