Understanding Prices at Art Auctions:
A Conceptual Framework for the Auction Price Mechanism

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Note

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Laura Noll, Sankt Gallen, 18 February 2022

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Laura Johanna Noll

Vorwort

„Bildende Kunst kann als Spiegel einer Gesellschaft fungieren; sie weist über das alltägliche Geschehen hinaus und bietet Reibungsfläche für vielfältige Auseinandersetzungen. Sie verlangt Toleranz und Offenheit, Unvoreingenommenheit und Vorurteilslosigkeit. Die Beschäftigung mit bildender Kunst gibt Denkanstösse, formt Diskursfähigkeit, entwickelt einen kritischen Geist. Sie hat Freiheit, Themen zu befragen wie die politische Agenda, soziale Strukturen oder ökologische Prinzipien und reagiert wie ein seismografisches Instrument: Gesellschaftsumbrüche werden sichtbar gemacht. (…) Wer die Beschäftigung mit bildender Kunst zulässt, begreift die Wirklichkeit, in der wir leben, ist frei im Denken und im Verhalten.“

Nadia Veronese, Kuratorin und Leiterin des Kunstvereins St. Gallen, 7. September 2021

Preface

"Visual art can act as a mirror of a society; it points beyond everyday events and offers a friction surface for diverse discussions. It demands tolerance and openness, impartiality, and lack of prejudice. The occupation with fine arts gives food for thought, forms discourse ability, develops a critical spirit. It has the freedom to question topics such as the political agenda, social structures or ecological principles and reacts like a seismographic instrument: social upheavals are made visible. (...) Whoever allows the occupation with visual art understands the reality in which we live, is free in thinking and in behavior."

Nadia Veronese, Curator and Director of Kunstverein St. Gallen, 7 September 2021

Abstract

Since the growth of the art market into a capitalized global art industry, public and academic discourse on art auctions has been dominated by record prices. Despite the financial potential of art auctions as well as the public and academic interest in art, understanding of auction prices is limited. Price intransparency is exacerbated by contrasting approaches in theory and practice: Theory is dominated by quantitative studies that measure the effects of individual factors that determine prices. The literature body is broad but interdisciplinary and fragmented. Practice emphasizes the inadequacy of quantification. Instead, valuation relies on artwork-related characteristics and reference prices. To date, there is no comprehensive theory of auction prices that combines both perspectives. To fill this gap, the author conducts three studies: A systematic literature review (*Study 1*) of 100 high-impact journal articles summarizes the (quantitative) knowledge on price determinants. Eleven in-depth expert interviews (*Study 2*) clarify how these determinants and other factors that are unquantifiable or difficult to quantify influence prices. Two digital focus groups (*Study 3*) resolve remaining ambiguities between theory and practice and elucidate the role of marketing for auction prices. The result is a conceptual framework for the auction price mechanism that accounts for quantifiable and unquantifiable or difficult-to-quantify factors and reveals the underlying dynamics of the art market. The thesis is of high theoretical and practical relevance: It provides an empirical basis for valuation and price explanation. On this basis, it points to promising avenues for future research in various disciplines and suggests practical implications for different stakeholders in the art market. Beyond the art market, this thesis inspires marketing and pricing in other industries.

Keywords: *Art, Auction, Pricing, Marketing, Cultural Economics, Economics of the Arts*

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List of Abbreviations

c.	circa
Covid-19	Coronavirus Disease 2019
e.g.	exempli gratia (for example)
et al.	et alia
etc.	et cetera
GSA	Germany, Switzerland & Austria
HNW	high net worth
i.a.	inter alia (among others)
ibid.	ibidem
i.e.	id est (lat. that is)
incl.	including
lat.	latin
n.d.	no date
n.p.	no page
NFT	non-fungible token
Nr.	number
OVR	online viewing room
p.	page
para.	paragraph
pp.	pages
R&D	research & development
s.a.	see above
s.o.	siehe oben (see above)
SLR	systematic literature review
u.a.	unter anderem (among others)
UK	United Kingdom
US	United States
vs.	versus

WoS	Web of Science
z.B.	zum Beispiel (for example)

List of Symbols

£	British Pound
%	Percent
$	US Dollar

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Research Summary (English)

Public discourse about art auctions is dominated by record prices, such as the $450 million *Da Vinci* (Kaplan, 2017), the £18.5 million shredded *Banksy* (Badshah, 2021), and the $69 million *Beeple* NFT (Locke, 2021). In this context, the role of marketing for auction prices is being questioned (Chappatte, 2017). According to Dirk Boll, "marketing has overtaken canonization" (Torcasso, 2021, n.p.), the traditional selection and recognition of artworks by proven experts and institutions. While high prices are attributed to “marketing stunts” (Schneider, 2021, n.p.), new technologies and new collector generations are changing the market, reinforcing the need to rethink the power and limits of marketing.

To date, theory and practice use opposing approaches to valuing and explaining auction prices: Practice is guided by a prevailing industry logic that emphasizes the role of art expertise and non-quantifiable factors such as artistic merit and quality. Theory focuses on quantitative methods for measuring the impact of individual factors that determine prices. While practice is criticized for not making adequate use of available (scientific) information, quantitative research is criticized by experts as insufficient for the study of art prices.

To improve the understanding of auction prices, this thesis combines the two approaches in three studies: a systematic literature review (*Study 1*), in-depth expert interviews (*Study 2*), and digital focus groups (*Study 3*). The result is a conceptual framework for the auction price mechanism that improves price transparency and reduces valuation uncertainty by accounting for quantifiable and unquantifiable or difficult-to-quantify factors and revealing underlying market dynamics. This thesis shows that the theoretical or practical approach alone is insufficient to evaluate and explain auction prices. Rather, auction prices are influenced by a variety of factors, that interact and are in turn are influenced by, for example, social, economic, and political aspects. Together, all aspects form a relationship network. Understanding this network is of high theoretical and practical relevance for different stakeholders in the art market. Beyond the art market, it stimulates marketing and pricing in other industries and disciplines.

Research Summary (German)

Der Diskurs über Kunstauktionen ist von Rekordpreisen geprägt, etwa dem $450 Millionen Dollar teuren *Da Vinci* (Kaplan, 2017), dem £18,5 Millionen Pfund teuren *Banksy* (Badshah, 2021), oder dem $69 Millionen Dollar teuren *Beeple* NFT (Locke, 2021). In diesem Zusammenhang wird die Rolle des Marketings für Auktionspreise in Frage gestellt (Chappatte, 2017). Dirk Boll zufolge hat "das Marketing die Kanonisierung überholt" (Torcasso, 2021, n.p.), die traditionelle Selektion und Anerkennung von Kunstwerken durch ausgewiesene ExpertInnen und Institutionen. Während hohe Preise auf "Marketingtricks" (Schneider, 2021, n.p.) zurückgeführt werden, verändern neue Technologien und Sammler-generationen den Markt und verstärken die Notwendigkeit, die Macht sowie die Grenzen des Marketings zu überdenken.

Bislang verwenden Theorie und Praxis gegensätzliche Ansätze, um Kunstwerke zu schätzen und Auktionspreise zu erklären: Die Praxis orientiert sich an einer vorherrschenden Branchenlogik. Sie betont die Bedeutung nicht quantifizierbarer Faktoren wie künstlerischer Wert und Qualität. Die Theorie konzentriert sich auf quantitative Methoden und misst den Einfluss einzelner Faktoren auf Preise. Während die Praxis für eine unzureichende Nutzung der verfügbaren (wissenschaftlichen) Informationen kritisiert wird, wird quantitative Forschung als unzulänglich für die Analyse von Kunst erachtet.

Um das Verständnis von Auktionspreisen zu verbessern, verbindet diese Arbeit die beiden Ansätze in drei Studien: eine systematische Literaturanalyse (*Studie 1*), Experteninterviews (*Studie 2*) und digitale Fokusgruppen (*Studie 3*). Das Resultat ist ein konzeptioneller Rahmen für den Auktionspreismechanismus, der die allgemeine Preistransparenz erhöht und Unsicherheit in der Schätzung reduziert. Er berücksichtigt quantifizierbare und nicht oder nur schwer quantifizierbare Faktoren und deckt die zugrunde liegenden Dynamiken des Kunstmarktes auf. Die Arbeit zeigt, dass der theoretische oder praktische Ansatz allein nicht ausreicht. Stattdessen werden Auktionspreise von einer Vielzahl an Faktoren beeinflusst, die sich gegenseitig beeinflussen, ihrerseits von externen Faktoren abhängen, und zusammen ein Beziehungsnetzwerk bilden. Dieses Netzwerk zu verstehen ist von hoher theoretischer und praktischer Relevanz für unterschiedliche Akteure im Kunstmarkt sowie für das Marketing und Preismanagement in anderen Branchen und Disziplinen.

1 Introduction

Chapter 1 introduces to the research project. It outlines the research field and illustrates the public and academic interest in art auctions. Against this background, it highlights contradicting approaches to valuation and price explanation in theory and practice and points to a limited theoretical understanding of auction prices. *Chapter 1* is divided into five subchapters: *1.1 The Publicity of Record Prices* introduces the public discourse on auction prices. *1.2 The Practice of Valuation* describes how auction house professionals estimate prices. *1.3 The Theory of Price Determinants* reviews the literature about auction price determinants. It highlights the general and specific research problem and gap. *1.4 A Conceptual Framework for The Auction Price Mechanism* explains the research objective and its theoretical and practical relevance. *1.5 Research Design* concludes with the research outline.

1.1 The Publicity of Record Prices

Since the growth of the art market into a "capitalized global art industry" (Ashenfelter & Graddy, 2003, p. 764), newspapers have been dominated by record prices: "*JPG File Sells for $69 Million, as 'NFT Mania' Gathers Pace*" (SmartHouseInvest, 2021, n.p.), "*Sotheby's Global Hybrid Online Evening Sale Soars to $363.2 M.*" (Villa, 2020, n.p.), and *"$450 Million Leonardo da Vinci Becomes Most Expensive Artwork of All Time*" (Kaplan, 2017, n.p.). These headlines put the financial value of art at the center of public discourse. They raise questions about the factors that actually influence auction prices. Even more, they call into question the role of marketing. According to the media, the price of Beeple's 'Everydays' "*(..) [w]as a $69 Million Marketing Stunt"*" (Schneider, 2021, n.p.), and the 'genius' in the sale of 'Salvator Mundi' for $450 million was not the artist, but the auction house *Christie's* (Chappatte, 2017).

In reality, prices above $1 million account for only a minority of auction transactions, less than 1% in 2020. Nevertheless, these top lots account for more than half of the market's sales value (54%). Over the past decade, despite a significant decline in sales volume, the growth of the art market has been driven by an increase in the total value of sales (McAndrew, 2021, p. 121). This in turn is due to constantly rising auction prices

in the top price segment, which underlines the theoretical and practical relevance of the research topic.

1.2 The Practice of Valuation

While auction houses cannot set final prices in a process of active price management, they can exert influence by setting the *price estimate* and *starting price* (Thompson, 2010, p. 119). To define a price estimate, auction house professionals consider a limited number of artwork-related characteristics and reference prices in a process called valuation. For visual art, *Sotheby's* lists authenticity, physical state, rarity, provenance, historical importance, subject matter, size, fashion, medium, and quality (Sotheby's, n.d.). *Christie's* lists condition, rarity, quality, provenance, and reference prices (Christie's, n.d.a.). Evaluating these factors requires experience and art expertise, especially since valuation is complicated by the market-inherent intransparency, volatility and incomparability of art prices (Adam, 2014). Intransparency refers to the market-inherent "opacity concerning prices, ownership and transactions" (Adam, 2014, p. 162). These features are taken to extremes on the secondary art market. Moreover, art is subject to significant price risk (Flynn, 2017, p. 130; Frey, 2019, pp. 6).

Resulting from the general *price intransparency*, "art valuation is widely regarded as 'inexact science'" (Flynn, 2017, p. 152). Even experts significantly overestimate or underestimate artworks (artnet, 2017). The result is price inefficiency, a discrepancy between price estimate and hammer price (Louargand & McDaniel, 1991, p. 54). Following Spaenjers, Goetzmann & Mamonova (2015), a discrepancy between price estimate and hammer price results from one or more of the following circumstances: Extreme supply constraints, social competition, uncertainty about potential resale value, and/or irrational individual preferences. Louargand & McDaniel (1991, p. 55) found that experts intentionally set lower prices to attract customers and encourage bidding. In contrast, Ashenfelter (1989, p. 34) states that estimates are virtually unbiased. Still, he considers art valuation flawed due to information asymmetry, inconsistent assessment, and price risk associated with fixed supply and bidders' risk aversion (ibid., p. 31).

In addition, the average 38% range between high and low price estimate indicates *valuation uncertainty* (Baade, 2019, p. 1). The consequences include overpayments for

bidders and forgone profits for dealers and sellers (Frey, 2019, p. 28; Thompson, 2010, pp. 126). Hence, reducing risk and complexity is in the interests of various stakeholders (Bandle, 2014, p. 30).

1.3 The Theory of Price Determinants

Public and scholarly interest in art prices has increased with the publication of record prices and the advent of art investment (Bruno, 2012; Frey & Pommerehne, 1989). Equally, "[t]he empirical study of art auctions and the price of art assets has been a growth field in the last decade and has resulted in an increasing sophistication in the questions being asked and in the empirical methods being used" (Ashenfelter & Graddy, 2003, p. 783).

A scoping study shows the interdisciplinarity and fragmentation of the research field: Most studies use quantitative methods to measure the effects of individual price-determining factors on auction prices. They include a variety of factors from color intensity (Pownall & Graddy, 2016), status and networks (Dass, Reddy & Iacobucci, 2014; Shin, Lee & Lee, 2014), physical arousal (Adam, Ku & Lux, 2019; Kliger, Raviv, Rosett, Bayer & Page, 2015; Ku, Malhotra & Murnighan), time pressure, competition, and gaming (Adam, Krämer & Müller, 2015; De Silva, Pownall & Wolk, 2012; Erhart, Ott & Abele, 2015; Malhotra, 2010), online bidding (Goldberg, Hartline & Wright, 2001; Lee, Kim & Fairhurst, 2009), and art investment (Etro & Stepanova, 2016; Galenson, 2018; Marinelli & Palomba, 2011; McQuillan & Lucey, 2016). However, the understanding of art prices remains limited (Flynn, 2017, pp. xxiii; Pénasse, Renneboog & Spaenjers, 2014, p. 432).

According to practitioners, quantitative analysis is inadequate or insufficient for the study of art prices: It is questionable “[w]hether all this esoteric number crunching can be harmoniously reconciled with art’s aesthetic dimension” (Flynn, 2017, p. xix). Moreover, purely quantitative data do not ensure price transparency. According to Coslor (2016), „[i]nformation providers with auction price databases and transparency goals [have already] made traditional valuation more efficient and provided a reference point for buyers“ (p. 23). However, many stakeholders lack the expertise to understand and compare information. They compare the wrong things or (over)rely on price data. This is problematic in the art market (Coslor, 2016). Instead, a more comprehensive

understanding of auction prices is needed to improve valuation and price explanation (Flynn, 2017, p. 24 (XXIV)).

Providing better information has three main benefits: It increases the accuracy of valuation (Louargand & McDaniel, 1991, pp. 54), maximizes revenue (Milgrom & Weber, 1982), and is beneficial to different stakeholders (Flynn, 2017, p. 24 (xxiv)).

Based on an initial literature review, the author identifies two research problems: *price intransparency* as a general research problem in the art market and *valuation uncertainty* in art auctions as a specific research problem. In this context, the lack of a framework for valuing and explaining prices is identified as a research gap. With the aim of developing a conceptual framework for the auction price mechanism, the author formulates three research questions:

Research Question 1 (RQ1): *Which factors influence prices at art auctions?*

Research Question 2 (RQ2): *How do these factors influence prices at art auctions?*

Research Question 3 (RQ3): *Which role does marketing play for prices at art auctions?*

1.4 A Conceptual Framework for the Auction Price Mechanism

The author combines existing quantitative knowledge about individual price-determining factors with an in-depth qualitative study of art prices. Similar to Geismar (2001), she conceives of the auction not as a delimited event, but as a complex and multidimensional process. Thus, she aims to uncover the underlying dynamics of the art market. The research goal is threefold: to promote exchange between research and practice, to reduce price intransparency and valuation uncertainty, and to provide an empirical basis for valuation and price explanation. As a result, this thesis improves the understanding of auction prices for the benefit of theory and practice. It uncovers contradictory findings, formulates managerial implications, and identifies promising avenues for future research. Primarily, the target audience are researchers and practitioners of art auctions. Secondarily, this thesis addresses other stakeholders in the art market. Finally, it stimulates research and practice beyond the field of art.

1.5 Research Design

To answer the above research questions, the author proceeds as follows: In *Chapter 2*, a market analysis is conducted, and the economic relevance of art auctions is shown. *Chapter 3* provides the theoretical background of the thesis and provides the necessary background knowledge. *Chapter 4* presents a systematic literature review (*Study 1*) of 100 high-impact journal articles. It summarizes the scientific findings on price determinants in eight overarching concepts. *Chapter 5* uses eleven in-depth expert interviews (*Study 2*) to understand how these, and other determinants affect prices. It groups practical knowledge in six categories of relevant price-determining factors. *Chapter 6* clarifies remaining ambiguities between theory and practice in two digital focus groups (*Study 3*). It also explores the power and limits of marketing. *Chapter 7* concludes with key findings, theoretical and practical contribution, limitations, and next steps for research and practice. *Figure 1* presents the research outline.

