Controlling for Taste Preferences – A Factorial Survey about the Orientation to Judgment Devices in Movie Choice

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Abstract

This paper examines the gains in complexity reduction and causality identification pro-vided by the factorial survey for the analysis of a market characterized by uncertainty. The starting point is the problem of quality uncertainty for the market actor, commonly dealt with in economic sociology. Using Karpik's approach of the 'Economics of Singularities', the problem of choosing the right movie is expounded and the question of what moviegoers base their choice on is developed. The uncertainty in question is the result of subjective tastes, which also leads to a methodological problem. As a result, previous studies mea-sured taste preferences instead of the influence of judgment devices. By means of a study on the right choice of movie, the paper shows that the method of the factorial survey has the important advantages of being able to control for taste preferences as well as to detect causality. Data collected among students is presented and hypotheses based on Karpik's concepts are tested. The results show that expert judgements such as critics' recommenda-tions and awards have a high influence on the choice of independent movies. On the other hand, the choice of blockbuster movies is additionally influenced by its listing in the charts and the ratings by other consumers. This shows not only that different social devices are used for orientation depending on preference, but also how strong their influence is in each case. Therefore, it is argued that the factorial survey method offers some advantages for the analysis of the causal influence of judgment devices in choice situations, especially for singular goods, which are highly complex and thus difficult to compare. Finally, limitations of the study as well as the method used are discussed.

Keywords: Economic Sociology, Factorial Survey, Judgment Devices, Markets, Movie Market, Taste, Uncertainty

A core concern of economic sociology is to show that economic actors are confronted with uncertainty and to ask how the actors (can) deal with it and what phenomena result from it (Beckert, 1996; Granovetter, 1985; Maurer & Schmidt, 2019). A wide range of markets are analyzed in an extensive literature. Both for supposedly strictly rational financial markets (Preda, 2007) and for markets on which cultural products are traded (Aspers, 2016; Dekker & de Jong, 2016; Keuschnigg, 2015) it is shown that suppliers and buyers are confronted with uncertainty. Especially when the quality of a good or service is unclear before purchase—in economics one speaks of experience goods (P. Nelson, 1970)—it should be clarified how consumers make a decision for a certain product and which market structure emerges. Various studies show that the problem of decision making is solved with the help of different social mechanisms. For example, the social network is used to obtain trustworthy information (Keuschnigg, 2015) or the status of the supplier is used to select a high-quality product (Benjamin & Podolny, 1999; Podolny, 2008). Several empirical methods are used for this purpose: Network analyses, qualitative interviews, and statistical analyses of macro data and standardized questionnaires. Explanatory experimental designs, on the other hand, are hardly ever applied to questions of action choice under quality uncertainty in markets (Kittel, 2015).

Lucien Karpik (2010) presents a theoretical approach that has been very positively received by the scientific community[1]. He shows that the quality problem is particularly relevant for cultural products, but also for services provided by e.g., doctors or lawyers, which are difficult to evaluate before purchase because these products are unique. He argues that in such cases, depending on the market, certain judgment devices offer orientation, on the basis of which he identifies different regimes. Some markets, for example, are based on the purchasing decisions of many other consumers, e.g., music charts in the common-opinion regime, while in other markets, e.g., literature, expert judgments are more important (the expert-opinion regime). Despite the positive discussion among scholars, little further work has been done based on Karpik's considerations and few empirical studies

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1   The French original was published in 2007, the English edition in 2010 and the German one in 2011. For the academic discussion in French-speaking countries see Gadrey (2008), for the English Campbell (2010); Espeland (2011); Healy (2011), Hutter (2011a, 2011b) and for the German Kraemer (2017); Maurer (2014).

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are quantitative[2]. As will be shown in the following, the reason for this lies in the problem of treating such complex phenomena empirically. Karpik himself foresaw this difficulty when he wrote "the main obstacle is perhaps less theoretical than methodological and technical" and concluded with the question: "How are we to observe and identify the effects of configurations of competing impersonal judgment devices whose scales and means of action are highly diverse?" (Karpik, 2010, p. 256). This paper thus addresses two related problems. On the one hand, the economic sociological problem of choice under uncertainty with the ensuing question of what market structure exists. A major cause of this problem is the relevance of subjective taste, which makes it difficult to determine the quality ex ante of an action in a complex situation. On the other hand, there is the methodological problem of how to empirically measure the causal effect of influencing variables without actually measuring taste preferences. Here the proposal is made and discussed to what extent this question can be answered with the factorial survey. For this purpose, the problem of quality uncertainty in the movie market is addressed: How to choose the right cinema movie?

The general idea underlying this question here is that a choice of action depends on desires, beliefs, and opportunities (Hedström, 2005). The goal of seeing a movie in the cinema that one likes can be secondary to the desire to do something with friends. Also, the possible action alternatives are to be seen in relation to the concrete desires. For example, if the primary goal is to be entertained, options such as going to the theater or a concert are also conceivable. The question pursued here about the choice of a movie can therefore be seen in different settings. One case would be that the overriding goal is to go to the cinema (rather than the soccer stadium) and now there are several movies to choose from. Another, more general perspective does not necessarily see this decision to go to the cinema as having already been made, but supposes that a movie gains attention and the decision is then made whether to watch it in the cinema—with whom and when is downstream. In one case, one is already standing at the ticket counter and must only decide on one of the movies on offer, and in the other case, the desire to go to the cinema must first be elicited. Here, the question is pursued with the aim of finding out what drives the belief that going to the cinema for a movie is the right choice.

In the next section, the state of research on the choice of a movie is summarized and, based on the considerations of Lucien Karpik, the problem is discussed, its solution model is presented and hypotheses are developed. The design of the factorial survey for the empirical testing of the problem is presented in the following section and the results are then presented. The last section concludes with a

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2   Among the works that use Karpik's approach is the case study of film evaluations by Bialecki et al. (2017). For a Karpik-based and quantitative analysis of the wine market, see Schenk (2021).

discussion of the advantages and disadvantages of the factorial survey for questions of choice under quality uncertainty.

The Movie Market and Karpik's Economics of Singularities: Theory and Hypotheses

The Problem of Uncertainty in the Movie Market: Nobody knows anything

Movies are not only a medium of entertainment, a venue for social debates, and a political instrument for forming opinions; as a product of the creative industries, movies are also economically relevant. Driven by technical progress and guided by social processes, there is now a high-turnover market for the production, distribution, and exhibition of movies (Scott, 2005). On these three levels, two types can be distinguished structurally. The market is divided into a larger blockbuster market with financially strong corporations and a smaller art house and independent market in which less popular niches are served (de Valck, 2007, pp. 128-130). However, they are united by the problem of uncertainty that structures the entire market. For whether a movie produced for a lot of money will be successful (and pay off financially) remains uncertain even for experts, as screenwriter Goldman states in his well-known quote: "Nobody knows anything: Not a single person in the entire motion picture field knows for a certainty what's going to work. Every time out it's a guess and, if you're lucky, an educated one." (Goldman, 1983, p. 39).