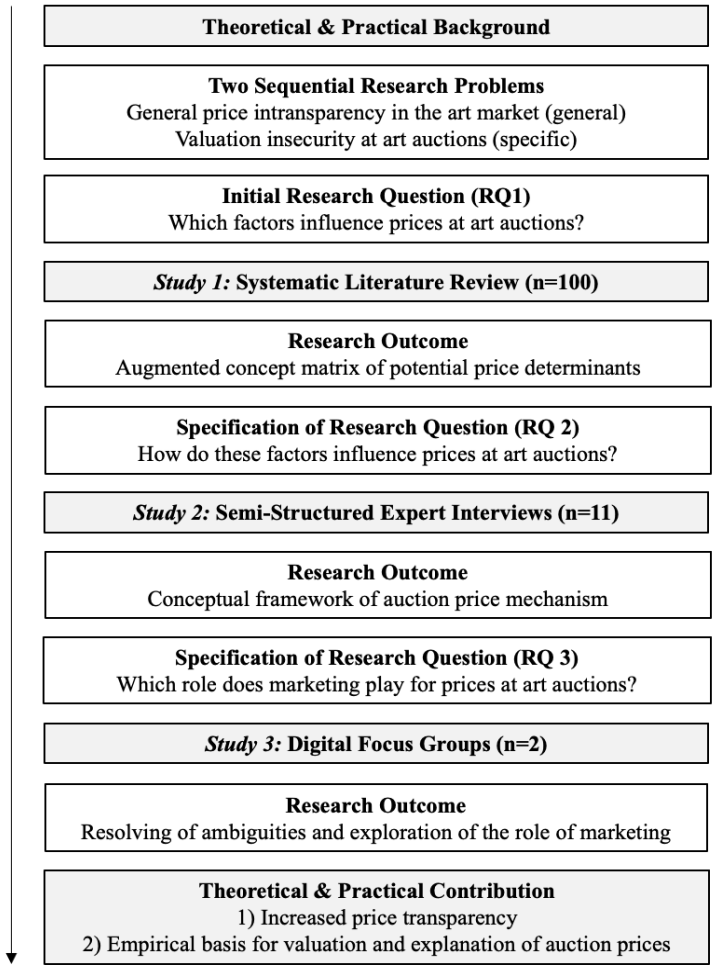

Figure 1: Research Outline (Source: Own illustration).

2 Market Analysis: The Capitalized Global Art Industry

Chapter 2 provides the practical background of this thesis. It introduces the art market from an economic perspective to demonstrate that in "the moment you take its cultural camouflage away, the art market is an ordinary market, where rational, self-interested, utility-maximizing individuals respond to economic incentives" (Gerlis, 2014, p. 28). *Chapter 2* is divided into two subchapters: *2.1 Economic Relevance* describes the current state of the international art market and underlines its economic relevance. *2.2 Art Market Economics* clarifies the inherent market logic and structure. On this basis, the field of research is narrowed down.

2.1 Economic Relevance

To underline the economic relevance of the international art market, Ashenfelter & Graddy (2003) have coined the term "capitalized global art industry" (p. 764). *The Art Basel and UBS Global Art Market Report 2021* (McAndrew, 2021, p. 31) analyzes the recent growth of the art market in sales value and volume from 2009 to 2020 (see *Table 3* in the Appendix): Despite a low rate of increase in the volume of sales between 2009 and 2019 (+1%), the sales value increased by 24%.

Then, the Covid-19 pandemic initiated a heavy crisis (ibid., 2021, p. 17): In 2020, the total sales value declined by -22% to $50 billion US dollar. The three biggest markets US, UK, and China still accounted for 82%. Despite an overall decline in sales value (-22%) and transactions (-23%), sales in the EU remained stable. They only declined by -12% in China, compared to -24% in the US and -22% in the UK. The premium price segment accounted for most of the sales value: In 2020, 54% of the total sales value was accounted for by only 1% of lots selling for over $1 million (ibid., 2021, p. 121). 81% of sales value was achieved with Post War & Contemporary Art (ibid., 2021, p. 103). In the first year of the pandemic, 2,9 million employees worked in the global auction market, with 300,000 operating businesses and 14,000 in the auction market. 31 million artworks were traded, 42% by auction houses and 58% by dealers. To reduce price risk, auction houses shifted from public auction (-30%) to private sales (+36%). The dealers' market shrunk by -20%. However, almost a third of dealers stated that they were more profitable than in previous years, attributed to a reduction in operating costs, primarily due to the cancellation of art fairs.

Despite the significant decrease in overall sales value, digitalization was driven by emerging markets, new technology and new generations, and accelerated by the pandemic. As a result, the online sales value increased by +100% year-on-year (see *Figure 20* in the Appendix). In 2020, online sales accounted for $12.4 billion, reflecting 25% of total sales (ibid., 2021, p. 213). 22% of lots were sold in pure online auctions, called '*Online Only*'. While 60% of 365 existing art fairs were cancelled, the percentage of online viewing rooms (OVRs) tripled from 13% to 39%. In 2020, 90% of High Net Worth (HNW) collectors visited an OVR, 40% also purchased art online. Overall, interest in collecting increased by 66% (ibid., pp. 212).

2.2 Art Market Economics

Generally, economists study what societies produce and how they exchange. They analyze how individuals and institutions behave and how interactions of supply and demand affect prices. Respectively, art economists study the supply and demand for art, and analyze the interactions that determine art prices (Flynn, 2017, p. 16 (XVI)). This section introduces to the logic and structure of the international art market.

2.2.1 Art Market Logic

According to Velthuis (2013), the art market unites two rationales, "[...] a logic of art, and a logic of capitalist markets" (p. 24). To meet the art market, understanding both logics is key.

According to the general understanding, a market forms when valuation takes place (Bourdieu, 2014, p. 202). A market exists where utility-oriented individuals cause prices to form at the intersection of the supply and demand function (Velthuis, 2013, pp. 2). The price regulates the distribution of goods to consumers. It usually represents a market equilibrium (Gurley & Shaw, 1960, p. 3). The liquidity of markets is guaranteed through strong competition and high trade frequency (Baumol, 1986; Worthington & Higgs, 2003).

The art market offers an exception (Graw, 2008, p. 85): The art market is driven by supply (Driesch, 2013, p. 94). Since the supply of art is fixed or scarce, higher demand leads to higher prices (Velthuis, 2013, p. 97). In other words, the market is inelastical to supply and in constant risk of illiquidity (Driesch, 2013, p. 94; Flynn, 2017, p. 85).

In addition, it is intransparent, segmented and volatile (Adam, 2014, p. 162; Flynn, 2017, p. 144; Karpik, 2011, p. 27). Flawed documentation leads to incomplete and inconsistent data of reference sales, which reinforces information asymmetry (Flynn, 2017, p. 86; Heilbrun & Gray, 2001, pp. 196). Due to lack of alternative purchases or substitutes, prices do not, or only by coincidence, represent equilibria (Ashenfelter, 1989, p. 26; Flynn, 2017, p. 60; Karpik, 2011, p. 25).

In addition, art does not comply with the neoclassical understanding of a good (Driesch, 2013, p. 94): Ordinary markets encompass relatively homogenous, but diversifiable goods. The utility of additional consumed units diminishes ('marginal utility', Hutter, 2010, p. 248). Art is an 'unnatural good' (Baumol, 1986). It is heterogeneous, indivisible, and incomparable (Adam, 2014, p. 180; Bourdieu, 2014, p. 13; Flynn, 2017, p. 19 (XIX); Karpik, 2011, p. 21). Since each artwork possesses different qualities, the principle of marginal utility does not apply. The utility of owning an additional artwork is constant, or increasing (Bianchi, 1997, p. 284). For instance, additional utility is derived from "conspicuous consumption" (Veblen, 2007; see also Driesch, 2013, pp. 70; Mandel, 2009, p. 1654), the subjective benefit of paying a high price.

2.2.2 Art Market Structure

There exists no such thing as *the* art market. Instead, the art market is highly fragmented and consists of highly differentiated sub-markets, which are linked to and embedded in larger social, cultural, and institutional systems (Schultheis, 2017, p. 72). This section presents different segments of the international art market and delimits the research field for this thesis.

2.2.2.1 Geographic Segments

The Art Basel and UBS Global Art Market Report counts over 40 countries as part of the international art market (McAndrew, 2021, p. 133). Despite this geographical spread, the market is mainly dominated by a few Western countries and China (ibid., 2021, p. 34): In 2020, three countries amounted for 82% of the global market value, the US (42%), UK (20%) and China (20%), followed by France (6%), Switzerland (2%), Germany (2%) and Spain (1%). Together, the EU accounts for 12% of the global market

value, the GSA region for a little more than 4% (ibid. p. 107; *see Figure 21* in the Appendix).

2.2.2.2 Functional Segments

The art market can be divided into a non-commercial and a commercial art market (Graw, 2008, p. 69): The *non-commercial art market* comprises art associations, academies, museums, and major exhibitions. It consists of 'the market of knowledge' (conferences, publications, and academies), 'the market of institutions' (museums and associations), and 'the market of major exhibitions' (biennals, manifestas and documentas). The *commercial art market* is a two-tier system (Graw, 2008, p. 69, Findlay, 2012, pp. 14; Driesch, 2013, pp. 32): It comprises the primary and the secondary art market. While the first sale of an artwork takes place on the *primary market*, key players are artists, dealers, gallerists, and fairs. Resales take place on the *secondary market*. The key players are dealers and auction houses (Graw, 2008, pp. 69).

The distinctions between commercial and non-commercial art market, and between primary and secondary art market, are no longer distinctive (Graw, 2008, p. 70 & pp. 108). Today, several players combine different roles (Flynn, 2017, p. 120; Graw, 2008, pp. 105 & pp. 206). For instance, auction houses offer private sales and directly market artworks to the public, or artists act as dealers and collectors (Graw, 2008, pp. 105 & p. 206). At the latest when Damien Hirst consigned a previously unsold artwork to auction in 2008, the boundaries between the markets were dissolved (Flynn, 2017, p. 120; Graw, 2008, pp. 206; McAndrew, 2019, p. 32).

2.2.2.3 Price Segments

The Art Basel and UBS Global Art Market Report demonstrates the large spread in auction prices in 2020 (McAndrew, 2021, p. 121, see *Figure 22* in the Appendix): Auction prices under $1,000 accounted for more than a third of total sales volume (38%). Prices above $10 million accounted for only 0.04% of total sales volume. However, these 0.04% accounted for 20% of the total sales value. This underscores the economic relevance of record prices.

From a theoretical perspective, Throsby (1994, pp. 5) divides the art market in three price levels from 1 (low) to 3 (high): *Level 1* represents the lowest price segment. It is large and accessible and comprises local arts and crafts markets. The competition between artists with low reputation is high. Supply is adjusted based on demand. Production costs are a key determinant of prices. *Level 2*, the middle price segment, represents the largest part of the art market. Here, prices rise as the artist's career progresses. The segment comprises national markets with works by young artists on the primary market, or in larger national auction houses. *Level 3* is the highest price segment. It reflects the very top end of the art market. More precisely, the "elite upper sector in which prices, controlled by auction houses and ultra-high net worth individuals, have risen to unprecedented levels" (Flynn, 2017, p. 24 (XXIV)). Compared to *Level 1* and *2*, this segment is relatively small and highly concentrated. It is dominated by very few businesses and a small number of artists (Driesch, 2013, p. 33; Flynn, 2017, p. 20 (XX)).

2.2.3 Delimitation of the Research Field

Due to the scope of the research, the author's market access, and the proximity of the research institution, this research is limited to the art market in *Germany, Switzerland, and Austria (GSA region)*. This limitation is meaningful given the importance and market share of the GSA region: Switzerland, Germany and Austria are the 5th to 7th largest international auction markets. With 4% overall market share, they account for 7% of the public auction market value (McAndrew, 2021, p. 107, see *Figure 23* in the Appendix).

The research is limited to the *secondary, commercial art market,* more precisely: the public auction sector. Today, the public auction sector accounts for 14.250 businesses (ibid., 2021, p. 330). These businesses act as intermediary between public and private collectors. Beyond selling artworks, they offer services such as transport, storage, insurance, examination, exhibition, and marketing (Thompson, 2010, p. 102). They usually earn a commission from both buyers and sellers and are geared by short term profit. The current auction market is a duopoly: The two largest auction houses *Christie's* and *Sotheby's* comprise more than 80 percent of the international auction market. They are "the branded, value-adding auction houses" (ibid., p. 95), followed by *Poly Auction, Phillips*, and *China Guardian* (Statista Research Department, 2022). The

rest of the auction market comprises smaller international and local auction houses. What distinguishes them from the big players, is a smaller brand value (Thompson, 2010, p. 95).

On the macro-level, specifications for product category and channel are defined: While most dealers use 'art' as an umbrella term for diverse product categories[1], this research focuses on visual art (*product category*). It considers offline, online and hybrid auctions (*channel*). No specifications are made on the micro-level (e.g., regarding artists, genres, or movements). Against the background of record prices, this thesis focuses on the largest international auction houses in the price *Level 3*, and the largest national auction houses in the price *Level 2* (Throsby, 1994).

[1] www.christies.com/departments/index.aspx?sc_lang=en&lid=1, www.sothebys.com/en/about/departments?locale=en

3 Theoretical Background: The Auction Price Mechanism

Chapter 3 presents the theoretical background of the thesis. It defines key terms and definitions and elaborates the price formation process at art auctions. *Chapter 3* is divided into two subchapters: *3.1 Key Terms & Definitions* defines the key terms art, auction, and price. *3.2 Price Formation at Art Auctions* explains the price mechanism on the secondary market.

3.1 Key Terms & Definitions

The charged relationship between art and economics makes the study of art prices a challenging, yet intriguing research endeavor. The following section defines the key terms *art*, *auction,* and *price*. *Table 1* summarizes the definitions:

Art General definition: "(…) a visual object or experience consciously created through an expression of skill or imagination. This term encompasses diverse media such as painting, sculpture, printmaking, drawing, decorative arts, photography, and installation" ([Art], n.d.a, para. 1). Here: *Visual art(s)* including paintings, drawings, and sculptures.
Price General definition: "(…) the amount of money that has to be paid to acquire a given product" ([Price], n.d., para. 1). Here: *Hammer price* realized at an ascending auction of visual art.
Auction General definition: "(…) the buying and selling of real and personal property through open public bidding. The traditional auction process involves a succession of increasing bids or offers by potential purchasers until the highest (and final) bid is accepted by the auctioneer (who is usually an agent of the seller)" ([Auction], n.d., para. 1). Here: *Ascending auction* of visual art.

Table 1: Key Terms & Definitions (Source: Own presentation).

3.1.1 Art

It is not easy to define what art is. Instead, a ruling of the Federal Social Court of Germany accurately describes that "the art market itself defines, what is to be regarded as art" (Driesch, 2013, p. 17). According to the Encyclopedia Britannica, the plural *arts* denote "modes of expression that use skill or imagination in the creation of aesthetic objects, environments, or experiences that can be shared with others" ([Arts], n.d., para.

1). The singular *art* specifies these modes of expression as "diverse media such as painting, sculpture, printmaking, drawing, decorative arts, photography, and installation" ([Art], n.d.a, para. 1). The Cambridge Dictionary further narrows *art* to the most common media of painting and sculpture ([Art], n.d.b, para. 1). These media belong to the *visual arts* ([Visual Arts], n.d., para 2). Visual arts exclude other forms of expression such as literature, performing or decorative arts. In this thesis, the term art is used to refer to visual arts, which include paintings, drawings, and sculptures. This corresponds to the definition used by Frey (2019, p. 49).

In contrast to ordinary goods, art does not possess a generalizable utility. Instead, the *value of art* is subjective, complex, and uneconomic (Bourdieu, 1982, p. 194; Findlay, 2012, p. 14 & 113; Graw, 2008, p. 13; Hutter, 2010, pp. 260; Veire, 2012, pp. 98; Velthuis, 2013, p. 23). According to Adam (2014), artworks "are bought for a variety of sometimes illogical reasons, [...] the price is subsidiary to the other benefits that accrue from owning them" (p. 168). Examples for such other benefits are "psychic returns" (Worthington & Higgs, 2003, p. 652) or "the spiritual, aesthetic, cognitive, emotional and moral value of art" (Gregos, 2012, p. 132). According to Velthuis (2013, p. 28), the key value of art is intrinsic, which includes aesthetic, social and financial value. Other authors name intellectual, political, social, and psychological value (Bourdieu, 1989, pp. 2; Findlay, 2012, p. 186; Gregos, 2012, p. 138; Groys, 2013, p. 114; Hutter, 2010, p. 250; Velthuis, 2013, p. 28; Velthuis, 2005, p. 38 & 88).

3.1.2 Auction

According to the Encyclopedia Britannica, the term *auction* denotes

"the buying and selling of real and personal property through open public bidding. The traditional auction process involves a succession of increasing bids or offers by potential purchasers until the highest (and final) bid is accepted by the auctioneer" ([Auction], n.d., para.1).

The traditional auction is called *Ascending Auction.* The term comes from the Latin words "*auctio,* meaning to ascend, or *augere*, to increase" (Thompson, 2010, p. 97). Other names are *Proceeding* (Engelbrecht-Wiggans, 1980), *English* (Ashenfelter, 1989), or *Roman Auction* (Ashenfelter & Graddy, 2003). The ascending auction is the most common auction format in the art market (Thompson, 2010, p. 96). Hence, this research uses the term *auction* for an ascending auction of visual art.

A theoretical overview of different auction types and their applicability is presented by Engelbrecht-Wiggans (1980). The author distinguishes along "four major components (…): players, objects, payoff functions, and strategies" (p. 121). He further differentiates depending on the role of the auctioneer and the order of bids. Accordingly, different pricing models apply in different auction types, e.g., bonus or progressive pricing. While an *Ascending Auction* starts with a starting price, and bids are placed in ascending order, a *Dutch*, or *Reverse*, *Auction* starts with a very high offer by the auctioneer, which decreases until a bidder accepts a price, or until an object is withdrawn from auction (Flynn, 2017, pp. 21.). An example for an atypical (and ancient type of) auction is the *Candle Auction*, where an object is sold when the candle goes out (ibid., p. 35).

Originally, auctions were invented for the sale of slaves in ancient Babylon (Flynn, 2017, p. 21). Later, they were mainly applied for the distribution of goods in agriculture, commodity, and real estate markets (Auction, n.d., para. 3). Since 1995, auction practice has reached the online market. Internet platforms like *ebay* offer diverse items to clients worldwide. Most online auctions finish at a dedicated time, with the highest bidder buying the object (auction, n.d., para. 4). Since a record price only requires two competing bidders, prices may be much higher than any kind of objective value (Flynn, 2017, p. 119).

Recently, auctions have received increased attention in theory and practice (Adam et al., 2019). Today, auctions are applied as (innovative) pricing method across industries, e.g., in finance, government, and art. They are considered a fast and efficient way of selling products. A key advantage is that "the presence of an auction system provides a way for an uninformed seller to obtain approximately the market value for the items they own" (Ashenfelter, 1989, p. 31). Following Thompson (2010, pp. 95), auctions are an especially suitable mechanism for art, because “more conventional ways of establishing prices are inadequate for one-of-a-kind items” (pp. 95). In addition, auctions are the only publicly available source of price information on the art market (Ashenfelter, 1989, p. 32).

3.1.3 Price

The Encyclopedia Britannica defines *price* as "the amount of money that has to be paid to acquire a given product" ([Price], n.d., para. 1). Usually, prices are informative of the existing demand for a product or service. They influence what kind of goods are produced how and for whom. In ordinary markets, prices form at the intersection of the supply and demand function. They represent a market equilibrium ([Price], n.d., para. 2).

Art prices are an exception. While art prices signal value, the *value* of art is subjective (Mandel, 2009, p. 1657). Consequently, art prices are not "a reliable guide to the value of a work of art" (Adam, 2014, p. 163). They do not indicate objective value or generalizable utility, but convey subjective value and individual taste (Findlay, 2012, p. 184; Gerlis, 2014, p. 17; Mandel, 2009; p. 1657). Art prices can be irrational (Flynn, 2017, p. 89; Karpik, 2011, p. 27; Thompson, 2010, p. 129), differ across locations and contradict the law of one price (Ashenfelter, 1989, p. 23; Ashenfelter & Graddy, 2003, p. 764; Gerlis, 2014, p. 35 & p. 64). Apparently, there exists a separate market for each artwork (Spaenjers et al., 2015, p. 83).

Given these characteristics, traditional pricing methods (e.g., Reinecke & Hahn, 2003) are unsuitable for art (Spaulding, 2015, p. 1; Beckert & Rössel, 2013, p. 182). This is illustrated with the equation *price* = *cost* + *competition* + *value* (Olbrich & Battenfeld, 2014, p. 4). While production and material *costs* can indicate minimum prices (Schultheis, 2017, p. 75), costs of creativity and thought are unquantifiable (Bonus & Ronte, 1997, p. 115). Similarly, *competition* is difficult to determine in a market of unique and incomparable goods (Beckert & Rössel, 2013, p. 182). The perceived *value* of an artwork is subjective (Mandel, 2009, p. 1657).

Finally, primary, and secondary market differ with regards to price formation (Beckert & Rössel, 2013, pp. 8): Galleries define prices prior to a sale in a process of active price management (Gerlis, 2014, p. 57). Pricing equals a "signifying act" (Velthuis, 2003, p. 181). It requires expertise, intuitive feeling, and rules of thumb (Ashenfelter, 1989, p. 34; Findlay, 2012, p. 77; Karpik, 2011, p. 23, Schultheis, 2017, p. 7). Galleries use 'rules' (Thompson, 2010, pp. 190) and "pricing scripts" (Velthuis, 2013, p. 117). They define prices in different stages of an artist's career based on aspects such as medium

and size (Schultheis, 2017, p. 75). Hence, art prices are "path-dependent" (ibid., p. 125). Gallery and artist share the return, ranging from 50/50 to 70/30 to the benefit of galleries (Campbell, 2008, p. 2). Auction houses cannot define final prices prior to a public sale. However, they exert influence by defining *price estimate* and *starting price* (Thompson, 2010, p. 119).

The relation between *the value* and *the price* of art is charged (Hutter, 2010, p. 243). Thus, "it is the nature of these twin concepts of value, how they are formed and how they relate or do not relate to each other, that needs to be investigated" (Hutter & Throsby, 2007, p. 1). This thesis uses the term price synonymous for the hammer price obtained for a work of art at auction. The definition is presented in *Chapter 3.2.*

3.2 Price Formation at Art Auctions

When a work of art is consigned for auction, art experts make a valuation: They determine a high and low *price estimate*, and a *starting price*. The seller and the auction house then agree on a minimum price, known as the *reserve price*. During the auction, bids are accepted in ascending order. The highest accepted bid is the *hammer price.* The hammer price including the buyer's commission represents the *final price*.

3.2.1 Price Estimate

Prior to a sale, experts determine a *price estimate* for each artwork in a process called *valuation* or *appraisal* (Flynn, 2017, p. 5 (V)): While the term appraisal refers to an assessment of artistic quality, the term valuation refers more to financial value. It encompasses "the description, condition, authentication and value assessment processes on an object or objects prior to a sale" (ibid.). First, experts prepare a *condition report* that summarizes all available information about the artwork. Then, they use *benchmark methods* to determine a high and low estimate (Baade, 2019, p. 1; Flynn 2017, p. 60). The low estimate is usually 60-70% of a comparable artwork, called the reference sale (Ashenfelter & Graddy, 2003, p. 763; Thompson, 2010, p. 134). The average range between the high and low price estimate is 38% (Baade, 2019, p. 1).

Existing research has shown that price estimates are more or less informative of the hammer price (Ashenfelter, 1989, p. 34; Ashenfelter & Graddy, 2003, p. 764). Some scholars attribute this to an anchoring effect (Mei & Moses, 2005, p. 2421). Others

suggests that the probability of accurate valuation increases with the number of bidders (Ashenfelter, 1989, p. 26). Apparently, along with growing participation, the price approaches the true value of an object (Wilson, 1977, p. 517).

3.2.2 Starting Price

The *starting price* is the price at which an object is called up for auction (Thompson, 2010, p. 119). On average, it amounts for 80% of the price estimate.

3.2.3 Reserve Price

Based on the price estimate, a *reserve price* is agreed between the seller and the auction house (Auction, n.d., para. 2). The reserve price is never public (Flynn, 2017, p. 127). It refers to the threshold that must be exceeded by the last bid. A work of art cannot be sold at a price below the reserve price, even if the auction begins with a lower starting price. If the starting price is below the reserve price, the auctioneer conducts what is known as a "chandelier bidding" (Flynn, 2019, p. 39) and bids on behalf of the seller until the reserve price is exceeded and actual bidders enter the auction. Such fictitious bidding is also called "off the chandelier" (Thompson, 2010, p. 119) or "off the wall" (Flynn, 2017, p. 39).

3.2.4 Hammer Price

The *hammer price* represents the final accepted bid. It occurs when the artwork is "knocked down" (Thompson, 2010, p. 96), with "the fall of the hammer representing the binding contract" (Flynn, 2017, p. 21). Following Velthuis (2013, p. 80), the hammer transforms the question of value into a question of price.

3.2.5 Final Price

The buyer pays the *final price or invoice price* (Thompson, 2010, p. 96). It comprises the hammer price plus *buyer's premium*. The *buyer's premium* refers to a percentage of the hammer price plus taxes (Flynn, 2017, p. 33).[2] The percentage of buyer's premium varies by source and auction house. The higher the hammer price, the lower the percentage. According to Ashenfelter & Graddy (2003), the buyer's premium accounts

[2] The *seller's commission*, on the other hand, refers to the share that the auction house retains from the hammer price. It amounts to 10-20% of the hammer price (Ashenfelter & Graddy, 2003; Thompson, 2010, p. 100).

for between 10 and 17.5%. Following Thompson (2010, pp. 100), it can be as high as 25%. In some cases, additional fees are charged, such as the artist's resale right (or 'droit de suite'[3]) (ibid., p. 55).

Buyer's premium and seller's commission are the most important sources of auction house revenue. The seller's commission also represents bargaining power (Flynn, 2017, p. 153). Similarly, auction houses attract consignments by reducing or waiving this share (Ashenfelter, 2018, p. 27; Thompson, 2010, p. 102)[4].

3.2.6 Buy-Ins

The probability of selling an artwork increases with the number of bidders (Ashenfelter, 1989, p. 26). An object remains unsold if no bidders are interested in buying it or if no bids exceed the agreed-upon reserve price (Ashenfelter, 1989, p. 26; Flynn, 2017, p. 28). In this case, the artworks are "bought in" (Flynn, 2017, p. 28). They remain in the possession of the consigner and are offered at a fixed price during the post-sale. If an object remains unsold, it "must be inventoried, capital is tied up, and additional sales must be conducted" (Engelbrecht-Wiggans, 1980, p. 136). Unsold artworks are considered "burned" (Thompson, 2010, p. 120). In other words, the likelihood of resale decreases.

[3] The "artist resale right" (Flynn, 2017, p. 53), according to which artists (or their descendants) profit from resales until 70 years after the artist's death.
[4] In 2000, a lawsuit was ruled against *Sotheby's* and *Christie's*. The auction houses had agreed not to negotiate premiums and were convicted for "price-fixing" (Thompson, 2010, p. 97).

4 *Study 1:* Systematic Literature Review

Chapter 4 presents a systematic literature review of 100 top-ranked journal publications on price determinants at art auctions. This study is descriptive in nature. The author summarizes existing research and identifies research gaps and contradictory findings. She formulates managerial implications and calls for future research. The study has three objectives: It provides the theoretical foundation for the thesis, inspires the interview guideline for *Study 2,* and serves as basis for a publishable, standalone review. *Chapter 4* is divided into four subchapters: *4.1 Method* presents the review methodology. A scoping study demonstrates the need for a full and systematic review. Thus, Okoli's (2015) *Systematic Guide to Literature Review Development* is described and implemented. *4.2 Results* presents the findings. *4.3 Discussion* reviews the findings. *4.4 Conclusion* outlines the contribution, identifies limitations, and formulates theoretical and practical implications.

4.1 Method

A literature review is the starting point of any scientific progress. Literature reviews are vital for the creation of new theory. They increase the understanding of a research topic and uncover research problems and gaps by synthesizing and (re-)combining existing knowledge (vom Brocke, Simons, Niehaves, Niehaves, Riemer, Plattfaut & Cleven's, 2009, p. 2215; vom Brocke, Simons, Riemer, Niehaves, Plattfaut & Cleven, 2015, p. 206). Following Wolfswinkel, Furtmueller & Wilderom (2013), "a thorough, solidly documented and well-argued literature review is pivotal for scientific innovation" (p. 46).

4.1.1 Scoping Study

There are different types of literature reviews, like meta-analysis, systematic or narrative review, review synthesis, or scoping study (Arksey & O'Malley, 2005, p. 20). According to Arksey & O'Malley (2005), a scoping study is a technique "to map *rapidly* the key concepts underpinning a research area and the main sources and types of evidence available" (ibid.). This scoping study was conducted as part of the preliminary study. It gives an initial idea about the size and nature of the research field, and its degree of interdisciplinarity and fragmentation. The findings are presented here shortly because they demonstrate the need for the following full and systematic review.

Scoping studies usually address broad research questions and vary in depth. They can have four purposes (ibid., pp. 22): examine the scope of the research field, demonstrate the need for a systematic review, identify research gaps, and summarize research. This scoping study examines the scope of the research field and demonstrates the need for a full systematic review. It is "one part of an ongoing process of reviewing, the ultimate aim of which is to produce a full systematic review" (ibid.). The study is based on Arksey & O'Malley's (ibid.) framework structured in five stages:

1. *Identifying the research question:* Arksey & O'Malley (2005) suggest to "maintain a wide approach in order to generate breadth of coverage" (p. 23). Hence, the initial literature search is conducted for art prices on the primary and secondary art market. The research question is a broader version of RQ1: *Which factors influence art prices?*

2. *Identifying relevant studies:* The author searches electronic databases, references, and key journals to identify relevant studies.

3. *Selecting studies:* Without applying specific in- or exclusion criteria, she identifies 82 studies about art prices based on their contribution to the research question.

4. *Charting data:* Charting is "a technique for synthesizing and interpreting qualitative data by sifting, charting and sorting material according to key issues and themes" (ibid., p. 26). It requires an analytical framework and resembles the data extraction in systematic reviews. The author charts data in Excel and extracts information on definitions, research design, past research, research question, theory, claims/hypotheses, results, and future research.

5. *Collating, summarizing, and reporting the results:* The results are shown as follows.

In short, the results show that researchers study a variety of price-determining factors including artistic aspects like color intensity (Pownall & Graddy, 2016), social aspects like status and networks (Dass et al., 2014; Shin et al., 2014), psychological aspects like physical arousal (Adam et al., 2019; Kliger et al., 2015; Ku et al., 2005), behavioral aspects like time pressure, competition, and gaming (Adam et al., 2015; De Silva et al., 2012; Erhart, Ott & Abele, 2015; Malhotra, 2010), technological aspects like online bidding (Goldberg et al., 2001; Lee et al., 2009), and financial aspects like price types

and art investment (Etro & Stepanova, 2016; Galenson, 2018; Marinelli & Palomba, 2011; McQuillan & Lucey, 2016).

The scoping study demonstrates the interdisciplinarity and fragmentation of the research field. It maps the breadth and nature of the literature including key research streams. However, "in favour of the effectiveness" (Arksey & O'Malley, 2005, p. 30), it does not provide a synthesis. Also, and contrary to a systematic literature review, the quality of the literature is not assessed (ibid., p. 20). The limitation of the scoping study is that it "does not seek to assess quality of evidence and consequently cannot determine whether particular studies provide robust or generalizable findings" (ibid., p. 27). A systematic literature review is conducted to synthesize the literature and assess the quality of the findings.

4.1.2 Systematic Literature Review

According to Fink (2014), "[a] research literature review is a systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners" (pp. 3). Following this definition, a literature review is *systematic* if it follows a methodology, it is *explicit* if the review process is transparent, and it is *reproducible*, if other researchers can replicate the review.

The main difference between narrative and systematic reviews is the scope and rigor (vom Brocke et al., 2015, p. 207): *Narrative literature reviews* (NLRs) are textual summaries. They provide a *descriptive synthesis* of the literature (Tate, Furtmueller, Evermann & Bandara, 2015, p. 104), discuss and tabulate references, and identify relations (e.g., regarding method or content) (Okoli, 2015, p. 900). Yet, NLRs lack systematization. They are guided by the researcher's practical experience and often neglect rigor, standardization, context awareness and transparent sense-making. NLRs are prone to subjectivity and researcher bias (Tate et al., 2015, p. 104; Tranfield, Denyer & Smart, 2003, p. 219). They are criticized for "adopting a fiction of objectivity and universal coverage but, in fact, presenting a biased and personal selection" (Tate et al., 2015, p. 104).

Systematic literature reviews (SLRs) are guided by specific research questions and follow methodological guidelines (Arksey & O'Malley, 2005, p. 20; vom Brocke et al.,

2015, p. 208). They provide a *full synthesis* of the literature and follow „high standards in terms of protection against bias and (…) quality assessment“ (Arksey & O'Malley, 2005, p. 20). This includes the summary, description, *and* integration of underlying concepts (vom Brocke et al., 2015, p. 209). According to Rousseau, Manning & Denyer (2008, pp. 9), „[s]ystematic means comprehensive accumulation, transparent analysis, and reflective interpretation of all empirical studies pertinent to a specific question“ (pp. 9). SLRs are the second most rigorous review method after meta-analysis, which uses statistical methods to integrate quantitative studies (Fink, 2014, p. 227). They demonstrate research quality and prevent researcher bias (Tate et al., 2015, p. 104).

A SLR is a time-consuming, costly, and "ambitious literature review" (Okoli, 2015, p. 883). It is especially challenging in an interdisciplinary field (Webster & Watson, 2002, p. xiii) and can be a "Sisyphean task" (vom Brocke et al., 2009, p. 2207). Hence, it must be assured that the method is suitable: A SLR is not suitable if only few studies or similar SLRs exist (Okoli, 2015, p. 883). Contrary, it is suitable for analyzing and synthesizing mature, or for demonstrating emerging research fields (Tranfield et al., 2003, p. 214; Webster & Watson, 2002, p. xiv). The research question should neither be too specific, nor too vague (Okoli, 2015, p. 883). Likewise, "a good review must be a richly competent coverage of a well-carved out niche in the literature" (Wolfswinkel et al., 2013, p. 47). This niche must be justified and limitations regarding research field, analysis, and audience must be formulated (Webster & Watson, 2002, p. xvi).

Upon completion, the quality of the review must be evaluated. Traditional evaluation criteria are reliability and validity (vom Brocke et al., 2009, p. 2208). Following Fink (2014), "[a] study's validity depends on the rigor of its methods, including research design, sampling, data collection, and analysis" (p. 148). In other words, a review is valid if the reviewer searches right (vom Brocke et al., 2009, p. 2208). This involves decisions about databases, keywords, and searches. Following Fink (2014), "[a] reliable review is one that consistently provides the same information about methods and content from time to time from one person ('within') and among several ('across') reviewers" (p. 166). In short, a review is reliable if it can be replicated (vom Brocke et al., 2009, p. 2208). Beyond validity and reliability, seven specific criteria by Webster & Watson (2002, p. xxi) are used to assess the quality of this review (see *Chapter 4.4.2*).

Concluding, the advantages of a high-quality SLR are threefold:

1. *A SLR presents a complete and unbiased search* (Tranfield et al., 2003, p. 215; Webster & Watson, 2002, pp. xv). Complete means "saturated" (Wolfswinkel et al., 2013, p. 47). A review is saturated if additional searches do not yield additional, or only irrelevant findings (vom Brocke et al., 2015, pp. 211). To assess the saturation and relevance of the findings, an understanding of the subject is key (ibid., p. 212).

2. *A SLR provides a scholarly contribution* (Okoli, 2015, p. 883). It closes and uncovers research gaps and promotes theory building (vom Brocke et al., 2015, p. 206; Webster & Watson, 2002, p. xiii).

3. *A SLR serves practice and/or policymaking* (Tranfield et al., 2003, p. 207). By addressing academics and practitioners it provides theoretical and practical contribution (ibid., p. 220).