Economists want to bring light into the dark and explain what makes movies successful and what characterizes successful movies. They understand movies as a bundle of characteristics and ask about the influence of individual characteristics. What influence do stars, advertising, genre, release date, movie length, reviews, and of course the budget have on the success of a movie? (for an overview see Chisholm et al., 2015). These studies acknowledge the extreme uncertainty mentioned in the quote and that "there are no formulas for success in Hollywood" (de Vany & Walls, 1999, p. 286). It is stated that experience-based studies are not instructive for rare events (de Vany & Walls, 1999, pp. 313-314) and that a separate economic model must be designed (Lieberman, 2006, p. 75), since the theoretical premises of economics do not hold (Baumol, 1986; Caves, 2002). Thus, as economists themselves note, what is needed is, first, a different theoretical approach in which movies are not understood as bundles of goods and, second, a different methodological approach because statistical evaluation of actual individual movie characteristics is not satisfactory.

Economic sociologists are less concerned with the success than with the market structure and consumers' related movie choice (Creton, 2009). To do so, they

take as their starting point the problems of action faced by market actors, which arise due to uncertainties about the product and the actions of fellow actors (Zuckerman & Kim, 2003, p. 33). The uncertainty for movie viewers is that they do not know whether a movie that is unknown to them will meet their subjective taste. Before the reasons for this are explained, it should be noted that the market players in production and distribution will also have to deal with this, because they too do not know in advance which movie will pay off financially. In institutional economics, institutions such as guarantees are discussed as solutions to situations of uncertainty (Akerlof, 1970). Such institutional arrangements can also be found between the studios and the distributors, since the practice of revenue sharing (Caves, 2003, pp. 79-80) minimizes the risk and allows the market to come into being. However, consumers do not receive any guarantees or the possibility of subsequent exchange and they are not offered to pay depending on the pleasure gained, which is why they are always confronted with a high degree of uncertainty. Such solutions seem to be unsuitable for the commodity movie, and this is probably also because once a movie has been made, it can be reproduced without significant costs in today's digital world. On the movie market, it is not the movie that is the scarce resource, but the consumer. So, the question for movie watchers is how to choose the right movie and not avoid this market because of frequent disappointments (which are possible due to the abundance of movies on the market). It is therefore important to find out what actors use as orientation when choosing a movie. Which influencing factors are relevant? This question is particularly relevant for going to the cinema, where the costs are higher than for in-home-viewing (entrance fees, invested time). To prevent a collapse of a market, Fligstein (2001, p. 17) argued, stable worlds are needed. Focusing on what problems market actors face and how this affects market structure is a promising approach for economic sociology. The interest of actors (suppliers as well as demanders) in the right choice of action and the uncertainty about it also raise the empirical question of which solutions are considered adequate.

The Economics of Singularities

Lucien Karpik (2010) offers an explanatory approach to how actors gain sufficient predictability of expectations to decide on a singular good. His framework explicitly refers to markets that cannot be understood by the standard model of economics, since the traded goods are characterized by three properties: multidimensionality, uncertainty and incommensurability. Multidimensionality means that the product has a structure that is composed of different properties. In contrast to the understanding that these bundles of characteristics are an accumulation of dimensions, as is common practice in economics (Lancaster, 1966), the individual qualities cannot, however, be evaluated individually (Karpik, 2010, pp. 24-26). Karpik himself uses the movie example to make it clear that the specific composition of script, actor,

music, camera angles, etc. forms a unity. The interplay of these individual dimensions, each of which brings its own qualities, results in the complex commodity of movie. Apart from this specific configuration of the qualities of a movie as such, it cannot be viewed in isolation from external circumstances. The audience, the quality of the copy and, for example, the seating comfort also determine the perception and evaluation of the movie and thus form further dimensions (Karpik, 2010, p. 39). Secondly, singular products are accompanied by uncertainty in two forms for consumers. Strategic uncertainty exists due to the different interpretations of a good by the seller and the consumer. Supplier and customer (generally different actors) may have different understandings of a product, which may lead to disappointment in the latter. Since the different possibilities of perception and interpretation are part of the nature of singular goods, there can be no guarantee that a product will be perceived in the same way. Different people may not have the same understanding of what constitutes a *good* movie. Treating quality uncertainty as a second form, Karpik describes the problem that at the time of purchase the buyer is not able to know whether he or she will be satisfied with the quality. The quality assessment is subject to a situation- and person-specific—and thus individual—assessment (Karpik, 2010, pp. 11-12, pp. 26-30). Only after watching a movie, it can be evaluated, prior to its viewing the quality remains uncertain. Uncertainty thus results from the fact that each individual actor has subjective and individual tastes that make one thing pleasing and another displeasing. This judgment of taste cannot be logically derived. The assumption about what will meet one's taste drives the choice of action (Arendt, 2003).[3] Thirdly, incomparability determines singular goods. On the one hand—since, with reference to multidimensionality, one cannot speak of exactly the same thing due to the diversity of points of view—because every consumption is unique in its constellation, and on the other hand, because a plurality of value systems exist. The former means that each consumer perceives the same singular good from his or her individual perspective, which is influenced by subjective taste and situation, and the latter refers to the fact that there are no objective criteria on the basis of which a general ranking can be established. Although each person can compare something on his or her own to express preferences, these are not universally valid (Karpik, 2010, pp. 12-13). This means that even with the knowledge of certain characteristics of a movie (actors, length of the movie, etc.) each movie (and every viewing with its unique setting) is unique and must be evaluated individually. According to Karpik, these three product characteristics cause the previous economic models to fail. Likewise, de Vany and Walls come to the conclusion: "It is hard to imagine making choices in more difficult circumstances" (de Vany & Walls, 1999, p. 315).

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3   Currently, the relevance of judgments and even their disparity among experts is prominently discussed by Kahneman et al (2021).

Consequently, according to Karpik, uncertainty in the demand for singular goods should not be understood as a risk that can be calculated. He argues that no knowledge allows an objective assessment of the probability of being satisfied and therefore the best choice, in a strict rational manner, cannot be made in advance (Karpik, 2010, pp. 35-43). Nevertheless, actors strive to make the right choice and therefore look for guidance that provides them with good reasons (Karpik, 2010, p. 67). They find this orientation in so-called *judgment devices* (Karpik, 2010, p. 44) that evaluate singular goods. Judgment devices can be institutions, persons, discourses, advertising messages, texts, and videos. They all convey knowledge and thus allow the consumer to make an educated choice, just like other *market devices* (Callon et al., 2007). In general, judgment devices make products visible in a market. Thus, Karpik (2010, p. 152-153) argues with regard to movies that smaller French movie productions are seen less often in cinemas precisely because judgment devices advertise them less. He assumes that the presentation and promotion of a movie by judgment devices is what attracts people to the cinema in the first place. The market for singular goods is therefore *embedded* in judgment devices. Karpik shows that in different markets, different judgment devices are socially valid and he distinguishes between different regimes, each with its own logic. The analysis of the relevant judgement devices is therefore interesting for economics, as they determine financial success, but also for sociology, which is interested in how culturally shaped beliefs affect the market structure. In line with the sociology of valuation and evaluation, different techniques and actors are distinguished with the aim of identifying different social mechanisms and their legitimacy in determining value and making judgements (Lamont, 2012). Which judgment devices are used in the movie market and what is the logic of market coordination? In order to answer this question, the various judgment devices on the movie market will be presented using Karpik's typology and subsequently hypotheses will be formulated based on these.