4.1.3 Guideline & Implementation

The need for this SLR and the suitability of the research project are confirmed during the scoping study. They are reinforced by the fact that academic rigor has gained in importance over the last 30 years: due to increasing amounts of publications, availability of information, and online access (Wolfswinkel et al., 2013, p. 46). Today, "our technical capacities to publish, distribute, find, and retrieve research information have outgrown our individual ability to read, evaluate, understand, and synthesize" (vom Brocke et al., 2015, p. 206). This has shifted the research challenge from data collection to data interpretation (ibid.).

Okoli (2015, pp. 903) found that most dissertation literature reviews are criticized for lack of rigor and quality. Based on 23 high-quality SLRs in Information and Management Research, he developed a guideline that is "sufficiently rigorously to satisfy the demands of a dissertation proposal and (…) sufficiently rigorous and structured to be published as a standalone review" (ibid., p. 904). The resulting *Systematic Guide to Literature Review Development* by Okoli (2015) is chosen due to three reasons: It combines the benefits of different guidelines, provides structured guidance in eight steps, and aims at a strong theoretical contribution. The latter justifies the required time and cost (ibid., p. 882). *Figure 2* shows the guideline by Okoli (2015).

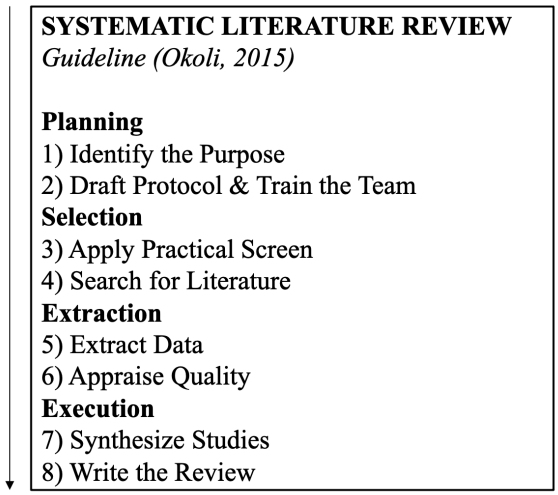

Figure 2: Systematic Literature Review Guideline (Source: Own illustration based on Okoli, 2015, p. 885).

4.1.3.1 Step 1: Identify the Purpose

Defining the purpose of the SLR is an indispensable first step (Okoli, 2015, p. 887-888). It starts with the definition of the dissemination target. Dissemination targets are academic publications, practitioner journals, websites, policy, and/or practice. Here, the primary target is an academic publication. Secondarily, the review informs practice. Based on the dissemination target, the purpose of the review is defined. Literature reviews pursue one or several purposes (Tate et al., 2015, p. 105). Out of the six purposes listed by Okoli (2015, pp. 887), this review primarily intends "[t]o develop a model or framework" (p. 888). Secondarily, it aims "[t]o answer a specific research question" (ibid.), and "[t]o make recommendations for future research" (ibid.).

4.1.3.2 Step 2: Draft Protocol (and Train the Team)

The second step includes formulating the research question, drafting a search protocol, and (if applicable) training the team (Okoli, 2015, pp. 888-891). The research question is:

Research Question 1 (RQ1): *Which factors influence prices at art auctions?*

The protocol is essential for the quality of the review. It includes information about the *scope of the review,* the *search locations,* the *preconditions for in- or exclusion,* and *the*

major keywords (ibid., p. 889): The *scope of the review* concerns the process, sources, coverage, and technique (vom Brocke et al., 2015, p. 214). With the goal of bridging between disciplines, and synthesizing as well as extending the literature, the scope of this review is broad (see *Table 4* in the Appendix for the review scope framework). Following Scaringella & Radziwon (2018, p. 60), the database *Web of Science (WoS)* is defined as *search location* because of its limitation to high-quality publications. The *criteria for in- and exclusion* (Tranfield et al., 2003, p. 214) are defined based on Cooper's (1988, pp. 108) taxonomy (see *Figure 24* in the Appendix). One or more categories are selected for each of the six characteristics: *focus, goal, perspective, coverage, organization,* and *audience* (see *Table 5* in the Appendix for the resulting taxonomy). A thorough documentation of the in- and exclusion process is "proof of credibility" (vom Brocke et al., 2009, p. 2207):

1. *Focus* concerns "the material that is of central interest to the reviewer" (ibid., p. 108): outcomes, methods, theories and/or practices/applications. This review focuses on the research theories and outcomes related to auction price determinants, as well as art valuation practices and applications that consider price determinants.

2. *Goal* describes the intention of the review: integration, criticism, and/or identification of central issues. The primary goal of this review is to integrate the literature. On this basis, managerial implications and avenues for future research are identified.

3. *Perspective* reflects the role of the researcher who a) neutrally represents the literature, or b) emphasizes a certain perspective. This review aims at neutral representation.

4. *Coverage* defines the breadth of the review: exhaustive, exhaustive with selective citation, representative, or central/pivotal. Following vom Brocke et al. (2009, p. 2212), coverage is the most important category. Here, the goal is exhaustive coverage.

5. *Organization* refers to the structure of the literature review: historical, conceptual, or methodological. Here, the findings are organized conceptually.

6. *Audience* reflects the target audience(s) and affects the language of the review: specialized or general researchers, practitioners, policy makers, and/or the public. Here, the target audience includes all four categories: specialized art market scholars, more general marketing and pricing scholars, art market practitioners, and the public, e.g., art lovers and collectors. Due to the dissemination target, the priority lies on scholars.

Finally, the *major keywords* are defined: art, artist, artwork, artistic, auction, auctioning, price, and pricing. The key search terms are art*, auction*, and pric*. In this step, an understanding of the research subject is beneficial (vom Brocke et al., 2015, p. 215).

4.1.3.3 Step 3: Apply Practical Screen

Step three is limiting the sources to a manageable, yet sufficiently comprehensive, literature body (Okoli, 2015, p. 891-893). This step is independent of the quality of the sources, but is based on predefined conditions (Fink, 2014, pp. 90; Okoli, 2015, p. 891). Fink (2014, pp. 51) lists 13 criteria – publication language, journal, author, setting, participants or subjects, program/intervention, research design, sampling, date of publication, date of data collection, duration of data collection, content, and financial support – and states that topic, language, and publication outlet are key. Instead of publication outlet, seven document types are defined here (Tranfield et al., 2003, p. 215). The inclusion criteria for the exhaustive review are:

1. *Publication language:* English
2. *Topic:* Price Determinants in the Secondary Art Market
3. *Document types:* Article, Proceedings Paper, Correction, Book Chapter, Early Access, Review, and Book.

4.1.3.4 Step 4: Search for Literature

Step four is the actual search (Okoli, 2015, p. 893-895). The *initial search* includes screening leading journals and tables of content, as well as database and keyword search. Missing sources are identified by checking the citations of selected articles (*backward search*) and by identifying additional sources that cite the selected articles (*forward search*) (ibid., p. 894, Webster & Watson, 2002, p. xvi). The in- and exclusion process is documented (Tranfield et al., p. 215). The search is complete when no new or only irrelevant sources are found (Okoli, 2015, p. 895).

This search is conducted in sequential order, and structured in initial, backward and hand search: The *initial search* starts with a topic search to get an idea of the sample size. An asterisk (*) is added to the keywords to include plurals and different word endings. The first topic search for "art* pric*" yields 35,983 results. Subsequently, the search is refined to eight categories[5], six document types, and English language. This search yields 9,220 results. However, the findings include many irrelevant findings, for example, from 'Health Care' and 'Environmental Research'. To understand the irrelevant findings and improve the search, the abstracts of the first 100 articles are studied. Interestingly, only eight of 100 articles are related to art. 92 articles relate to the terms article (81), artificial (8), state-of-the-art (2), and artifact (1). Guided by these findings, a second topic search is conducted. The topic search for "art* auction* pric*" yields 882 results. Two Boolean operators are applied: "AND" is used to link the keywords "art*" and "price*" and "auction*". "NOT" is used to exclude the irrelevant search results article*, artificial*, state-of-the-art*, artifact*, and artefact* (British English). The resulting sample size of 201 articles is assessed in detail.

The function 'Analyze Results' charts the sample distribution across *WoS* categories: The ten largest categories are Economics, Business Finance, Management, Business, Social Sciences Mathematical Methods, Operations Research Management Science, Statistics Probability, Art, Computer Science, Artificial Intelligence, and Law (see *Figure 25 & 26 in the Appendix*).[6] The citation report shows that the sample has a *h*-index of 29, and a total of 3,010 citations with 14.98 citations per item on average (see *Figure 27* in the Appendix). The graph 'Total Publications' illustrates the constant growth of the research field increasing publication numbers from 1990 to 2021 (with slight decreases in 2008, 2010, and 2017). To identify missing sources, an additional *backward search* and *hand search* are performed. The *backward search* identifies 129 additional articles, and the *hand search* identifies 27 additional articles. A sufficient degree of saturation is confirmed after several searches do not yield additional, relevant findings. In total, 357 articles are extracted and screened in *Step 5*.

[5] Art, Cultural Theory, Economics, Management, Business, Business Finance, Sociology, and Social Sciences Interdisciplinary

[6] With 131 articles, Economics is most represented followed by Business Finance (20), Management (16), and Business (14). Surprisingly, Art is in eighth place with only 8 counts.

4.1.3.5 Step 5: Extract Data

Step five is data extraction (Okoli, 2015, p. 895). In this step, relevant information to answer the research question is extracted from the literature. A computer system is recommended to manage the references (Tranfield et al., 2003, p. 215). Here, the references are managed in *Mendeley* and the relevant information is extracted in *Excel*.

4.1.3.6 Step 6: Appraise Quality

During step six, the quality of the literature is appraised in two stages (Okoli, 2015, p. 896-898). First, methodological quality is appraised (Fink, 2014, p. 91)[7]: Management research typically uses journal rankings to assure objectivity (Tranfield et al., 2003, p. 216). Here, the *SCIMAGO* ranking is used to reduce the sample from 357 to 260 articles ranked Q1 or Q2. Second, the relevance of the articles and the saturation of the review are assessed (ibid., p. 216). Relevance is assessed during title and abstract check. In this step, again, the author's understanding of the research subject is beneficial (vom Brocke et al., 2015, p. 212): She excludes 28 articles during title check, and 129 articles during abstract check. The remaining sample consists of 117 articles (search total), which are studied in-depth. For the last time, 17 articles are excluded. The final sample consists of 100 primary articles. The full appraisal is documented in a separate *Excel* file (Scaringella & Radziwon, 2018, p. 61; Tranfield et al., 2003, p. 216; vom Brocke et al., 2009, p. 2214). The search process is summarized in *Figure 28* in the Appendix.

4.1.3.7 Step 7: Synthesize Studies

During step seven, the literature is analyzed, synthesized, and prepared for the written review (Okoli, 2015, p. 899-901). Following Rousseau et al. (2008), "synthesis is the systematic accumulation, analysis and reflective interpretation of the full body of relevant empirical evidence related to a question" (p. 3). A synthesis describes existing research, underlines the need for and role of additional research, explains the findings, and assesses (methodological) research quality (Fink, 2014, p. 190). Tranfield et al. (2003, pp. 218) divide the synthesis in two stages: descriptive and thematic analysis.

[7] *Quantitative studies* are evaluated based on statistical significance indicators like construct and internal validity, effect size, generalizability, intervention compliance and contextualization (Rousseau et al., 2008, pp. 13). *Qualitative studies* are evaluated based on theoretical adequacy, sampling strategy or data quality (Tranfield et al., 2003, p. 216).

The quality of a *descriptive synthesis* is based on the expert knowledge and critical reflexivity of the researcher (Fink, 2014, p. 199). For full synthesis, a *thematic analysis* is required to identify patterns and key concepts (Rousseau et al., 2008, p. 11; Tranfield et al., 2003, p. 219; Webster & Watson, 2002, p. xviii).

Webster & Watson (2002, pp. xv) suggest creating a concept matrix (p. xvii), that can be augmented with additional units of analysis (see *Figure 29* and *30* in the Appendix). While author-centric reviews often only provide a summary, concept-focus is a precondition for successful synthesis (ibid., pp. xvi): The concept-centric approach enables the author to identify patterns and key concepts in the literature, to provide a full synthesis, and to visualize the synthesis in a concept matrix. The matrix provides the basis of the conceptual framework.

4.1.3.8 Step 8: Write the Review

The final step is writing the review (Okoli, 2015, p. 901-902). It includes highlighting novel, extraordinary or contradictory findings and formulating avenues for future research.

4.2 Results

This subchapter presents the results of *Study 1.* It is divided in two parts: A descriptive analysis, and a synthesis and interpretation of the findings.

4.2.1 Descriptive Analysis

This section analyzes the sample and introduces the thematic concepts and units of analysis.

• *Publishing Journals:* The sample includes 100 primary publications from 43 high-ranked top journals. The *Journal of Cultural Economics* is the most represented with 12 articles, followed by the *Journal of Economic Behavior & Organization* (5), the *American Economic Review* (4), and the *European Economic Review* (4). 32 articles are represented only once in the sample, e.g., the *Journal of Retailing*, *Empirical Studies of the Arts,* the *British Journal of Sociology,* or *Color Research and Application*. This again shows how interdisciplinary and fragmented the research field is.

• *Publication Dates:* The publication dates range from 1974 to 2021, with 13 articles between 1974 and 1999, 26 between 2000 and 2009, 61 between 2010 and 2019, and seven between 2020 and 2021. This development demonstrates an increasing research interest in auction prices with significant growth since 2000. The temporal distribution shows that 87% of the articles were published since 2000, and 68% since 2010.

• *Research Design:* 91 articles use a quantitative research design, followed by six articles with a conceptual and three articles with a qualitative research design.

• *Research Focus:* Many articles focus on the impact of characteristics related to the artist or the artwork, as well as the auction mechanism and concept, on auction prices. Fewer articles examine the influence of the bidder(s), followed by the auction house, the art market, and external factors. Only two articles study the role of the auctioneer.

• *Concepts & Units of Analysis:* Eight overarching concepts are identified in the literature: *The Artist, The Artwork, The Art market, The Auction House, The Auction, The Auctioneer, The Bidder(s),* and *External Factors.* 16 additional units of analysis are defined for five concepts. Due to insufficient literature or lack of differentiation, no additional units are defined for the remaining concepts. *Figure 3* shows the concepts and units of analysis:

SYSTEMATIC LITERATURE REVIEW
8 Concepts incl. 16 Additional Units of Analysis

1) The Artist (Identity, Ability, Style, and Career)
2) The Artwork (Dating, Physical, Art-Historical, and Sale Characteristics)
3) The Art Market
4) The Auction House
5) The Auction (Price Mechanism, and Auction Concept)
6) The Auctioneer
7) The Bidder(s) (Individual Bidder, and Interaction Between Bidders)
8) External Factors (Economy, Law, Politics, and Environment)

Figure 3: Eight Concepts incl. 16 Units of Analysis (Source: Own illustration).

Figure 4 & 5 on the following two pages show the resulting concept matrix.

CITATION	THE ARTIST				THE ARTWORK				THE ART MARKET
	Identity	Ability	Style	Career	Dating Characteristics	Physical Characteristics	Art-Historical Characteristics	Sale Characteristics	No Specification [-]
Agnello (2010)	X								
Alnahedi & Sakr (2020)	X								
Anderson (1974)	X			X		X		X	
Ashenfelter (1989)									
Ashenfelter & Graddy (2003)								X	
Ashenfelter & Graddy (2011)								X	X
Asmar & Guijarro (2007)	X					X			
Bantemghamsa & Graddy (2011)									
Bayer, Page, Raviv, & Rosett (2	X	X		X		X			
Beckert & Rössel (2013)				X		X	X		
Beggs & Graddy (1997)									
Beggs & Graddy (2008)								X	
Beggs & Graddy (2009)								X	
Bennett & Kottasz (2013)									
Bocart, Gertsberg & Pownall (20	X								
Bonus & Ronte (1997)				X					X
Bruno, Garcia-Appendini & Noc									
Cameron, Goetzmann & Nozari (	X								
Campos & Barbosa (2009)				X		X	X		
Candela & Scorcu (2001)						X			
Chanel (1995)									
Charlin & Cifuentes (2021)						X			
Cinelli, Gunty, Milbelli & Pérez (					X	X	X	X	
Coslor (2016)						X	X	X	
Czujack (1997)	X				X	X	X	X	
D'Souza & Prentice (2002)						X		X	
Dass, Reddy & Iacobucci (2014									
De Silva, Pownall & Wolk (201									
Ekelund, Ressler & Watson (200	X								
Etro & Pagani (2012)	X					X			
Etro & Pagani (2013)				X		X		X	
Etro & Stepanova (2015)						X		X	
Etro & Stepanova (2018)		X		X					
Etro & Stepanova (2021)					X			X	
Farrell, Fry, & Fry (2018)	X							X	
Farrell, Fry & Fry (2021)	X		X						
Fedderke & Li (2020)	X				X	X		X	
Førsund & Zanola (2006)									
Førsund & Zanola (2006)									
Galbraith & Hodgson (2015)	X								
Galenson (2018)	X	X							
Galenson & Lenzu (2016)	X	X							
Galenson (2000)	X	X							
Galenson & Weinberg (2000)	X	X							
Geisma (2001)									
Gerard-Varet (1995)									
Ginsburgh & Jeanfils (1995)									X
Ginsburgh, Rademecker & Tom							X		X
Goetzmann & Spiegel (1995)									
Goetzmann, Rennebourg & Spae									
Graddy & Hamilton (2017)									
Graddy & Hamilton (2019)									
Graddy & Lieberman (2018)		X							
Heath & Luff (2007)									
Hellmanzik (2010)	X			X					
Hellmanzik (2013)									
Hellmanzik (2016)							X		X
Hernando & Campo (2017)	X								
Higgs & Forster (2014)						X			X
Highfill & O'Brien (2007)									
Himki, Ito, Spieth & Takezawa (									X
Hodgson (2011b)	X								
Hodgson & Hellmanzik (2019)	X		X						
Hong, Kremer, Kubik, Mei & Mc									
Hutter, Knebel, Pietzner & Schae									
Ilnya & Ursprung (2016)	X								
Kazumori & McMillan (2005)									
Kluger, Raviv, Rosett, Bayer & F									
Ku, Malhotra & Murnighan (200									
Lazzaro (2006)							X		
Mandel (2009)							X	X	
Marinelli & Palomba (2011)	X					X	X	X	
McQuillan & Lucey (2016)									
Mossetto (1994)									X
Nahm (2010)	X			X		X			
Newman & Bloom (2012)						X			
Ozakowski (2020)						X	X		
Onofri (2009)									
Oosterlinck & Rademecker (201	X								
Palanca-Tan & Santiago (2018)									
Pesando (1993)							X		
Pesando & Shum (2007)									
Pesando & Shum (2008)									
Pommerehne & Feld (1997)									X
Pownall & Graddy (2016)						X			
Pownall, Satchell & Srivastava (									
Preece, Kerrigan & O'Reilly (201									X
Reddy & Dass (2006)				X		X		X	
Renneboog & Spaenjers (2013)			X			X			X
Sagoff (1981)							X		
Scorcu & Zanola (2011)								X	
Shi, Xu, Wang & Conroy (2017								X	
Spaenjers, Goetzmann & Mamon									
Stepanova (2019)	X					X			
Taylor & Coleman (2011)	X					X			
Teti, Galli & Sacco (2014)						X		X	X
Ursprung & Wiermann (2011)	X			X			X		
Wang & Zheng (2017)	X			X		X			
Weinberg & Gennser (2000)		X							
Zhou (2017)	X					X			

Figure 4: Concept Matrix (Part I: The Artist – The Art Market) (Source: Own illustration).