Karpik distinguishes five groups of judgment devices: the personal network and impersonal appellations, cicerones, rankings, and confluences. These are distinguished according to the nature of the knowledge provided, i.e., whether they qualify knowledge absolutely (substantial) or relative to others (formal). On the other hand, they are distinguished according to whether they intend to increase sales (commercial) or to enlighten the customer (critical). Karpik claims that commercial devices are increasingly found in large markets.

Networks

According to Karpik, personal contacts are particularly relevant when a personalized product is in demand. In this case, the trade network and the practitioner network are used. But even if a singular good is judged more by aesthetic criteria— as can be assumed with movies—actors can receive evaluations and information

about movies from family, friends, and colleagues, i.e., the personal network. The mostly orally acquired knowledge from such familiar persons offers some advantages, because on the one hand it can be obtained with little time and without further costs and on the other hand it can be classified as credible. The statements of the personal network are trusted (Karpik, 2010, pp. 183-185).

Sociology has long analyzed personal networks, and especially in the new economic sociology they are prominently researched in terms of information transfer and confidence building (Burt, 1992; Granovetter, 1973). One of the first studies to deal with the influence of personal contacts on going to the movies was the survey by Katz and Lazarsfeld (1964, p. 180), which showed the effectiveness of a personal recommendation and simultaneously its nonetheless rare consultation. Compared to recommendations from newspapers and magazines, personal recommendations have been much more effective in driving actual cinema attendance. The importance of personal ratings on cinema-going is pointed out by Faber and O'Guinn (1984). More recent studies on word of mouth also show that it has a high influence on movie success (Y. Liu, 2006).[4]

Appellations

The group of appellations includes product and umbrella brands, designations of origin, quality marks, or indications of professional qualifications. They are intended to signal certain characteristics and quality guarantees for a product (Karpik, 2010, pp. 45-46). In the case of movies, for example, this would be an indication of whether it is a movie from Hollywood or Bollywood, and the names of certain studios involved would also allow an assessment of the movie. Movie series such as 'James Bond' or 'Star Wars' are also included, as these labels allow many people to make an assessment and thus determine expectations. Studies show that movies attract a comparatively larger audience on the opening weekend if they are sequels (Moon et al., 2010, p. 114). Overall, sequels have greater commercial success (Ravid, 1999). The ratings of the movie templates or predecessors influence the demand for a future movie (Situmeang et al., 2014). These (brand) names are to be regarded as commercial entities, as they are used to attract customers and thus increase sales. Other appelations on the movie market include information on the genre (e.g., comedy, drama, or action) (commercial) and recommended age ratings (critical). The indication that stars are involved in the movie (actors, directors, etc.) can also be considered a commercial judgment device, since their name is perceived as a trademark (Levin et al., 1997, p. 177). Stars can be a guide for

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4   Karpik's distinction between personal and impersonal devices is blurred with regard to the internet as a communication platform, which, as he himself notes, he has not taken into account (Karpik 2010, p. 131). For the distinction between traditional word of mouth, microblogging word of mouth, and electronic word of mouth see Hennig-Thurau et al. (2015).

viewers to assess in advance whether they will like the movie, but do not guarantee success. The numerous studies working with aggregated sales data, which investigate the question of whether the participation of stars influences the success of a movie, come to different conclusions (see in comparison A. Liu et al., 2014, p. 386; Boatwright et al., 2007, p. 410; Basuroy et al., 2003, p. 106).[5] The studies are also criticized for their recourse to real data: "Movies are complex products [...] it is impossible to attribute the success of a movie to individual causal factors." (de Vany & Walls, 1999, p. 285). Furthermore, the literature indicates that a star cast also has a positive influence on other judgment devices such as professional movie critics (Hennig-Thurau et al., 2012, p. 272). The judgment devices of the appellations group mentioned here have in common that they qualify substantially, since they work without the hierarchical comparison to competing movies.

Cicerones

The group of cicerones includes impersonal judgment devices that impart knowledge and present assessments. These include both general persons and critics but also products such as guides (Karpik, 2010, p. 46). For the movie market, two judgment devices can be identified that belong to this group. On the one hand, these are professional critics and, on the other hand, other consumers who also publish their movie reviews as critics, especially on the Internet. What both have in common is that they generally have no intention of increasing the demand for movies and that their reviews are not to be equated with rankings; they are critical and substantial.

Amateur critics are discussed in the literature under the terms 'electronic word of mouth' (Hennig-Thurau et al., 2015), 'online consumer review' (Mellet et al., 2014), and 'user-generated content' (Gopinath et al., 2013). On websites (e.g., 'IMDb.com'), users share reviews among themselves and assign a summarizing score. Movies that have received several reviews are usually given an average value of the points awarded. As with the personal network, access to such virtual networks is easy and questions can be answered readily (Bialecki et al., 2017). However, trust in these online communities is not based on personal relationships, but results from the mass of ratings, which Mellet et al. (2014) calls democratization of markets. Studies have shown that the trust placed in these evaluations is high if they are not only based on many judgements but also differ only slightly from each other (Ji et al., 2015).

In contrast, a critic is defined as "a person usually employed by newspapers, television stations or other media who screen newly released movies and provide their subjective views and comments on the movie for the public's information." (Cones, 2013, p. 99) They possess expertise and are attributed neutrality (Hennig-

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5   These studies fail to provide a realistic explanation because of the tautological definition: if a person is a star when he or she attracts audiences and a large audience determines film success, then by definition a star indicates film success.

Thurau et al., 2015, p. 377). They have a special position because they are usually the first to be allowed to watch movies, conduct interviews, and report on them (Eliashberg & Shugan, 1997; Ravid et al., 2006). In addition, not only do they generate a reputation, but they themselves depend on a high one to be consulted, which is why it is assumed that critics will judge as they expect their colleagues to do (Ravid, 1999, p. 489). A large number of studies examine the question of the importance of critics on the movie market (for an overview see Hennig-Thurau et al., 2012). It is unclear whether they influence or foresee movie success (Eliashberg & Shugan, 1997). Gemser et al. (2007) argue on the basis of their analysis of the Dutch movie market that the consultation of critics depends on the type of movie: critics influence art house viewers but not blockbuster viewers. For this purpose, newspaper reviews and the box-office receipts of the respective movies were correlated, which, however, does not allow any conclusions to be drawn about causality, since it remains unclear whether the cinema-goers had even consulted these reviews and whether they were guided by other judgements. Without differentiating between these two sub-markets in a factorial survey design, Tsao (2014) comes to the conclusion that consumer criticism has a greater influence than expert criticism. This result was corroborated in an evaluation of databases (Kumar et al., 2016).

Rankings

Rankings compare one or more criteria to create a hierarchical order, which by definition makes them formal devices. Karpik (2010, p. 46) distinguishes two categories: expert rankings and buyers rankings.