CITATION	THE AUCTION HOUSE	THE AUCTION		THE AUCTIONEER	THE BIDDER(S)		EXTERNAL FACTORS			
	No Specification [-]	Price Mechanism	Auction Concept	No Specification [-]	Individual	Interaction	Economy	Law	Politics	Environment
Agnello (2010)										
Alnuhced & Sakr (2020)										
Anderson (1974)										
Ashenfelter (1989)		X								
Ashenfelter & Graddy (2003)		X								
Ashenfelter & Graddy (2011)										
Aznar & Guijarro (2007)										
Bantemghamsa & Graddy (2011)								X		
Bayer, Page, Raviv, & Rosett (2										
Beckert & Rössel (2013)						X				
Beggs & Graddy (1997)			X							
Beggs & Graddy (2008)		X								
Beggs & Graddy (2009)		X								
Bennett & Kottasz (2013)					X					
Bocart, Gentzberg & Pownall (20										
Bonus & Ronte (1997)										
Bruno, Garcia-Appendini & Noc	X									
Cameron, Goetzmann & Nozari (										
Campos & Barbosa (2009)		X							X	
Candela & Scorcu (2001)										
Chanel (1995)							X			
Charlin & Cifuentes (2021)										
Cinelis, Ginsy, Milvelli & Pérez (	X		X				X			
Coslor (2016)					X					
Czujack (1997)		X								
D'Souza & Prentice (2002)				X						
Dass, Reddy & Iacobucci (2014						X				
De Silva, Pownall & Wolk (201		X			X					X
Ekelund, Ressler & Watson (200		X								
Eito & Pagani (2012)										
Eito & Pagani (2013)										
Eito & Stepanova (2015)		X			X					
Eito & Stepanova (2018)										
Eito & Stepanova (2021)		X								
Farrell, Fry, & Fry (2018)	X		X							
Farrell, Fry & Fry (2021)										
Folderke & Li (2020)										
Førsund & Zanola (2006)	X									
Førsund & Zanola (2006)	X									
Galbraith & Hodgson (2015)										
Galenson (2018)										
Galenson & Lenzu (2016)		X								
Galenson (2000)										
Galenson & Weinberg (2000)										
Geismar (2001)		X								
Gerard-Varet (1995)					X					
Ginsburgh & Jeanfils (1995)										
Ginsburgh, Rademecker & Tom										
Goetzmann & Spiegel (1995)		X			X	X				
Goetzmann, Renneboog & Spae							X			
Graddy & Hamilton (2017)		X								
Graddy & Hamilton (2019)		X								
Graddy & Lieberman (2018)										
Heath & Luff (2007)				X		X				
Hellmanzik (2010)										
Hellmanzik (2013)									X	
Hellmanzik (2016)		X								
Hernando & Campo (2017)										
Higgs & Forster (2014)										
Highfill & O'Brien (2007)						X				
Hiraki, Ito, Spoth & Takezawa (							X			
Hodgson (2011b)										
Hodgson & Hellmanzik (2019)										
Hong, Kremer, Kubik, Mei & Mc	X	X								
Hutter, Knebel, Pietzner & Schae					X	X				
Itaya & Ursprung (2016)		X								
Kazumori & McMillan (2005)			X							
Kliger, Raviv, Rosett, Bayer & F										X
Ku, Malhotra & Murnighan (200						X				
Lazzaro (2006)										
Mandel (2009)					X					
Marinelli & Palomba (2011)	X	X								
McQuillan & Lucey (2016)							X		X	
Mossetto (1994)										
Nahm (2010)		X								
Newman & Bloom (2012)										
Ozdkowski (2020)										
Onofri (2009)								X		
Oosterlinck & Rademecker (201										
Palanca-Tan & Santiago (2018)							X			
Pesando (1993)	X	X								
Pesando & Shum (2007)		X			X					
Pesando & Shum (2008)	X	X								
Pommerehne & Feld (1997)										
Pownall & Graddy (2016)										
Pownall, Satchell & Srivastava (							X			
Preece, Kerrigan & O'Reilly (201										
Reddy & Dass (2006)			X							
Renneboog & Spaenjers (2013)							X			
Sagoff (1981)										
Scorcu & Zanola (2011)		X								
Shi, Xu, Wang & Conroy (2017										
Spaenjers, Goetzmann & Mamon	X				X					
Stepanova (2019)										
Taylor & Coleman (2011)	X	X	X							
Teti, Galli & Sacco (2014)		X								
Ursprung & Wiermann (2011)		X								
Wang & Zheng (2017)	X									
Wijnberg & Gemser (2000)										
Zhou (2017)										

Figure 5: Concept Matrix (Part II: The Auction House – External Factors) (Source: Own illustration).

4.2.2 Content Analysis

The findings of the concept matrix are synthesized and interpreted as follows. The author follows the approach by Scaringella & Radziwon (2018, p. 59), who first present key concepts, then identify the underlying theories and invariants in the literature.

4.2.2.1 The Artist

The literature studies eleven factors in four units of analysis.

THE ARTIST
11 Factors in 4 Units of Analysis

1) Identity: Name, Race, Gender, Age, Death, Life Circumstances
2) Ability: Ability
3) Style: Sector, Movement
4) Career: Work Location, Reputation

1) Identity

1. Name

Fedderke & Li (2020) investigate price determinants in auction sales of South African Art in Africa between 2009 and 2014. They find a significant impact of the disclosure of the artist's identity on prices. *Marinelli & Palomba (2011)* model Italian painting prices and identify the name as relevant price determinant. More precisely, *Etro & Stepanova (2015)* examine bidding strategies and price determinants at Parisian art auctions from mid the 18th to the mid 19th Century. Their results show a significant negative impact of artist's anonymity on prices. Similarly, *Oosterlinck & Radermecker (2019)* study the impact of anonymous artist's provisional brand names on prices. They find a positive influence of "Master of …."-names on prices attributed to name recognition, artist's status, market visibility, and name category (e.g., saints, religions, locations). *Hernando & Campo (2017)* study the influence of the artist's name on collectors' willingness-to-pay. They find a significantly higher willingness-to-pay for artworks with name indication, attributed to the brand equity of names. With the same justification, they find a significantly higher willingness-to-pay for works by younger artists without name indication. *Taylor & Coleman (2011)* study the investment performance and price determinants of Aboriginal art. The authors attribute price premia to specific artist's names.

2. Race

Agnello (2010) examines paintings prices for African American artists born before World War II. He finds significantly lower prices and price averages (but higher appreciation) for African American painters attributed to the negative impact of race. Similarly, *Alrasheed & Sakr (2020)* find lower prices for works by Arabian artists on the international art market.

3. Gender

Alrasheed & Sakr (2020) study the status of female Arabian artists in the 20th and 21th Century. They use price as a measure of status and find lower evaluation of female artists in the global art market. *Bocart, Gertsberg & Pownall (2021)* analyze prices and price developments. They find significant price differences for female artists (lower average prices in Contemporary art and in the top price segment over $1 million) attributed to differences in gender-related artistic characteristics. *Cameron, Goetzmann & Nozari (2019)* investigate the role of gender for prices of *Yale School of Art* graduates. They show a significantly lower number of auction sales by female graduates, but higher price averages attributed to direct (networks) or indirect (cultural norms) institutional barriers. This points to a 'higher bar' hypothesis for women. *Farrell, Fry & Fry (2021)* analyze the role of gender on prices for Australian Indigenous artists. They find lower prices for male artists and attribute the "gender hammer price gap" (ibid., p. 10) to gender-specific art types and buyer preference for works by female artists.

4. Age

Marinelli & Palomba (2011) identify the birth year of an artist as relevant price determinant. *Bayer, Page, Raviv & Rosett (2013)* analyze the relationship between artist's age (as measure of human capital) and artwork quality (as measured by prices). They find that artwork quality increases with age (due to an increase in human capital) and decreases after a peak. The age-quality profile is an inverted U-shape with (higher) concavity depending on (higher) ability and education, and a flatter U-shape in case of patronage. *Czujack (1997)* quantifies the influence of artwork characteristics on prices for Picasso paintings. She finds that prices are highest when created during Picasso's youth (see *Rarity Effect*) and further increased after his death (see *Death Effect*).

Similarly, *Fedderki & Li (2020)* mention that age, as "proxy for quantity of output (…) is negatively associated with the price of each specific artwork" (p. 95).

Galenson (2018), Galenson & Lenzu (2016), Galenson (2000), and *Galenson & Weinberg (2000)* study the impact of the artist's age at creation on prices and identify two age-price profiles (Galenson's hypothesis): artists who produce the most valuable artworks early in their career (attributed to innovative capacity), and artists who produce the most valuable artworks late in their career (attributed to experience). *Galenson (2000) and Galenson & Weinberg (2000)* focus on modern American artists, *Galenson & Lenzu (2016)* on Andy Warhol and Jackson Pollock, and *Galenson (2018)* on Abstract Expressionism and Pop Art. *Galenson (2000)* identifies two age-price profiles in American art. He finds that artists born before the 1920ies produced their most valuable work late in their career, while artists who were born in the 1920ies and 1930ies produced their most valuable work early in their career. The author attributes this shift in age-price profiles to the changing nature of art from artistic experience to innovation. *Galenson (2000)* and *Galenson & Weinberg (2000)* explain that the demand shifted in the 1950ies with the emergence of Contemporary Art. *Galenson & Lenzu (2016)* identify the age-price profiles in prices for Andy Warhol and Jackson Pollock: An early age-price profile with higher prices for his early works due to conceptual innovation for Warhol and a late age-price profile with higher prices for his late works due to experimental innovation for Pollock. *Galenson (2018)* identifies the age-price profiles in Abstract Expressionism (late) versus Pop Art (early): Pop Artists obtain their highest prices due to innovations at early age, Abstract Expressionists at later age due to experience.

Several authors test the Galenson hypothesis: *Etro & Pagani (2012)* look at demand, supply, and contracts in the 17th Century Italian figurative painting market. They identify a correlation of art prices and artist's age at creation for experimental innovators, confirming the "Galenson hypothesis" (ibid., p. 425). *Fedderki & Li (2020)* confirm that certain styles have late age-price profiles due to the importance of experience. *Hodgson (2011)* studies the impact of Canadian artist's age at creation on prices. He shows different (earlier) age-price peaks for different (younger) cohorts of artists and concludes that Galenson's "hypothesis is too simplistic" (ibid., p. 304). *Hutter, Knebel, Pietzner & Schaefer (2007)* compare prices between dealer and auction markets. They find a significant difference in age-price profiles between markets.

Hellmanzik (2010) finds different age-price peaks for artists working in creative clusters like New York (2.7–3.7 years earlier) and Paris (5.8–7.0 years earlier)[8]. *Galbraith & Hodgson (2015)* refute the existence of age-price profiles in 18th century Rococo and Neoclassicism.

5. Death

Anderson (1974) analyzes investment returns and price determinants of paintings between 1780 and 1970. *Wang & Zheng (2017)* study the investment performance of Chinese oil paintings. Both studies find a significant influence of artist's living status (dead or alive) on prices. *Taylor & Coleman (2011)* find price premia for dead artists. Equally, *Marinelli & Palomba (2011)* identify artist's living status as relevant price determinant. *Nahm (2010)* investigates determinants for painting prices in the Korean auction market. He shows up to 20 times higher prices for deceased artists. *Ekelund, Ressler & Watson (2000)* study the influence of artist's death on prices. The authors identify a substantial price increase after an artist's death, followed by an immediate price decrease. They attribute this death effect[9] to buyers' assumptions about the limitation of supply. *Etro & Stepanova (2015)* confirm the death effect and identify "upward jumps [in prices] in the years after the death of the artists" (ibid., p. 48). *Itaya & Ursprung (2016)* attribute the *death effect* to changes in supply and demand: a significant death-effect (higher price) after an artist's unexpected death (with negative variation depending on age) versus no significant death-effect following an expected death (e.g., in case of illness). If death is expected, the price effect occurs during the artist's lifetime (e.g., Keith Haring). *Ursprung & Wiermann (2011)* find two effects: A positive death effect due to the restriction of supply, and a negative death effect due to the loss of expected future reputation. Together, the effects result in a hump-shaped relationship between age-at-death and price.

6. Life Events

Graddy & Lieberman (2018) study the effect of bereavement (on creativity) on prices. They find no effect on creativity but significantly lower prices in the first year after the loss.

[8] See also concept 'The Artist: Career (Work Location)'
[9] See also 'Death Effect' in concept 'The Auction: Price Mechanism (Price Effects & Biases)'

2) Ability

Etro & Stepanova (2018) study the influence of artist's talent on prices. They identify a significant power-law between artistic talent and prices. They define talent as "the ability to innovate in the production of valuable handmade objects" (ibid., p. 219) which is higher in economic environments (like Renaissance Italy) due to "economic prosperity (…), well-ruled city-states, a dynamic upper-class (…), and a well-functioning primary market" (ibid.). *Marinelli & Palomba (2011)* assess expertise as important price determinant. *Wijnberg & Gemser (2000)* find that innovation is an important component of artistic quality since Impressionism.

3) Style

1. Sector

Etro & Stepanova (2021) study investment returns of art from Old Masters to Contemporary art. They find an influence of the artist's sector on prices (highest returns for Chinese and Contemporary art versus lowest for American art and Old Masters).

2. Movement

Renneboog & Spaenjers (2013) study the price determinants and investment performance of art and identify price variation across movements. *Hodgson & Hellmanzik (2019)* investigate the impact of artists' association with artistic movements on the age-price relationship. They find a significant relation between movement association (higher if by art historians or critics, then by artists) and prices. *Etro & Stepanova (2015)* find low price differences between art schools.

4) Career

1. Work Location

Hellmanzik (2010) studies the role of the artist's work location. She finds a 'cluster premium' for paintings produced in creative clusters like Paris (11%) and New York (43%). The premium varies over time and peaks after World War II.

2. Reputation

Etro & Pagani (2013) analyze price determinants in the Venetian figurative painting market between 1550 and 1750. They find a correlation of art prices with artist's reputation. Similarly, *Anderson (1974)* suggests a dependence of prices on artist's

reputation. *Wang & Zheng (2017)* and *Nahm (2010)* confirm a significant influence of artist's reputation. *Campos & Barbosa (2009)* designate artist's reputation more important than artwork's dating and physical characteristics. *Bonus & Ronte (1997)* find artist's credibility (according to experts) relevant.

4.2.2.2 The Artwork

The literature studies nineteen factors in four units of analysis.

THE ARTWORK
19 Factors in 4 Units of Analysis

1) Dating Characteristics: Dating
2) Physical Characteristics: Size, Medium, Material, Color, Signature, Genre, Subject, Quality, Originality
3) Art-Historical Characteristics: Provenance, Publications, Exhibitions, Historical Importance
4) Sale Characteristics: Time of Sale, Place of Sale, Price Segment, Previous Prices, Sale Conditions

1) Dating Characteristics

Fedderke & Li (2020) find a significant impact of artwork's dating characteristics on prices, because "[d]ated artworks realize a premium of 21-26% over undated artworks" (p. 94). *Cinefra, Garay, Mibelli & Pérez (2019)* study price determinants of Joan Miró paintings. They identify a significant relationship between the production period and Mirò's paintings prices.

2) Physical Characteristics

Overall, *Aznar & Guijarro (2007)* divide physical characteristics in observable, quantifiable, and unobservable, difficult-to-quantify, aesthetic factors. Both are important for prices.

1. Size

Cinefra et al. (2019) demonstrate a significant relationship between artwork's size and prices. *D'Souza & Prentice (2002), Etro & Pagani (2012) and Etro & Pagani (2013)* identify correlations between artwork's size and prices for figurative paintings between the 15th and 17th century. *Anderson (1974), Etro & Stepanova (2015), Fedderke & Li (2020) Marinelli & Palomba (2011), Taylor & Coleman (2011)* and *Wang & Zheng (2017)* suggest that prices and price premia depend on artwork's size. *Czujack (1997)* finds that prices for Picasso paintings rise with dimensions. *Fedderke & Li (2020)* identify "a concave association between size and hammer price, with an implied

optimal size for two-dimensional work" (p. 94). Likewise, "[l]arger is better, though within limits" (ibid.). *Nahm (2010)* describes the impact of size as inverted U-shape with modified unit pricing. *Higgs & Forster (2014)* study the impact of dimension (size *and* orientation) on prices. They identify a strong impact with price premia for landscape orientation and deviations from the 'golden ratio'.