Expert rankings result from the importance of awards, which are given by a jury consisting of authorities. In the case of movies, as in the case of music and literature, these are awarded annually at festivals. By winning prizes (e.g., a Golden Globe or Oscar) in different categories (best movie, best actor, best supporting actor), singular goods receive a higher status. Originally, festivals set themselves apart from the economy. They concentrated on art house movies and, with their focus on artistic aspects, formed an antithesis to commerce, especially from Hollywood (de Valck, 2007). Some studies have shown that rankings correlate positively with movie success (R. A. Nelson et al., 2001; Zhuang et al., 2014), although the methods do not allow any conclusions to be drawn about causality. Since these rankings are not created to boost the sales of certain products and are based on aesthetic criteria (Simonton, 2004), they are to be regarded as critical judgment devices.

Buyers rankings are based on the criterion of sales numbers. The more movie-goers a movie has, the higher its position in the charts. This results in a clear order, whereby the list presented in the media usually only mentions the top 5 or top 10. The influence of such charts on the movie market has not yet been empirically investigated. When cinema-goers visit a movie simply because they are driven by

its success, a self-reinforcing process occurs, as Merton (1968) described with the Matthew effect—a social phenomenon observed in many contexts. In fact, however, this is not the intention of such rankings. Since they provide factual information about an aspect, they are also regarded as critical judgment devices.

Confluences

Finally, under confluences, Karpik includes a wide variety of sales techniques designed to encourage purchases, from window displays to the various types of advertising (Karpik, 2010, p. 46). By definition, confluences are therefore commercial judgment devices that usually work with substantial knowledge.

Advertising plays a major role in the movie market: in newspapers, on the radio, on television, with posters, and in the cinema itself, attempts are made to make movies appealing (H. Liu, 2016). A special instrument in this context are trailers in which excerpts from the movie are used to give a foretaste (Creton, 2009, pp. 146-147). Several studies show that advertising promotes sales, although the correlation does not increase proportionally with the budget. In the literature, advertising is therefore understood as a multiplier that is effective in combination with cicerones and rankings (Basuroy et al., 2006, p. 287; Gopinath et al., 2013; Hennig-Thurau et al., 2012, p. 270).

Coordination Regimes and Derived Hypotheses

As Table 1 summarizes, there are various judgment devices in the market for motion pictures. Which of these many different judgment devices are used by cinematographic viewers? According to Karpik (2010, pp. 96-105), different judgment devices are used for the various singular goods, which differ in their objective and nature of the knowledge. Thus, different logics prevail in the various markets, of which Karpik identifies seven. In the following, Karpik's reflections on the coordination regimes will be pursued in order to derive hypotheses on which judgment devices are used in the selection of motion pictures.

Karpik's classification of the coordination regimes is based on a number of plausible examples. The distinctions are made inductively, which is why the approach has been criticized (Hutter, 2011a, p. 792). Karpik (2010, pp. 152-157) himself uses the example of the cinema market as an illustration and also raises the question of how a movie is chosen here. However, he does not answer this question empirically, but relies on moviegoers' self-reported frequency of cinema visits in order to form assumptions about which judgment devices are relevant for them. His main aim is to show that judgment devices are necessary for market coordination. He states that "[t]he movie market is hybrid: it comes under both the authenticity regime and the mega regime." (Karpik, 2010, p. 156) In the following, this thesis will be considered and examined in a more differentiated manner. Based on the

Table 1   Judgment devices in the movie market

Groups and judgment devices	Examples	Objective	Knowledge
Networks			
personal network	family, friends and acquaintances	–	–
Appellations			
designation of origin	Hollywood, Bollywood	commercial	substantial
brand name	Walt Disney, Paramount	commercial	substantial
star participation	Steven Spielberg, George Clooney	commercial	substantial
Cicerones			
expert critics	in the media	critical	substantial
laymen critics	on the internet	critical	substantial
Rankings			
expert rankings	Oscars, Golden Globes	critical	formal
buyers rankings	charts	critical	formal
Confluences			
spatial organization	presentation of the cinema	commercial	substantial
advertisement	in the media, film trailer	commercial	substantial

results on market coordination by Gemser et al. (2007) and Holbrook and Addis (2008), it is assumed that the authenticity regime is found in art house cinema and the mega regime in blockbuster cinema. Accordingly, the preference for certain movies should be accompanied by the use of specific judgment devices.

Both coordination regimes have in common that the market is mainly characterized by impersonal and substantial devices. However, while critical devices play a more important role in the authenticity regime, more commercial devices are found in the mega regime (Karpik, 2010, p. 165). Karpik also makes assumptions about consumer commitment. He assumes that the consumers of the authenticity regime are characterized by autonomy, "the capacity to define and maintain one's personal tastes," whereas the consumers of the mega regime are characterized by heteronomy and "accept the tastes embodied by the devices and/or products" (Karpik, 2010, p. 104). Based on this, the following hypotheses are formed.

Since consumers with a preference for art house movies are more strongly oriented towards their own tastes and critical instances, they should consult expert critics (hypothesis 1a) and expert rankings (hypothesis 1b) than blockbuster viewers. In contrast, consumers with a preference for blockbuster movies should orient themselves more towards mainstream taste and be influenced by commercial devices. It is assumed that in the group of cicerones the laymen critics (hypothesis

2a) and in the group of rankings the charts (hypothesis 2b) have a greater influence on blockbuster moviegoers than on art house watchers. It is also assumed that the star participation has a higher influence on them (hypothesis 2c).

In addition, two further general hypotheses based on assumptions from the economics of singularities will be tested. First, according to Karpik (2010, p. 131), the personal network is never completely switched off. Regardless of which movies are preferred, it is assumed that the personal network is the most influential (hypothesis 3). This is justified by the fact that familiar people provide helpful knowledge (individually adapted) and are classified as trustworthy (no opportunism is assumed) (Karpik, 2010, p. 183, 2010, p. 65). On the other hand, according to Karpik (2010, p. 124), market competition for singular goods is more about quality than about price. Since customers attach more importance to the quality of a product than to its price, price should not be the most relevant orientation criterion (hypothesis 4).

The Empirical Investigation of the Choice of Movie

Methods and Data

The factorial survey is, it will be argued here, a suitable method because it has two necessary properties. First, the experimental design allows to identify causality and the influence of individual factors on an evaluation. As will be shown with the help of a comparison, correlations can be revealed that cannot be determined by a classic survey alone. Second, the factorial survey allows us to control for the social and complex world in order to identify the influence of specific factors. As has been shown, the complexity of the real world makes it difficult to identify influencing factors, as the tastes of the actors distort the results. Since it is not taste preferences that are to be investigated, but rather the strength of influence of the market structure determining judgment devices, it can be seen as an advantage to work with abstract vignettes that exclude the disturbance variable of taste. For example, with the factorial survey it is possible to determine the influence of a star's participation without attaching it to specific stars. Therefore, those judgment devices are included in the factorial survey for which the influence can be determined without in fact collecting taste preferences. Judgment devices for which this is not possible are therefore not included in the factorial survey. This includes the group of confluences because advertising predominantly draws attention to movies and tastes are either directly affected or not, which is why a separation is not feasible. The same applies to the judgment devices brand name and designation of origin. Here, too, a meaningful query as to whether an exemplar has an influence is not possible without naming specific brands or designations of origin at the same time. In other

words: With these (commercial) judgment devices, positive and negative levels cannot be identified without recourse to taste preferences.