2. Medium

Marinelli & Palomba (2011) identify medium as important price determinant. *Teti, Galli & Sacco (2014)* study the predictability of prices and the reliability of price estimates. Like *Wang & Zheng (2017),* they confirm a statistical significance of artwork's medium for prices. *Renneboog & Spaenjers (2013)* find price variation across different media. More precisely, *Nahm (2010)* finds higher prices for acrylic, oil, mixed media, canvas, fabric, paper, and wood. *Czujack (1997)* and *Teti et al. (2014)* find price premia for oils, *Cinefra et al. (2019)* for oil paintings by Mirò. *Fedderke & Li (2020)* find the highest price premia for photography (+69%), sculpture (+61%) and oils (+60%) compared to the highest price discounts for prints (-65%) and ceramics (-143%). Only *Reddy & Dass (2006)* find no relationship between medium and prices.

3. Material

Cinefra et al. (2019) find a significant relationship between material (canvas) and Mirò's paintings prices. *Marinelli & Palomba (2011)* identify support as important price determinant.

4. Color

Charlin & Cifuentes (2021) study the impact of color (dominant color, palette, harmony, emotions) on Mark Rothko prices. They identify two price regimes: early career prices mainly depending on artist's popularity and late career prices mainly depending on dominant color and palette. *Stepanova (2019)* measures the influence of color on painting prices. She finds a significant effect of contrast, color diversity and artist-specific colors on painting prices. *Pownall & Graddy (2016)* quantify the effect of color attributes on prices for Andy Warhol prints. They identify a premium for color intensity and for darkness over lightness. *Oczkowski (2020)* finds a positive impact of greens on prices for works by Berthe Morisot.

5. Signature

Zhou (2017) studies the influence of narcissism as measured by artist's signature on art market performance. She finds a significant positive impact of signature on price estimates, prices, and outperformance. Opposite, *Czujack (1997)* finds no significant effect of signature on prices for Picasso paintings. *Campos & Barbosa (2009)* even find a negative effect. Similarly, *Fedderke & Li (2020, p. 94)* report that artworks with signatures obtain 17% lower average prices, but 16% higher mean prices. In other words, the price variance of signed artworks is higher.

6. Subject

Etro & Pagani (2012) and *Etro & Pagani (2013)* find (higher) prices with (increasing) number of figures depicted in 15th to 17th century figurative painting. *Oczkowski (2020)* identifies a positive impact of female presence in prices for paintings by Berthe Morisot. *Fedderke & Li (2020)* find higher prices for still lifes, nudes, and abstracts than for landscapes and sketches. The highest price premia in South African art are for miniatures (+46%), portraits (+34%) and figures (+34%). *Campos & Barbosa (2009)* find higher sales rates for still lifes.

7. Genre

Fedderke & Li (2020) find a significant impact of artwork's genre on prices.

8. Quality

Etro & Stepanova (2015) identify a significant impact of artwork quality on prices. *Nahm (2010)* finds higher prices depending on quality. *Bayer et al. (2013)* use art prices as measure of artwork quality. *Bennett & Kottasz (2013)* state that "the newly affluent and those who possessed limited knowledge of the art market (…) equate price with quality" (p. 34).

9. Originality

Etro & Stepanova (2015) show a significant impact of artwork originality (unique vs. copy) on prices. *Fedderke & Li (2020)* confirm the superiority of unique artworks. They find that numbered artworks sell at 12-14% lower prices compared to unnumbered artworks "since numbered works are ipso facto multiples rather than unique artworks" (ibid., p. 94). *Lazzaro (2006)* quantifies the role of originality for Rembrandt prices. She finds higher prices for original states (highest for first states) and specifies that the

marginal price difference decreases with increasing number of artworks. Similarly, *Bennett & Kottasz (2013)* investigate the demand of expensive, limited editions and find that prices are maximized by limiting the number of editions (p. 34). *Marinelli & Palomba (2011)* identify authenticity as important price determinant. *Newman & Bloom (2012)* study the role of artwork's originality on consumers' valuation of artworks. They find that originals are associated with higher market value due to the effect of performance (unique creative act) and contagion (physical contact with the artist).

3) Art-Historical Characteristics

1. Historical Importance

Sagoff (1981) finds that artworks with historical importance or meaning obtain higher prices, because they lend social status to their owners.

2. Provenance

Marinelli & Palomba (2011) identify previous owners as relevant price determinant. *Czujack (1997)* finds no significant effect of provenance on prices for Picasso paintings.

3. Publications

Cinefra et al. (2019) show a significant relationship between publications and prices for Mirò paintings. *Marinelli & Palomba (2011)* show that literature and catalogue are important price determinants. *Czujack (1997)* finds higher prices for works mentioned in the catalogue raisonnée. *Ginsburgh, Radermecker & Tommasi (2019)* find a significant effect of an artwork's inclusion in the catalogue raisonée on willingness to pay (60% higher). *Oczkowski (2020)* considers the illustration space in the catalogue raisonnée relevant for Berthe Morisot prices.

4. Exhibitions

Czujack (1997) finds that the number of exhibitions and prices correlate. *Marinelli & Palomba (2011)* identify exhibitions as important price determinant. *Hellmanzik (2016)* finds that artworks shown in historic exhibitions – signalizing artistic quality and contemporary success – obtain (up to 12.8%) higher prices today.

4) Sale Characteristics

1. Time of Sale

Marinelli & Palomba (2011) identify year and month of sale as important price determinants.

2. Place of Sale

Marinelli & Palomba (2011) identify the marketplace as important price determinant. *Shi, Xu, Wang & Conroy (2017)* test the existence of a home bias of art investors in their domestic art market. They find higher prices for artworks auctioned in the artist's home city.

3. Price Segment

Scorcu & Zanola (2011) apply different hedonic models to different market segments and find significant differences in price determinants and returns for different price segments (classes).

4. Previous Prices

Beggs & Graddy (2009) confirm an impact of previous prices on current prices.[10] *Ashenfelter & Graddy (2011)* find that the probability of sale depends on the reserve price and identify a strong correlation between the (higher) sales rate and the (higher) probability of a surprising result. *Teti et al. (2014)* attest a correlation between (usually underestimated) pre-sale estimates and final prices. They emphasize that non-financial factors, such as aesthetics and critics, can prevail financial factors. *Ashenfelter (1989)* finds a correlation between pre-sale estimates and prices. *Marinelli & Palomba (2011)* assess them as important price predictors. *Farrell, Fry & Fry (2018)* find a significant effect on prices of Australian Indigenous artists. *Czujack (1997)* finds no significant effect on prices for Picasso paintings. Similarly, *Etro & Stepanova (2021)* find no influence of initial prices. *Coslor (2016)* qualifies the impact of previous prices. She describes as paradoxical the (over)reliance on increasing price data in complex and highly qualitative, non-numerical markets with hard-to-value products.

[10] See also 'Anchoring Effect' in concept 'The Auction: Price Mechanism (Price Effects & Biases)'

5. Sale Conditions

Etro & Stepanova (2015) show a significant impact of the (lower) number of resales on (higher) prices. *Czujack (1997)* finds that sudden resales achieve lower prices. *Etro & Stepanova (2021)* find that transaction costs influence prices.

4.2.2.3 The Art Market

The literature studies four factors.

THE ART MARKET
4 Factors, No Additional Unit of Analysis

Overall Market, Expert Opinion, Value (Co-) Creation, Valuation

1. Overall market

Etro & Stepanova (2018) find that a flourishing primary market promotes artistic innovations, which leads to higher prices. *Ginsburgh & Jeanfils (1995)* compare prices for three sub-markets (major and minor European, and American painters). They find that submarkets move closely together and have similar returns. Due to this 'co-movement', art prices are influenced by the development of other sub-markets. *Renneboog & Spaenjers (2013)* add that art market sentiment influences prices. *Pommerehne & Feld (1997)* study the influence of public museums' purchasing policy on prices. They find that non-U.S. public museums pay above-average prices.

2. Expert Opinion

Bonus & Ronte (1997) investigate the role of experts for prices. Experts possess the required cultural knowledge to assess cultural quality. By attributing 'cultural value' to a work of art, they create credibility and economic value. Similarly, *Galenson & Lonzu (2016)* state that "the auction market assigns the highest prices to the art that scholars consider the most important" (p. 242). *Hellmanzik (2016)* defines art exhibitions as a mirror of expert opinion and selection. In line with this argument, she attributes the positive long-term impact on prices of historic exhibitions to experts' opinion. *Higgs & Forster (2014)* find that art prizes influence prices. *Beckert & Rössel (2013)* conduct a comparative study of the price formation at galleries and auction houses. They find that access to cultural institutions like museums, galleries, art critics, and/or academics

signal artistic quality and reduce uncertainty for the buyer. In this way, commercial and non-commercial players exert a great influence on prices. Similarly, *Mossetto (1994)* finds that certification by cultural institutions reflects quality information and affects the formation of value. *Ginsburgh et al. (2019)* study the catalogue raisonnée of Pieter Brueghel paintings and investigate the impact of expert authentication (here: inclusion in the catalogue) on prices. They find a significant effect of authentication on willingness to pay (60% higher).

3. Value (Co-)Creation

Preece, Kerrigan & O'Reilly (2016) study value creation in the visual arts market and develop a framework that maps the socio-cultural co-creation of value elements and value processes.

4. Valuation

D'Souza & Prentice (2002) study the impact of auctioneer strategy (amount of information and auction structure) on prices. They focus on the relation between pre-sale estimate and realized price, valuation, and price determinants. They find systematic evidence for a downward bias of pre-sale estimates. *Ashenfelter & Graddy (2003)* describe predictions by experts as relatively accurate. They find mixed evidence on bias in pre-sale estimates. Contrary, *Beggs & Graddy (2009)* find no evidence of bias in pre-sale estimates. *Farrell et al. (2018)* find that pooling data of different artists in one index is not advisable because of the differences between artists.

4.2.2.4 The Auction House

The literature studies four factors.

THE AUCTION HOUSE
4 Factors, No Additional Unit of Analysis

Auction House, Location, Experience, Promotional Material

1. Auction House

Cinefra et al. (2019) find a significant relationship between the auction house and prices, *Wang & Zheng (2017)* and *Teti et al. (2014)* find a significant influence of auction houses on prices, and *Marinelli & Palomba (2011)* designate the auction house

as important price determinant. *Teti et al. (2014)* find price premia for major houses, *Taylor & Coleman (2011)* for the leading auction house, and *Pesando (1993)* for certain houses: at Sotheby's compared to Christie's New York, and at Galerie Kornfeld compared to the rest of Europe, London, and the United States. Contrary, *Pesando & Shum (2008)* do not find higher prices at Sotheby's compared to Christie's New York, nor at Kornfeld compared to other houses. *Førsund & Zanola (2006a)* benchmark auction house performance. They find no impact of auction house differences on realized prices for works by Picasso. Equally, *Førsund & Zanola (2006b)* show significant differences in auction house performance with no auction house dominating all time periods. Hence, they find no impact of the auction house (differences) on prices. Both, *Førsund & Zanola (2006a & 2006b)* attribute price differences to differences in artwork quality. *Hong, Kremer, Kubik, Mei & Moses (2015)* study the impact of auction house order (Christie's and Sotheby's) during auction week on auction revenue. They show that the overall revenue is higher for both houses if the auction week starts with the house with relatively more expensive paintings for sale. In addition, this house realizes 21% price premia due to an anchoring effect.

2. Location

Coslor (2016) considers the location important for prices. *Cinefra et al. (2019)* find a significant relationship between prices and place of sale. *Anderson (1974)* even suggests a dependence of prices on place of sale. *Ashenfelter & Graddy (2003)* find price differences between geographic areas. More precisely, *Pesando (1993)* finds higher average prices in the U.S. For Picasso, *Czujack (1997)* finds that prices for Picasso paintings are higher in the US than in the UK, and *Pesando & Shum (2008)* find that prices for Picasso prints are higher in the U.S. than in Europe. *Etro & Stepanova (2021)* find no significant location effect.

3. Experience

Bruno, Garcia-Appendini & Nocera (2018) study the role of experience in art brokerage. They suggest that the auction house experience (e.g., with a specific artist or period) significantly increases the sales possibility and the accuracy of price estimates, even more than auction house reputation and market power. However, they find a negative price effect of specific experience on negotiating the reserve price. This effect size grows with increasing information asymmetry.

4. Promotional Material

D'Souza & Prentice (2002) identify a correlation between promotional material and prices. *Cinefra et al. (2019)* demonstrate a significant relationship between lot description and Mirò paintings prices, *Etro & Stepanova (2021)* find an influence of lot information on prices, and *Etro & Stepanova (2015)* show a significant impact of catalogue description (length and quality indicators) on prices. *Fedderke & Li (2020)* find a correlation of catalogue presentation (size, prominence, exhibitions, and publications) with prices: 177% price premium for cover illustration, 57% price premium for literature, 36% for exhibitions.

4.2.2.5 The Auction

The literature studies six factors in two units of analysis.

THE AUCTION
5 Factors, 2 Unit of Analysis

1) Price Mechanism: Auction Mechanism, Price Effects & Biases
2) Auction Concept: Time of Sale, Order of Sale, Type of Sale, Context

1) Price Mechanism

1. Auction Mechanism

Ashenfelter (1989), Ashenfelter & Graddy (2003) and *Ashenfelter & Graddy (2011)* demonstrate the complexity of the auction mechanism. *Farrell et al. (2018)* find a significant effect of the auction mechanism on prices. *Geismar (2001)* studies the price formation at tribal art auctions. He provides a comprehensive description of the auction as a complex process between people, objects, information, and interactions. *Reddy & Dass (2006)* examine price movements at online art auctions and the (changing) effect of price determinants throughout the auction. They find that price effects vary (increase or decrease) throughout the auction. For instance, the positive effect of the opening bid and the negative effect of lot order decrease throughout the auction. *Graddy & Hamilton (2017 & 2019)* find no significant effect of inhouse auction guarantees on bidding environment and final price.

2. Price Effects & Biases

The literature studies the following eleven price effects and biases:

1. Afternoon Effect (Declining Price Anomaly): The afternoon effect or declining price anomaly is based on the observation that, relative to their estimates, final prices decline during an auction. *Ashenfelter (1989)* and *Campos & Barbosa (2009)* find evidence for the effect.

2. Anchoring Effect: The anchoring effect describes that the price estimate provides an anchor for bidders in their decision making. *Beggs & Graddy (2009)* confirm the effect.

3. Burning Effect: The burning effect reflects the negative effect of artworks not selling at auction on their price during following resale(s). Previously unsold artworks are considered 'burned'. *Ashenfelter (1989)* studies the auction mechanism and finds lower prices for previously unsold items, which he attributes to a burning effect. *Ashenfelter & Graddy (2003)* measure a significant burning effect: an average price increase for not burned 3.77 versus 1.75 for burned items. *Beggs & Graddy (2008)* discover significantly lower prices (30%) for previously unsold paintings attributed to common values and lower reserve prices or downward price trends.

4. Death Effect: The death effect reflects the positive impact of an artists' death on the price of their artworks. *Taylor & Coleman (2011)* find price premia for dead artists. *Czujack (1997)* finds that prices for Picasso paintings increased after his death. *Nahm (2010)* finds that deceased artists obtain up to 20 times higher prices. *Ekelund et al. (2000)* and *Etro & Stepanova (2015)* confirm the existence of a significant death effect. *Etro & Stepanova (2015)* describe it as "upward jumps [in prices] in the years after the death of the artists" (p. 48). *Ekelund et al. (2000)* differentiate in a substantial price increase after an artist's death, followed by an immediate price decrease. *Itaya & Ursprung (2016)* qualify that the death effect is positive following an unexpected death and negative following an expected death. *Ursprung & Wiermann (2011)* divide the death effect in two effects: A positive effect of the restriction of supply, and a negative effect of the loss of future reputation.

5. Halo Effect: Hellmanzik (2016) designates the long-term positive effect of historic exhibitions as quality signals on prices as "halo effect" (p. 422).

6. Masterpiece Effect: The masterpiece effect describes the overbidding for works by renown artists (masters) due to lower perceived risks, which leads to relatively higher prices. *Scorcu & Zanola (2011)* confirm the existence of the masterpiece effect. Contrary, *Campos & Barbosa (2009)* find little evidence of masterpiece effect. *Etro & Stepanova (2021)* find no significant masterpiece effect from Old Masters to Contemporary art. *Pesando (1993)* finds no evidence of the masterpiece effect for Modern prints. *Ashenfelter & Graddy (2003)* measure a significant underperformance of contemporary art masterpieces (5% per year). *Pesando & Shum (2007)* find mixed evidence for the masterpiece effect, with the top 5% highest-priced prints outperforming the market.

7. Mood Effect: The mood effect reflects the positive effect of (increased) mood on (higher) prices through reinforced bidding and risk taking *(De Silva et al., 2012).*

8. Rarity Effect: Czujack (1997) attributes the price premia for artworks created by Picasso during his youth to a rarity effect.

9. Survivorship Bias: Ashenfelter & Graddy (2003) attribute the underperformance of masterpieces to survivorship bias, which reflects the systematic overestimation of masterpiece performance due to the greater visibility of overperformance relative to underperformance.

10. Winner's Curse: The winner's curse describes that the highest bidder is the one most likely to overvalue an artwork, and therefore, to overbid.[11] *Ashenfelter (1989)* confirms the winner's curse for auctions of identical objects. *Goetzmann & Spiegel (1995)* confirm the existence of the winner's curse for resales after short holding periods. They attribute it to a discrepancy between the winning bidder's highest private value (highest bid) and the relatively lower private value (lower bid) of the underbidder. The art market growth may "offset any winner's curse" (Goetzmann & Spiegel, 1995, p. 554) since the highest private value increases with the rising number of bidders.

[11] see also Engelbrecht-Wiggans, 1980, p. 133; Flynn, 2017, p. 160

11. *Law of One Price:* The law of one price states that the price of a good (here: artwork) is independent of the place of sale. *Etro & Pagani (2013)* confirm the law of one price. *Pesando (1993), Pesando & Shum (2007)*, and *Pesando & Shum (2008)* find no evidence for the law of one price. Opposite, *Pesando (1993)* finds substantial price variation for identical prints.

2) Auction Concept

1. Time of Sale

Anderson (1974) finds a dependence of prices on year of sale. *Coslor (2016)* considers the time of year important for prices. Similarly, *Taylor & Coleman (2011)* find price premia during winter sale and *McQuillan & Lucey (2016)* find lower prices during spring versus autumn sales. *Cinefra et al. (2019)* find price premia for evening auctions.