For the data collection, a factorial survey was implemented in an online questionnaire. The goal of the experimental design is to determine the causal influence of judgment devices in order to test the formulated hypotheses. In addition to the vignettes, a classical questionnaire with item queries preceded the vignettes. Social-demographic information was requested and it was also asked which of the mentioned judgment devices influence the personal choice of movie, which allows a comparison of the item survey and the factorial survey as well as a more in-depth analysis. To test the hypotheses about the different movie type preferences, it was asked whether blockbuster or art house cinema was preferred or whether a clear assignment was not possible (indifferent). For the factorial survey the participants were asked to put themselves in the scenario that the following ratings and characteristics about a cinema movie are available to them and they were asked: "How likely would you go and see this movie?" (see Figure 1) Table 2 summarizes the dimensions and factor characteristics of the factorial survey. Each vignette contains seven dimensions, which can take one of two levels: a positive and a negative one. The values are chosen in such an abstract way that they do not reveal any taste preferences. For expert and laymen critics, a realistic star rating was used to avoid monotonous vignettes. No extreme values were chosen, as this is more in line with actual ratings. The admission price was based on the upper and lower quintile of the admission price to German cinemas.[6]

Since all 128 possible combinations were included in the study, it is a complete 2^7 design. The vignette universe is divided into 16 sets, so that each study participant is presented with 8 different vignettes. The composition of the sets is targeted to avoid confounding effects and to ensure that each set contains a maximum of different combinations of factor levels. This should also ensure that all vignettes are processed with approximately the same frequency. To achieve this, the online questionnaire was programmed in such a way that the random assignment of a respondent to a set takes into account an equal distribution across all sets. The 11-step answer scale for each vignette ranges from "0 – extremely unlikely" to "10 – extremely likely." These vignettes are shown to the participants one after another and on separate pages after a classic online survey. They were allowed to jump back to previous statements and adjust the answers. The individual vignettes were presented in tabular form, so that the dimensions are always in the same order on the left-hand side and one of the two characteristics is always shown on the right-hand side. Thus, participants were enabled to make a quick and uncomplicated com-

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6   In Germany, the entrance fee for cinema movies depends on the film and the day of the week. In countries such as the USA and Australia, each film is offered at the same time for the same admission price, which is discussed in literature under the term 'movie puzzle' (Chung 2015).

For the following eight movies, please indicate how likely it is that you would see these movies in the cinema.
Characteristics that concern subjective taste are deliberately neglected in these abstract film characteristics. Put yourself in the scenario that these movies have equally aroused your interest and that you are now aware of the information given.

How likely would you go and see this film?

The film …

is … by family or friends.	recommended
has a star in it.	yes
is rated by experts … .	2 out of 5 stars
is rated by laymen … .	4 out of 5 stars
has won awards.	no
is in the top five of the charts.	yes
costs an entrance fee of … .	12 €

extremely unlikely [0 1 2 3 4 5 6 7 8 9 10] *extremely likely*

Figure 1   Instructions for answering the vignettes and example vignette

Table 2   Dimensions of the factorial survey

Judment device	Dimension: The film …	Positive level	Negative level
personal network	is ... by family or friends.	recommended	not recommended
star participation	has a star in it.	yes	no
expert critics	is rated by experts … .	4 out of 5 stars	2 out of 5 stars
laymen critics	is rated by laymen … .	4 out of 5 stars	2 out of 5 stars
expert rankings	has won awards.	yes	no
buyers rankings	is in the top five of the charts.	yes	no
entrance fee	costs an entrance fee of … .	6 €	12 €

parative assessment. The presentation as a table and the maintenance of a uniform ranking of the dimensions has the goal of making it easy for the study participants to answer in order to prevent study dropouts or even rash decisions. While the table presentation is not considered more problematic than a text format presentation in the literature, there is, however, some evidence that the constant ranking of the

dimensions could lead to response heuristics. Even though such effects are only suspected for complex vignettes with twelve dimensions or more, they cannot be completely ruled out for this study (Auspurg & Hinz, 2015, pp. 70-72; Auspurg & Jäckle, 2017; Sauer et al., 2020).

The participation in the online questionnaire was enabled for students of the local universities via an email distribution list. A raffle of vouchers for online shops was used to motivate them to participate. The data collection took place over two weeks in January 2017.

Results

In total, the questionnaire was started 994 times and completed 910 times, although not all questions were always answered. The average processing time is 7.5 minutes. The gender ratio is balanced with approx. 50.7% female and 47.7% male participants. The average age of the participants is 26 years. 62.9% prefer blockbusters, 10.7% art house and 26.4% say they are indifferent.

A total of 7278 evaluations are distributed among the 128 vignettes, whereby the answer scale was fully exhausted. Each vignette was rated between 54 and 60 times. However, this almost equal distribution is not evident with regard to preference groups: 2 of the 16 sets were answered by only 2 persons who also stated that they preferred art house cinema. However, this is not seen as problematic due to the orthogonal design.

The statistical test procedure used is the single factor analysis of variance (ANOVA), which can be considered as a special form of regression analysis (Rutherford, 2001, p. 9).[7] The evaluation includes all judgements of the persons who, in addition to the vignette evaluations, also made a self-classification into one of the three groups. The sample thus comprises 905 persons, of which 568 persons (62.8%) belong to the group Blockbusters, 100 persons (11%) to the group art house and 237 persons (26.2%) to the indifferent group. Table 3 shows the results of the ANOVA with the regression coefficient B, the significance level, and the partial η² as an effect strength measure in four complete models; the first model includes all consumer groups and the other three reflect the results of the individual consumer groups.[8] The inclusion of gender and age as moderator variables does not produce any significant effects, so that these third variable effects (e.g. because art house movies are preferred by female participants) can be excluded. With a corrected coefficient of determination above 0.3, all models are of high quality for the social

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7   A hierarchical-linear model yields almost exactly the same results (Schoppek, 2015; Steiner and Atzmüller, 2006, p. 138).

8   Because of the orthogonal data matrix, the standard errors are the same for all variables in a model (Blockbuster, art house and indifferent: 0.052; Bockbuster: 0.065; Art house: 0.157; Indifferent: 0.108).

Table 3   Single factorial analysis of variance

	Blockbuster, art house and indifferent (Ø = 4,714) n = 905		Blockbuster (Ø = 4,747) n = 568		Art house (Ø = 4,502) n = 100		Indifferent (Ø = 4,668) n = 237	
	Regression coefficient B	partial η^2	Regression coefficient B	partial η^2	Regression coefficient B	partial η^2	Regression coefficient B	partial η^2
(constant)	0.684 ***	.008	0.662 ***	.011	0.691 **	.012	0.852 ***	.016
personal network	2.518 ***	.241	2.619 ***	.266	2.233 ***	.204	2.397 ***	.207
star participation	0.565 ***	.016	0.670 ***	.023	0.206	.002	0.466 ***	.010
expert critics	1.405 ***	.090	1.297 ***	.081	2.030 ***	.175	1.400 ***	.082
laymen critics	1.510 ***	.102	1.617 ***	.121	0.960 ***	.045	1.481 ***	.091
expert rankings	0.462 ***	.011	0.419 ***	.009	0.939 ***	.043	0.364 ***	.006
buyers rankings	0.431 ***	.009	0.510 ***	.014	0.083	.000	0.385 ***	.007
entrance fee	1.078 ***	.055	1.039 ***	.054	1.164 ***	.065	1.138 ***	.056
corrected R²	.377		.402		.378		.339	

*** p < .001, ** p < .01
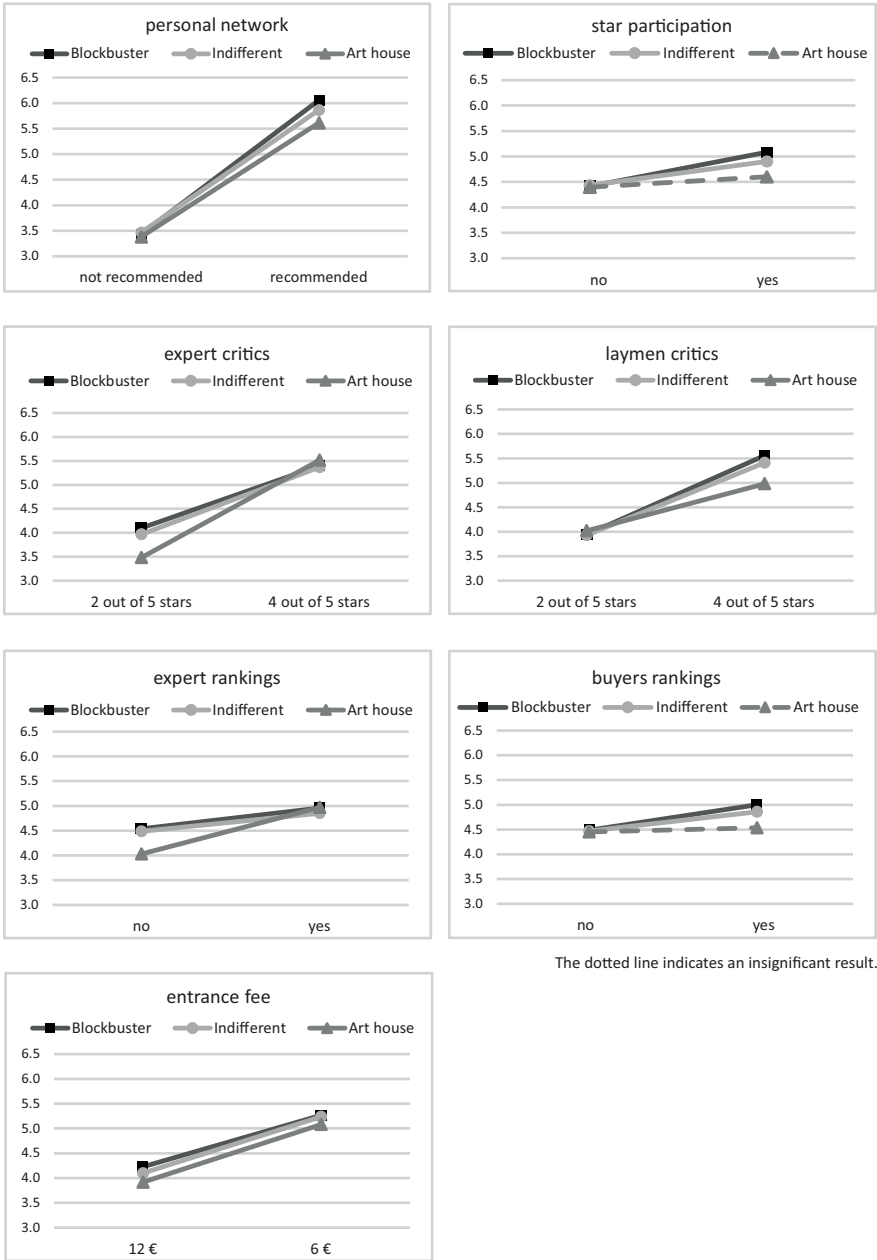
Figure 2   Profile diagrams: mean values of the likelihood of going to the cinema of the positive and negative levels, differentiated by movie preferences and dimensions

sciences.[9] The interpretation of the effect size, indicated by the partial η^2, is based on Cohen (1992): values smaller than 0.06 show small effects, values between 0.06 and 0.14 are interpreted as medium effects and larger values as strong effects. The effect size is given to easily assess the influence of a variable independent of its scale. The partial η^2 offers the advantage of allowing comparison to the same variable in other studies where other levels of measurement, covariates, or other factors are included. Overall, the mean value of the vignette assessments is 4.71; the standard deviation is 2.83. The analysis of variance indicates a significant difference in the distribution of variance between blockbuster and art house viewers: $F(1, 5340) = 4.426$, $p = 0.035$.[10] These differences will now be examined along the hypotheses. For illustration and further interpretation, the estimated values of the positive and negative values for the individual dimensions are compared in profile diagrams in Figure 2.[11]

The preference for art house or blockbuster cinema determines the influence of different judgment devices. The influence of expert critics on the art house group is rated as high with an effect strength of 0.175. The probability to visit a movie increases by about 2 units on the 11-level scale, if the movie receives 4 out of 5 stars instead of 2 from experts. As the influence of the variable on the group blockbusters is lower, hypothesis 1a is supported. The influence of the variable on the blockbuster group is also significant and can be classified as medium. The profile diagram illustrates that if experts' ratings were positive, all consumer groups would be more or less equally likely to visit the movie, whereas a negative rating would have a greater impact on the art house group. Hypothesis 1b is also supported, since the same phenomenon can also be observed with expert rankings. While awards have the least effect on the blockbuster group, and this is marginal ($\eta^2 = 0.009$ and about 0.4 scale units), it is higher in the art house group ($\eta^2 = 0.043$ and about 0.9 scale units). As hypothesized, laymen critics (hypothesis 2a) and buyers rankings (hypothesis 2b) have a higher impact on the blockbuster group. In the case of a negative rating from other consumers, the cinema visit probability for all groups is on average 4, but in the case of a positive rating it is about 1.6 units higher for the blockbuster group and almost 1 unit higher for the art house group. The influence is present and significant for all groups. Whether a movie is in the charts has no significant effect on the art house group ($\eta^2 = 0.0$), but has a slightly higher effect on the Blockbuster group ($\eta^2 = 0.014$) than expert rankings. A comparable picture can

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9   However, Snijders and Bosker (1999, p. 99) point out that measures of determination in experimental procedures should be interpreted with caution and should not be given high priority.

10 Both the variance analyses of the groups blockbuster and indifferent, $F(1, 6438) = 0.803$, $p = 0.370$, and those between the groups art house and indifferent, $F(1, 2692) = 1.702$, $p = 0.192$, are not significant.