2. Order of Sale

Beggs & Graddy (1997) investigate the impact of order of sale on prices. They find that pre-sale estimates and gaps between estimate and hammer price decline throughout the auction, and that auction house revenue is maximized when ordering lots by (declining) value. *D'Souza & Prentice (2002)* confirm systematic evidence for ordering lots by declining value.

3. Type of Sale

Kazumori & McMillan (2005) compare different types of sales (online vs. live auctions) from the seller's perspective. They find that the success of online sales does not depend on (low) expected prices, but on (low) dispersions of bidders' valuations. Thus, while online bidders bid lower due to increased fear of the winner's curse, selling high-value items online can be successful if the dispersion of bidders' estimates is low. Adding online bidding to live auctions is of little benefit, since transaction costs are not reduced, and competition is not intensified.

4. Context

Pesando & Shum (2008) attest an "irrational exuberance" (p. 276) in prices for works sold in the context of the collection sale of Victor and Sally Ganz at Christie's in New York.

4.2.2.6 The Auctioneer

The literature studies the role of *The Auctioneer*.

THE AUCTIONEER
1 Factor, No Additional Unit of Analysis

Auctioneer

1. Auctioneer

Heath & Luff (2007) examine the social interaction at art auctions and analyze how auctioneers mediate competition and establish value. They emphasize the role of the auctioneer and the interaction for prices. The auctioneer can maximize prices through constant pace, establishing direct competition between (not more than!) two bidders, and only encouraging outstanding bids when this direct competition ends (ibid., pp. 69). More precisely, „[t]he systematic escalation of price is accomplished through the creation of the run, in which bidding involves two, and no more than two bidders, at a time" (ibid., p. 80).

4.2.2.7 The Bidder(s)

The literature studies six in two units of analysis.

THE BIDDER(S)
6 Factors, 2 Units of Analysis

1) Individual Bidder: Type, Taste, Mood, Private Value
2) Interaction Between Bidders: Number of Bidders, Competition

1) Individual Bidder

1. Type

Etro & Pagani (2013) find a correlation of prices and bidder type (private collectors, museums etc.) for figurative paintings between 1550 and 1750.

2. Taste

Pesando & Shum (2007) study the investment performance of Modern prints. They demonstrate that prices depend on buyers' tastes. Similarly, *Gerard-Varet (1995)* suggests that taste plays a significant role for prices and that uncertainty about future

tastes increases investment risk. *Coslor (2016)* describes "frickle prices" as the result of changing tastes.

3. Mood

De Silva et al. (2012) find an effect of (sunshine on) mood (on risk taking) on prices in the lower part of the price distribution.

4. Private Value

Goetzmann & Spiegel (1995) study the role of bidders' private values for prices and investment returns. They find that private values are important for prices and find positive returns especially after long holding periods. *Spaenjers et al. (2015)* conduct a historical study of record prices and underline the role of private values, which depend on bidders' preferences, wealth, willingness to pay, enjoyment of ownership, beliefs about resale values, and auction house strategy. Beyond private value, *Gerard-Varet (1995)* finds that artworks possess 'public-good attributes' (pp. 510), since they provide consumption *and* investment benefits. *De Silva et al. (2012)* confirm this finding. They state that the lower part of the price distribution is (mainly) driven by private values and the upper part (mainly) by common values. *Mandel (2009)* investigates the role of conspicuous consumption for investment returns. He explains relatively lower art returns with the additional conspicuous consumption benefit of art. Similarly, *Bennett & Kottasz (2013)* find that the demand for expensive, limited editions depends on buyers' price-quality perceptions, conspicuous consumption and expected price appreciation. Likewise, targeting customers who tend to conspicuous consumption enables price maximization.

2) Interaction

1. Competition

Dass et al. (2014) investigate the dynamic processes within bidder networks and find that bidder behavior is interdependent. Because network ties (connectivity, competition, and key bidders) influence prices, auction houses should identify key bidders and engage in "preferential treatment" (ibid., p. 459), e.g., customized marketing and auctioneer attention. *Etro & Stepanova (2015)* find that dealer rings manipulated auction outcomes in the 18th and 19th Century Paris. *Ku et al. (2005)* show

that competitive arousal, through "rivalry, time pressure, social facilitation, and the first-mover advantage" (p. 102), impairs rational decision-making, thereby leading to higher prices.

2. Number of Bidders

Goetzmann & Spiegel (1995) find that prices increase with the number of bidders, attributed to an increased average private value. *Dass et al. (2014)* confirm this finding and add that prices increase with the number of bidders *and* bids. *Highfill & O'Brien (2007)* analyze bidding at eBay art auctions. They find a significant price increase with increasing number of bids, and in case of unexpected bids.

4.2.2.8 External Factors

The literature studies five factors in four units of analysis.

EXTERNAL FACTORS
5 Factors, 4 Units of Analysis

1) **Economy:** Overall Economy, Financial Markets
2) **Law:** Law
3) **Politics:** Politics
4) **Environment:** Environment

1) Economy

1. Overall Economy

Etro & Stepanova (2018) show that good economic conditions like prosperity and a wealthy upper class promote artistic innovations. *Renneboog & Spaenjers (2013)* confirm the impact of luxury demand and high-income consumer confidence on prices. *McQuillan & Lucey (2016)* find higher prices the year following an oil price increase. *Fedderke & Li (2020)* find no significant impact of the economy on the South African art market. The "inference is that the South African art market appears unresponsive to economic conditions" (ibid., p. 96).

2. Financial markets

Chanel (1995) investigates the relation between financial markets and the art market, and arbitrage. He finds that financial markets and the stock exchange are price indicators with a lag of one year. *Cinefra et al. (2019)* find a significant relationship

between the financial market (especially the financial crisis) and Joan Mirò painting prices. *Goetzmann, Renneboog & Spaenjers (2011)* examine the influence of equity wealth on prices. They find that equity market returns, income, and income inequality correlate with prices. *Hiraki, Ito, Spieth & Takezawa (2009)* study the influence of Japanese art investments on international prices. They formulate a 'luxury consumption hypothesis', reflecting a correlation between stock market performance, Japanese art demand (luxury consumption) and international prices. *Palanca-Tan & Santiago (2018)* quantify the impact of the stock-market sell-off on the Philippines on the local art market. Lower prices following the sell-off demonstrate that artworks are considered more as conspicuous consumption good (and less as investment diversification vehicle). *Pownall, Satchell & Srivastava (2019)* study the relation between art and equity prices and the influence of sentiment and gold prices on art prices. They discover a "dynamic wealth effect" (ibid., p. 112), reflecting that an increase in stock prices leads to an increase in art prices.

2) Law

Banternghansa & Graddy (2011) explore the influence of *Artists Resale Rights* (or Droit de Suite (DDS)) on prices and sales growth across countries and market segments. They find no consistent negative effect of DDS on auction sales in the UK, indicating either a relatively strong art market in the given period, or no significant negative effect of DDS on prices and sales. *Onofri (2009)* examines the impact of laws on prices. She attests a negative influence of the export veto in Italy on the price differential (between estimated and hammer price). Hence, she assumes a general influence of cultural regulations and policies on prices.

3) Politics

Hellmanzik (2013) quantifies the impact of the political environment on prices. She discovers a positive link between the level of democracy in the artist's host country and prices, which she attributes to the production of more valuable artworks in politically stable environments. *McQuillan & Lucey (2016)* study the investment performance of Islamic art, including the influence of oil prices and terrorist attacks on prices. They find lower prices the year following an Islamic terrorist attack. *Goetzmann et al. (2011)* investigate the influence of inequality on art prices. They find a correlation between (income) inequality and prices.

4) Environment

De Silva et al. (2012) find that sunshine influences mood in the lower part of the price distribution, which increases risk taking and prices. Similarly, *Kliger et al. (2015)* measure the impact of environmental conditions (hours of sunshine, precipitation, temperature, daylight hours, and whether day length increases) on prices. They demonstrate a significant positive impact of weather-related attributes on prices, e.g., "up to a third of a British pound for each additional minute of daylight" (ibid., p. 80)) on auction day. They also attribute this effect to the impact of weather on bidders' mood and risk aversion.

4.3 Discussion

The following section discusses the results of *Study 1*. It summarizes the key findings for each concept per unit of analysis. In case of contradictory findings and research gaps, it highlights avenues for future research. Suggestions for future research are charted in a research agenda as part of the theoretical contribution in *Chapter 4.4.2*.

4.3.1 The Artist

4.3.1.1 Identity

THE ARTIST
Identity

1) Name: The indication of (a specific) name has a positive impact on prices.
2) Race: Artists who belong to certain races obtain relatively lower prices.
3) Gender: Evidence on the impact of gender on prices is mixed.
4) Age: The impact of age on prices differs between epochs and is reflected in different age-price-profiles.
5) Death: (Unexpected) Death can have a (short-term) positive impact on prices.
6) Life Circumstances: Personal life circumstances can impact prices.

1) The indication of (a specific) *name* has a positive impact on prices.

Generally, the disclosure of artist identity through *indication of name* has a positive impact (Fedderke & Li, 2020; Hernando & Campo, 2017; Marinelli & Palomba, 2011), and *anonymity* has a negative impact on prices (Etro & Stepanova, 2015). Since the impact of artist's name on prices is attributed to the brand equity of names, anonymous artists with *provisional brand names* (here: "Master of…") fetch higher prices (Hernando & Campo, 2017). Probably because they lack brand equity, young artists

fetch higher prices in case of anonymity (ibid.). Probably due to high brand equity, *specific names* obtain price premia (Taylor & Coleman, 2011).

2) Artists of certain *races* obtain relatively lower prices.

Certain artists, e.g., African American, and Arabian, obtain relatively lower prices internationally which is attributed to their *race* (Agnello, 2010; Alrasheed & Sakr, 2020). This may be due to the lesser role of the national art market in international comparison, or to the lack of network and outreach.

3) Evidence on the impact of *gender* on prices is mixed.

Two opposing theories explain gender price differences on the secondary art market: the *demand theory* and the *supply theory* (Cameron et al., 2019, p. 280). The existing evidence is mixed: The *demand theory* argues that market participants value artworks by women differently than artworks by men. Likewise, lower prices for female artists – overall (Alrasheed & Sakr, 2020), or in Contemporary art and in the top price segment over $1 million (Bocart et al., 2021) – are attributed to less popular *gender-related artistic characteristics* (ibid.). Opposite, higher prices for female Australian Indigenous artists are attributed to more popular gender-related artistic characteristics (Farrell et al., 2021). The *supply theory* states that institutional barriers prevent women from participating in the professional art market. Here, higher prices for female artists (Cameron et al., 2019) are attributed to higher *institutional barriers for women*.

Future Research:
The mixed evidence underlines the need for future research relating to the impact of artist's *gender* on prices, e.g., with different samples (Agnello, 2010), in Indigenous art markets (Farrell et al., 2021), in relation to society (Agnello, 2010), and regarding the supply and demand factors (Bocart et al., 2021).

4) The impact of *age* on prices differs between epochs and is reflected in different age-price-profiles.

The artist's *birth year* (Marinelli & Palomba, 2011) and *age* (Bayer et al., 2013) have an impact on prices. The relation between artist's *age* and price is reflected in an inverted U-shape (ibid.). In addition, there are *different age-price profiles* (Galenson, 2018; Galenson & Lenzu, 2016; Galenson, 2000; Galenson & Weinberg, 2000): *Early age-price profile* for artists with high innovative capacity who produce their most valuable artworks early in their career (e.g. artists born after 1920, Pop Art artists, and

Andy Warhol; see also Etro & Pagani, 2012) versus *late age-price profile* for artists with experience who produce the most valuable artworks late in their career (e.g. artists born before 1920, Abstract Expressionists, and Jackson Pollock; see also Fedderki & Li, 2020). Furthermore, there are different age-price profiles depending on cohorts (Hodgson, 2011), markets (Hutter et al., 2007), and locations (Hellmanzik, 2010).

5) (Unexpected) *Death* can have a (short-term) positive impact on prices.

The artist's *living status* (death vs. alive) has an impact on prices (Anderson, 1974; Marinelli & Palomba, 2011; Wang & Zheng, 2017). *Deceased artists* obtain up to 20 times higher prices (Nahm, 2010). This substantial price increase after an artist's death, followed by an immediate price decrease, is called *death effect* (Ekelund et al., 2000; Etro & Stepanova, 2015; Itaya & Ursprung, 2016; Taylor & Coleman, 2011; Ursprung & Wiermann, 2011). It is positive following an unexpected death and negative following an expected death (Itaya & Ursprung, 2016). The positive effect is attributed to the restriction of supply, and the negative effect to the loss of expected future reputation (Ursprung & Wiermann, 2011).

6) Personal *life circumstances* can affect prices.

Artworks produced in a period of mourning fetch lower prices (Graddy & Lieberman, 2018).

4.3.1.2 Ability

THE ARTIST
Ability

1) Ability: Ability influences prices.

1) *Ability* influences prices.

Expertise and artistic talent are (supported in certain economic environments and) reflected in prices (Etro & Stepanova, 2018; Marinelli & Palomba, 2011; Wijnberg & Gemser, 2000).

4.3.1.3 Style

THE ARTIST
Style

1) **Sector:** Prices vary across sectors.
2) **Movement:** Prices vary across movements.

1) Prices vary across *sectors*.

The *sector* (Etro & Stepanova, 2021) influences prices. For instance, as described in the market analysis above, 81% of sales value in 2020 was achieved with Post War & Contemporary Art (McAndrew, 2021, p. 103). Relatively higher prices in this sector may be the result of high demand, current taste and/or (financially oriented) collector groups.

2) Prices vary across and *movements*.

The *artistic movement* (Hodgson & Hellmanzik, 2019; Renneboog & Spaenjers; 2013) influences prices. The impact is higher for movements assigned by art historians or critics, then by artists themselves (Hodgson & Hellmanzik, 2019). A probable explanation is the influence of experts' opinion on prices. Price differences between *art schools* are low (Etro & Stepanova, 2015).

4.3.1.4 Career

THE ARTIST
Career

1) **Work Location:** Working in creative clusters has a positive impact on prices.
2) **Reputation:** Reputation has a positive impact on prices.

1) Working in *creative clusters* has a positive impact on prices.

Artists working in creative clusters such as Paris and New York fetch a cluster premium for paintings produced in these clusters (Hellmanzik, 2010). This may be due to the stronger networks and higher market density in metropolitan regions.

2) *Reputation* has a positive impact on prices.

The artist's *credibility* (Bonus & Ronte, 1997) and *reputation* have a positive impact on prices (Anderson's, 1974; Etro & Pagani, 2013; Nahm, 2010; Wang & Zheng, 2017). They are more important than artwork characteristics (Campos & Barbosa, 2009), maybe because of the brand equity of names.

4.3.2 The Artwork

4.3.2.1 Dating Characteristics

THE ARTWORK
Dating Characteristics

1) Date: The date of origin is related to prices, with dated artworks obtaining relatively higher prices than undated artworks.

1) The *date of origin* is related to prices, with dated artworks obtaining relatively higher prices than undated artworks.

There is a significant relationship between the artwork's *date of origin* and prices (Cinefra et al., 2019). Moreover, the mere *indication of the date* has a positive impact on prices, with dated artworks obtaining a price premium (Fedderke & Li, 2020). A potential explanation is that famous artists are more likely to date (and sign) their artworks.

4.3.2.2 Physical Characteristics

THE ARTWORK
Physical Characteristics

1) **Size:** The price rises with size (following a concave U-shaped relationship).
2) **Medium:** Prices vary from medium to medium with different price premia in different studies.
3) **Material:** Prices vary depending on the material.
4) **Color:** Color can influence prices.
5) **Signature:** The evidence on the impact of signature on prices is mixed.
6) **Genre:** Genre influences prices.
7) **Subject:** The subject correlates with prices.
8) **Quality:** Prices signal artwork quality.
9) **Originality:** Originals obtain higher prices than copies and editions.

1) The price rises with *size* (following a concave U-shaped relationship).

The link between an artwork's size or dimension and price (premia) (Higgs & Forster, 2014) is a *relationship* (Cinefra, et al. (2019), a *correlation* (D'Souza & Prentice, 2002; Etro & Pagani, 2012; Etro & Pagani, 2013), or a *dependence* (Anderson, 1974; Marinelli & Palomba, 2011; Taylor & Coleman, 2011). Prices rise with size (Czujack, 1997), in a concave U-shape relationship (Fedderke & Li, 2020; Nahm, 2010). The plausible justification for the reversal point is the limited opportunity to exhibit oversized artworks.

2) Prices vary from *medium* to medium with different price premia in different studies.

Price variation across different media (Renneboog & Spaenjers, 2013) demonstrates the impact of *medium* on prices (Marinelli & Palomba, 2011; Teti et al., 2014; Wang & Zheng, 2017). Findings differ in nature and detail: from price premia for *oils* (Cinefra et al., 2019; Teti et al., 2014), or for *several media* (Nahm, 2010), to prices ranging from *highest premium to highest discount* (Fedderke & Li, 2020).

Future Research:
The mixed evidence underlines the need for future research regarding a generalizable impact of artwork's medium on prices.

3) Prices vary depending on the *material*.

The artwork's *material* (Cinefra et al., 2019) and *support* (Marinelli & Palomba, 2011) are related to prices, with artworks on canvas obtaining higher prices than work on other support material. This may be due to higher material costs, more elaborate techniques in painting compared to, e.g., drawing, and the importance attributed to a work by the artist, if it is created on canvas (compared to, e.g., cardboard or paper).

4) *Color* can influence prices.

The *artwork's color,* or color diversity (Stepanova, 2019) and artist-specific colors (Oczkowski, 2020; Pownall & Graddy, 2016; Stepanova, 2019), can have a significant effect on prices (Stepanova, 2019) – at least in certain price regimes (Charlin & Cifuentes, 2021; e.g., Mark Rothko).