11 The boxplots can be found in figure 4 in the Appendix.

be seen in the variable star participation. The star participation has a positive effect on the blockbuster group ($\eta^2 = 0.023$), whereas it is not significant for the art house group ($\eta^2 = 0.002$). Hypothesis 2c is therefore also supported, although the influence of the variable is small. Hypothesis 3, according to which the network is the most influential judgment device, is also corroborated. Across all models, the recommendation or dissuasion by family and friends to visit a movie has the strongest effect ($\eta^2 = 0.241$). There are two aspects to consider that can condition the strong influence. First, going to the movies is a social event for most people. A movie is attended with others, which is why the opinions of these others can be very influential. Second, one reason for the strength of the network effect may be that this factor was listed first in all vignettes. As eye-tracking studies have shown, more attention is paid to the first statements (Galesic et al., 2008). Potentially, this order effect plays a role despite the low complexity of the vignettes. Finally, hypothesis 4 can also be supported. Nevertheless, the prices given here have a significant and noteworthy influence on the probability of going to the cinema ($\eta^2 = 0.055$). This may also be due to the fact that students were surveyed, who have to keep a closer eye on their expenses due to their presumably tight budgets. Overall, the results are not generalizable. As in all experimental designs, external validity is secondary to internal validity (Auspurg & Hinz, 2015, p. 62). The general model as well as the group-specific ones make it clear that the two formal devices, charts and awards, have the least relevance, which speaks for a coordination based on originality and specific knowledge.

The variables used in the hypotheses, with the exception of price, were also used with some other previously mentioned judgment devices in a classical item query. Figure 3 shows for the three consumer groups how often it was stated that the respective judgment devices are relevant for the decision. The results of the item query support hypotheses 1 to 3.

However, the item query does not reveal any effect strengths, which is why the factorial survey offers considerable added value. Thus, it is surprising that some variables of the blockbuster group and the art house group are almost equal, which can only be viewed in a more differentiated manner thanks to the vignette analysis. A second surprising finding is that the two variables 'star participation' and 'buyers rankings', which were not significant in the vignette analysis, are nevertheless accepted in the item survey. A possible interpretation for this result is that these variables are indeed classified as relevant for decision making but not in the assumed sense for art house watchers. For some of the art house group, the fact that a star is involved or that the movie is in the charts may be a deterrent. Perhaps some art house fans reject on principle the star presence typical of blockbusters. Or maybe it's certain stars that make people go to the movies. This cannot be determined from the data collected but could be the subject of future studies. Nevertheless, it must be noted that factorial surveys and classic item queries can complement
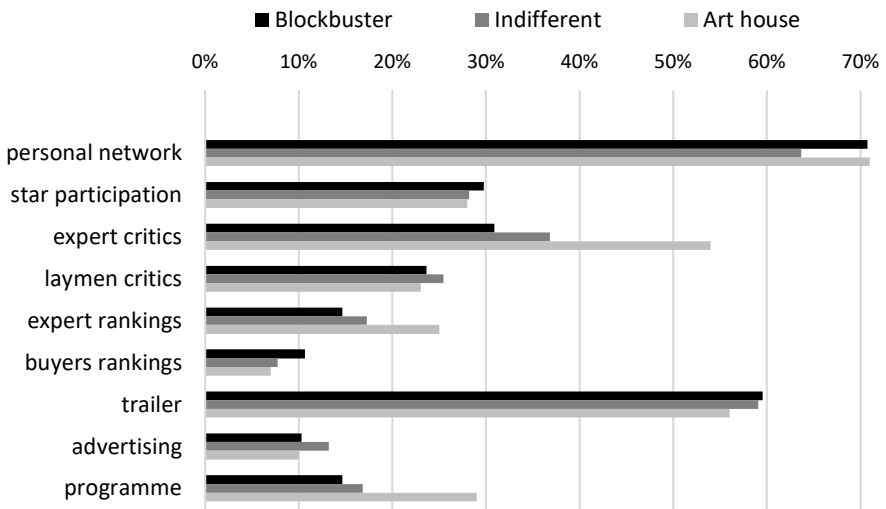
Figure 3   Item query: judgment devices relevant for choice

each other. Finally, the item survey shows that trailers are assigned a high decision-making significance by all consumer groups. Trailers are regarded as helpful judgment devices, which are nevertheless not as decisive as the personal network, thus asserting hypothesis 3.

Conclusion and Discussion

The choice of a movie confronts consumers with a high degree of uncertainty, as they do not know in advance whether they will like the selected movie. This market was used to investigate what moviegoers look for when deciding to watch a movie. To find this out, it was argued, the factorial survey offers some advantages. Karpik (2010) offers an explanatory approach for the market coordination of such special goods. The approach was positively received in the academic world, but its considerations were rarely empirically tested, which Karpik himself justifies with the difficulty of the research subject. He states that "it is not only a matter of increasing the number of markets; more specific data and, as a result, more elaborated analysis are also needed." (Karpik, 2010, p. 256). The pursuit of the research question presented in this paper is therefore also intended to examine the extent to which factorial surveys are useful in dealing with problems of uncertainty management in complex situations. This also contributes to the debate on experimental methods in economic sociology (Beckert & Streeck, 2008; Keuschnigg & Wolbring, 2015;

Kittel, 2015; Wolbring, 2017) by listing the advantages and disadvantages of factorial surveys in research on coping with uncertainty in particular (cultural) markets (Watts & Salganik 2011).

Karpik (2010) argues that market players are not paralyzed because they find orientation in so-called judgment devices to identify the right product. In different markets different judgment devices are used, resulting in different coordination regimes. In line with this argumentation, it was assumed that the market for motion pictures is divided into two coordination regimes. Previous research has argued that blockbuster cinema should be distinguished from art house cinema. The former follows the logic of the mega regime and the latter the logic of the authenticity regime. The established hypotheses were tested with a factorial survey embedded in an online questionnaire and compared to the classical item-questionnaire. The results significantly support all hypotheses on the economics of singularities and the differences between the two groups of consumers. Thus, it can be concluded that Karpik's approach is suitable for the development and testing of empirically testable hypotheses. The result is that potential moviegoers use different judgment devices depending on their taste when deciding whether and which movie to watch. The distinction as to whether judgment devices are formal or substantial respectively critical or commercial helps to distinguish which devices are socially valid; however, his approach leaves unexplained *why* a particular judgment device is chosen. Cinema-goers who prefer art house movies as well as those who prefer blockbuster movies orientate themselves particularly towards the personal network. While the former, however, appreciate expert judgements (critics and awards), the latter tend to use the judgements of other consumers and also charts. The results presented complement the state of research on demand in the movie market and show causality.

Not all of the influencing factors mentioned in the second section could be used as variables in the factorial survey for two reasons. On the one hand, a vignette should not be too large and complex to avoid heuristic response behavior and to achieve meaningful results. A rule of thumb is to use approximately seven dimensions (plus or minus two) (Auspurg & Hinz, 2015, pp. 18-19). On the other hand, dimensions are not suitable for use in factorial surveys if they cannot be implemented in a meaningful way. With the exception of star participation, this applies especially to commercial devices. Firstly, this is due to the fact that advertising is usually not consciously consulted and has a subconscious effect, and secondly, because an implementable use of factors does not measure the influence of a judgment device but rather taste preferences. This is the case, for example, when different brand names are given. Contrary to critical devices, which provide positive and negative information, the aim of commercial entities is to promote sales, which is why a product is only presented in a positive light – whether the actor judges this presentation (e.g., trailer or advertisement) positively or negatively depends on his

or her subjective taste, which is deliberately not collected. And of course, other aspects, such as the particular content of the movie, play a significant role in the choice of movie in real life, which was neither intended nor could be addressed here. These alleged disadvantages of the method therefore have significant advantages for the objective pursued here. In contrast to work with real data, a more abstract situation can be constructed with the experimental design, in which taste preferences and other social effects such as status and reputation do not distort the influence of judgment devices. These disturbing factors cannot be eliminated in the real world, especially in the case of singular goods that are characterized by complexity. "Indeed, all experiments eliminate much of the 'noise' of real-world settings. However, this is the key to ensuring high internal validity; hence, it is a strength rather than a limitation." (Auspurg & Hinz, 2015, p. 115). And the advantage over classical questioning is not only that causality can be identified, but also the strength of its effects. It was shown that vignette surveys and item queries complement each other well, as results are compared and thus misinterpretations can be avoided. Experimental design is thus particularly fruitful in the analysis of action-guiding factors in complex, uncertain situations. The scenarios of the vignettes have to be chosen with care and critically examined regarding their factual content. Thus, the issue remains that in the study presented here, the specified variables are not always available or sought out, and opinions of judgment devices are of course also more complex and greatly simplified in the investigation. Methodologically, when working with factorial surveys, it is important to keep in mind that they always reduce the complexity of the real world. This is a great benefit for some research subjects and objectives. But even if this property should not be the main reason for choosing the method, it should be taken into consideration.

Taste has been identified as a confounding factor that makes it difficult to measure the influence of judgment devices in the real world. The problem results from the complexity of the singular good movie and the different taste preferences of its consumers. So how are taste preferences controlled? The experimental design allows for the control of confounding factors with two techniques that were used here. On the one hand, an abstract situation was constructed in which aspects of taste were *eliminated*. That means, only judgment devices were included that allow an evaluation without addressing issues of taste, and for these the dimensions were also chosen to exclude aspects of taste. As noted, this is a difficult task that may not have worked consistently because, for example, the mere fact that a star is involved in the movie influences taste perception. An upstream query could help to find out what issues of taste exist, so that these can be better controlled. On the other hand, the preferred type of movie was queried and so, according to this self-report, the taste preference could be kept *constant* during the analysis. Keeping confounding factors constant becomes useful when it is not possible to eliminate them. This is the case with the global preference for a certain type of movie. This global prefer-

ence should not have changed for the evaluation of several vignettes, and as has been shown, differences between the two groups can thus be discerned.

Finally, the question of whether the factorial survey design chosen here is appropriate for the question pursued here needs to be critically addressed. As noted in section 1, the question of the correct choice of movie can be considered in different settings. The factorial survey was used to find out what influence different judgment devices have on whether a movie is perceived as the proper choice and consequently whether the movie theater is visited. The dependent variable is therefore the probability of going to the cinema, which was not asked dichotomously as a yes/no statement but on a multilevel scale to provide a more precise picture. In this setting, the decision to go to the cinema must first be made. A different setting exists when the decision to go to the cinema has already been made and one of the movies on offer now needs to be selected. This may be the case, for example, when friends have arranged to go out to the cinema together. In this case, the social gathering would be the main goal and the choice of the right movie would be secondary and shaped by this context. In such a case, an alternative survey design would be appropriate. A *discrete choice experiment* would be suitable in which two or more movies are contrasted and the respondents are asked to choose one of them. In order to achieve a high degree of validity, it is important to ensure that the experimental design is conceived in such a way that it corresponds as closely as possible to the real-world situation. For the area of concern here, therefore, it would have been necessary to find out how the movie-going situation is set up in reality. It seems plausible that different types of moviegoers can be identified in this respect as well.

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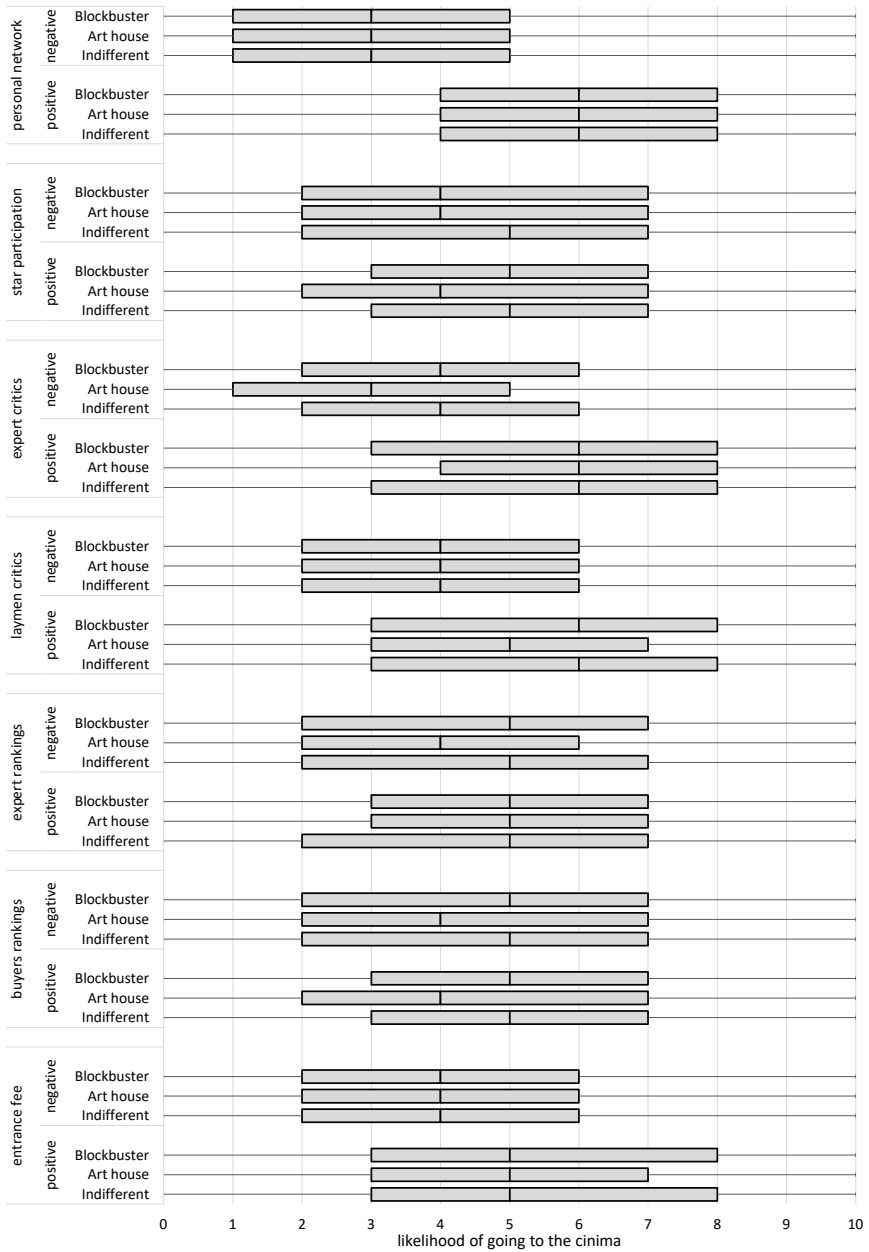
Appendix

Figure 4   Boxplots for the likelihood of going to the cinema of the positive and negative levels, differentiated by movie preferences and dimensions