Future Research:
The mixed evidence underlines the need for further research relating to the role of color for prices, e.g., for other artists and artworks (Charlin & Cifuentes 2021; Cinefra et al., 2019), other color attributes (Charlin & Cifuentes, 2021) and other markets (Stepanova, 2019).

5) The evidence on the impact of *signature* on prices is mixed.

Depending on the sample, signature has a *positive* (Zhou, 2017), *negative* (Campos & Barbosa, 2009; Fedderke & Li, 2020) or *no effect* (Czujack, 1997) on prices. It seems questionable whether there is a generalizable effect.

Future Research:
The mixed evidence calls for future research.

6) *Genre* influences prices.

Genre has a significant impact on prices (Fedderke & Li, 2020). One of the main reasons could be the taste of collectors.

7) The *subject* correlates with prices.

Different subjects obtain different prices in different samples, including price premia for still-life (Campos & Barbosa, 2009), for a variety of subjects (Fedderke & Li, 2020), for the presence of female figures (Oczkowski, 2020), to prices that increase with the number of figures (Etro & Pagani, 2012; Etro & Pagani, 2013). The fact that different samples yield different results seems to contradict a generalizable effect of the genre.

Future Research:
The inconsistent evidence could be due to the changing nature of art production and consumption. For example, the increasing price as the number of figures increases could be due to the greater amount of labor involved in commissioned work in the context of Old Master patronage, such as religious scenes. Contrary, the number of figures depicted in Contemporary Art may have no or a negative effect, due to artists' subject preferences and consumers' tastes.

8) Prices signal artistic *quality*.

Prices are a *measure* of quality (Bayer et al., 2013; Etro & Stepanova, 2015; Nahm, 2010), especially for newly affluent and uninformed consumers (Bennett & Kottasz, 2013).

9) *Originals* obtain higher prices than copies and editions.

Originality and *authenticity* have a significant impact on prices (Etro & Stepanova, 2015; Marinelli & Palomba, 2011) because consumers associate originals with higher market value (Newman & Bloom, 2012). Since unique art objects obtain higher prices (Fedderke & Li, 2020; Lazzaro, 2006), limiting editions increases prices (Bennett & Kottasz, 2013), and the magnitude of the marginal price differential decreases as the number of artworks increases (Lazzaro, 2006).

4.3.2.3 Art-Historical Characteristics

THE ARTWORK
Art-Historical Characteristics

1) **Provenance:** Provenance can affect prices.
2) **Publications:** Publications have a positive impact on prices.
3) **Exhibitions:** Exhibitions have a positive impact on prices.
4) **Historical Importance:** Historical importance has a positive impact on prices.

1) *Provenance* can affect prices.

Depending on the sample, provenance can affect prices (Marinelli & Palomba, 2011; Czujack, 1997). Surprisingly, this effect cannot be generalized.

2) *Publications* have a positive impact on prices.

There is a relationship between artwork-related literature and prices (Cinefra et al., 2019; Marinelli & Palomba, 2011). The *catalogue raisonnée* has a *positive impact* on willingness to pay and prices (Czujack, 1997; Ginsburgh et al., 2019; Marinelli & Palomba, 2011; Oczkowski, 2020). This raises the question of the direction of causality.

3) *Exhibitions* have a positive impact on prices.

Exhibitions relate to and have a positive impact on prices (Czujack, 1997; Hellmanzik, 2016; Marinelli & Palomba, 2011). They function as quality signal (Hellmanzik, 2016).

4) *Historical importance* has a positive impact on prices.

Works of art of historical significance command higher prices because they confer social and cultural status on their buyers (Sagoff, 1981).

4.3.2.4 Sale Characteristics

THE ARTWORK
Sale Characteristics

1) **Time of Sale:** Time of sale affects prices.
2) **Place of Sale:** Place of sale affects prices.
3) **Price Segment:** Price determinants differ between different price segments.
4) **Previous Prices:** Previous prices (can) partially explain prices.
5) **Sale Conditions:** Sale conditions influence prices positively or negatively.

1) *Time of sale* affects prices.

Time of sale influences prices (Marinelli & Palomba, 2011).

2) *Place of sale* affects prices.

Place of sale influences prices with higher prices for works auctioned in the artist's home cities (Marinelli & Palomba, 2011; Shi et al., 2017). Possible reasons for this are collectors' tastes and the influence of the local art market.

3) Price determinants differ between different *price segments*.

Price determinants differ across price segments (Scorcu & Zanola, 2011). This makes it necessary to limit the study of art prices to individual segments.

4) *Previous prices* (can) partially explain prices.

Previous prices and sale rates partially explain prices (Ashenfelter & Graddy, 2011; Beggs & Graddy, 2009; Coslor, 2016; except Etro & Stepanova, 2021)), especially pre-sale estimates (Ashenfelter, 1989; Farrell et al., 2018; Marinelli & Palomba, 2011; Teti et al., 2014; except Czujack, 1997)). In this context, it would be interesting to know to what extent price estimates are used as a strategic marketing tool.

Future Research:
The fact that past prices only partially explain current prices points to the importance of factors that are unquantifiable or difficult to quantify. Coslor (2016) also qualifies the impact of past prices, saying that "past auction prices provide *some* [emphasis added] insight into future value" (p. 16). She conducts an ethnographic study of the impact of increasing price data in complex markets with difficult-to-value products. In this context, she assesses the (over)reliance on data in complex and high quality, non-numerical markets as paradoxical. This fact should inspire additional researchers to conduct qualitative research about art prices.

5) Different *sale conditions* influence prices positively and negatively.

Prices are affected by transaction costs (Etro & Stepanova, 2021), increase with the number of resales (Etro & Stepanova, 2015), and are lower for sudden resales (Czujack, 1997).

4.3.3 The Art Market

THE ART MARKET
No Specification [-]

1) **Overall Market:** The art market influences prices.
2) **Expert Opinion:** Expert opinion is decisive for prices.
3) **Value (Co-) Creation:** The value of art is co-created.
4) **Valuation:** Evidence of bias in pre-sale estimates is mixed. Pooling artist data is not advisable.

1) The *art market* influences prices.

The primary art market, submarkets, institutions, and market sentiment mainly influence prices by establishing the credibility of artists. In addition, public institutions influence prices through their purchasing policy (Beckert & Rössel, 2013; Etro & Stepanova, 2018; Ginsburgh & Jeanfils, 1995; Pommerehne & Feld, 1997; Renneboog & Spaenjers, 2013).

2) *Expert opinion* is decisive for prices.

Prices depend on expert opinion and authentication (Galenson & Lonzu, 2016; Ginsburgh et al., 2019), because experts certify cultural quality and create the necessary credibility that leads to high prices (Bonus & Ronte, 1997). Expert opinion is reflected, e.g., in exhibitions, catalogue raisonnées, or art prizes (Ginsburgh et al., 2019; Hellmanzik, 2016; Higgs & Forster, 2014).

3) The *value* of art is *co-created*.

The value of art forms in a process of socio-cultural co-creation and is influenced by the certification by cultural institutions (Mossetto, 1994; Preece et al., 2016).

4) Evidence of bias in *pre-sale estimates* is mixed.

The evidence of bias in pre-sale estimates is mixed (Ashenfelter & Graddy, 2003; Beggs & Graddy, 2009; D'Souza & Prentice, 2002). Pooling artist data into art indices is not advisable because of the differences between artists (Farrell et al., 2018).

Future Research:
The mixed evidence relating to the biasing of pre-sale estimates underlines the need for future research on the process of valuation. In the context of this thesis, it is especially interesting if and how the pre-sale estimate is used as a marketing, or pricing, instrument. The inadequacy of pooling artist data points out that the mere quantification of prices by means of art indices is not sufficient to explain of forecast prices

4.3.4 The Auction House

THE AUCTION HOUSE
No Specification [-]

1) **Auction House:** The auction house can influence prices.
2) **Location:** The location can influence prices.
3) **Experience:** There is no evidence regarding the impact of auction house experience on prices.
4) **Promotional Material:** Promotional material correlates with and can influence prices.

1) The *auction house* can influence prices.

The auction house can have a significant relationship with and an impact on prices (Cinefra et al., 2019; Galli & Sacco, 2014; Marinelli & Palomba, 2011; Wang & Zheng, 2017), with price premia for leading auction houses (Galli & Sacco, 2014; Pesando, 1993; Taylor & Coleman, 2011), and for the auction house, which opens the auction week (Hong et al., 2015). However, auction house differences do not always explain prices (Pesando & Shum, 2008; Førsund & Zanola, 2006a; Førsund & Zanola, 2006b).

2) The *location* can influence prices.

Prices can relate to and depend on place of sale (Anderson, 1974; Cinefra et al., 2019; Coslor, 2016; except Etro & Stepanova, 2021) and differ between geographic areas

(Ashenfelter & Graddy, 2003; Czujack, 1997; Pesando, 1993; Pesando & Shum, 2008). These findings contradict the law of one price.

3) There is no evidence regarding the impact of auction house *experience* on prices.

The (specific) experience of auction houses (e.g., with certain artists) increases the probability of sale and the accuracy of price estimates (Bruno et al., 2018).

Future Research:
The missing evidence points to a need for future (qualitative) research about the influence of auction house experience on prices.

4) *Promotional material* correlates with and can influence prices.

Promotional material including catalogue presentation, lot description and information correlate with (Cinefra et al., 2019; D'Souza & Prentice, 2002; Fedderke & Li, 2020) or influence prices (Etro & Stepanova, 2021; Etro & Stepanova, 2015). Again, the question of the direction of causality arises.

Future Research:
Future research should investigate whether the results reflect correlation or causality. For instance, Fedderke & Li (2020, p. 95) state that there is no causal interpretation of their results. In other words, „[a]rtworks that are selected for prominent catalogue display (…) are likely subject to selection effects that identify an artwork of artistic importance, and hence market value" (p. 101). While one question concerns whether the relation between promotional material and prices reflects a correlation or causality, another question about causality could be: Are high prices the result of promotional material? Or is promotional material the result of a high expected price?

4.3.5 The Auction

4.3.5.1 Price Mechanism

THE AUCTION
Price Mechanism

1) **Auction Mechanism:** The auction mechanism significantly influences prices.
2) **Price Effects & Biases:** Different price effects and biases influence prices.

1) The *auction mechanism* significantly influences prices.

The auction price mechanism is a complex process affected by people, objects, information, and interactions, and has a significant impact on prices (Ashenfelter, 1989; Ashenfelter & Graddy, 2003; Ashenfelter & Graddy, 2011; Farrell et al., 2018;

Geismar, 2001). The effect of different price determinants varies throughout the auction (Reddy & Dass, 2006). Auction guarantees have no significant effect (Graddy & Hamilton, 2017 & 2019).

2) Different *price effects and biases* influence prices.

PRICE EFFECTS & BIASES
Summary

1) Afternoon Effect (Declining Price Anomaly): Relative to their estimates, prices decline during an auction.
2) Anchoring Effect: Bidders' decision-making is affected by the price estimate.
3) Burning Effect: Remaining unsold at auction has a negative effect on prices at following sales.
4) Death Effect: The unexpected (expected) death of an artist has a positive (negative) short-term impact on prices.
5) Halo Effect: Quality signals like historic exhibitions have a long-term positive effect on prices.
6) Masterpiece Effect: The evidence that bidders overbid on masterpieces due to lower perceived risk is mixed.
7) Survivorship Bias: The performance of masterpieces is systematically overestimated.
8) Mood Effect: Better mood increases prices by reinforcing bidding and risk taking.
9) Rarity Effect: Rarity has a positive effect on prices.
10) Winner's Curse: The winning bidder is the one most likely to overvalue the artwork.
11) Law of One Price: There is mixed evidence whether artworks obtain the same price independent of the sales location.

Bidders base their decision-making on the price estimate (*Anchoring Effect:* Beggs & Graddy, 2009). Relative to the estimate, prices decline during an auction (*Afternoon Effect (Declining Price Anomaly):* Ashenfelter, 1989; Campos & Barbosa, 2009). Quality signals like exhibitions have a long-term positive effect on prices (*Halo Effect:* Hellmanzik, 2016). Rarity has a positive effect on prices (*Rarity Effect:* Czujack, 1997). Better mood increases prices by reinforcing bidding and risk taking (*Mood Effect:* De Silva et al., 2012). The winning bidder is the one most likely to overvalue the artwork (*Winner's Curse:* Ashenfelter, 1989; Goetzmann & Spiegel, 1995). The evidence that bidders overbid on masterpieces due to lower perceived risk is mixed (*Masterpiece Effect:* Ashenfelter & Graddy, 2003; Campos & Barbosa, 2009; Etro & Stepanova, 2021; Pesando & Shum, 2007; Pesando, 1993; Scorcu & Zanola, 2011). Overall, the performance of masterpieces is systematically overestimated (*Survivorship Bias:* Ashenfelter & Graddy, 2003). The unexpected (expected) death of an artist has a significantly positive (negative) short-term impact on prices (*Death Effect:* Czujack, 1997; Ekelund et al., 2000; Etro & Stepanova, 2015; Itaya & Ursprung, 2016; Nahm, 2010; Taylor & Coleman, 2011). There is little evidence whether artworks obtain the same price at different sales location (*Law of One Price:* Etro & Pagani, 2013; Pesando, 1993; Pesando & Shum, 2007; Pesando & Shum, 2008). Remaining unsold at auction has a negative effect on prices at subsequent sales (*Burning Effect:* Ashenfelter, 1989; Ashenfelter & Graddy, 2003).

Future Research:
The inconsistent evidence could be due to the changing nature of art production and consumption. For example, the increasing price as the number of figures increases could be due to the greater amount of labor involved in commissioned work in the context of Old Master patronage, such as religious scenes. Contrary, the number of figures depicted in Contemporary Art may have no or a negative effect, due to artists' subject preferences and consumers' tastes.

4.3.5.2 Auction Concept

THE AUCTION
Auction Concept

1) **Time of Sale:** The time of sale affects (and is affected by expected) prices.
2) **Order of Sale:** The order of sale affects (and is affected by expected) prices.
3) **Type of Sale:** The success of online auctions depends on the (low) dispersion of bidders' valuations.
4) **Context:** The context affects prices.

1) The *time of sale* affects (and is affected by expected) prices.

The time of sale including year of sale, time of year, and daytime affects (and is affected by expected) prices (Anderson, 1974; Coslor, 2016), with price premia for autumn (McQuillan & Lucey, 2016; Taylor & Coleman, 2011) and evening auctions (Cinefra et al., 2019). This could be since there are more bidders available in the evening or that the market attaches greater importance to evening or fall auctions.

2) The *order of sale* affects (and is affected by expected) prices.

Price differences between estimate and hammer price decline throughout the auction (Beggs & Graddy, 1997). To maximize revenue, auction houses (can) systematically order lots by declining value (Beggs & Graddy, 1997; D'Souza & Prentice, 2002).

3) The success of *online auctions* depends on the (low) dispersion of bidders' valuations.

Online bidders bid lower due to increased fear of the winner's curse; yet the success of online sales depends not on low expected prices but on the (low) dispersion of bidders' valuations (Kazumori & McMillan, 2005). Surprisingly, there has been little research on bidding behavior and the success factors of online art auctions.

Future Research:
Given the topicality of the online channel, the lack of research on online bidding and online/hybrid auctions provides a promising avenue for future research.

4) The *context* can impact prices.

E.g., collection sales can cause "irrational exuberance" (Pesando & Shum, 2008, p. 276).

4.3.6 The Auctioneer

THE AUCTIONEER
No Specification [-]

1) Auctioneer: The auctioneer creates prices by mediating competition (ideally between two bidders).

1) *The auctioneer* creates prices by mediating competition (ideally between two bidders).

The auctioneer creates prices by mediating (direct) competition between (no more than) two competing bidders at the same time (Heath & Luff, 2007).

4.3.7 The Bidder(s)

4.3.7.1 Individual Bidder

THE BIDDER(S)
Individual Bidder

1) **Type:** The price mechanism significantly influences prices.
2) **Taste:** Prices reflect (changing) tastes.
3) **Mood:** Prices are influenced by mood in the lower price segment.
4) **Private Value:** Prices reflect private values.

1) Prices depend on the *type* of bidder.

The final placement of an artwork (private collectors, museums etc.) after the auction influences prices (Etro & Pagani, 2013). This could be due to different budgets and purchasing policies of buyers.

2) Prices reflect (changing) *tastes*.

Taste plays a significant role for prices with changing tastes causing price variation (Coslor, 2016; Gerard-Varet, 1995; Pesando & Shum, 2007).

3) Prices are influenced by *mood* in the lower price segment.

Mood affects prices through its impact on risk taking in the lower part of the price distribution (De Silva et al., 2012).

4) Prices reflect *private values*.

Beyond public values (De Silva et al., 2012; Gerard-Varet, 1995), prices are influenced by private values like buyers' price-quality perceptions and conspicuous consumption benefits (Bennett & Kottasz, 2013; Goetzmann & Spiegel, 1995; Mandel, 2009; Spaenjers et al., 2015).

4.3.7.2 Interaction Between Bidders

THE BIDDER(S)
Interaction Between Bidders

1) **Number of Bidder:** Prices increase with the number of bidders and the number of (unexpected) bids.
2) **Competition:** Stronger competition causes higher prices.

1) Prices increase with the *number of bidders* and the number of (unexpected) bids.

Prices increase with the number of bidders, the number of bids and unexpected bids (Dass et al., 2014; Goetzmann & Spiegel, 1995; Highfill & O'Brien, 2007). In other words, higher demand leads to higher prices.

2) Stronger *competition* causes higher prices.

Bidding behavior depends on and is influenced by competition (Dass et al., 2014; Etro & Stepanova, 2015), with competition impairing rational decision-making, which in turn leads to higher prices (Ku et al., 2005).

4.3.8 External Factors

4.3.8.1 Economy

EXTERNAL FACTORS
Economy

1) **Overall Economy:** The economy indirectly impacts prices.
2) **Financial Markets:** Prices on the financial markets and on the art market are linked.

1) The *economy* can impact prices.

Economic conditions including overall prosperity and wealth, luxury demand and consumer confidence impact prices (Etro & Stepanova, 2018; Renneboog & Spaenjers, 2013), with South Africa providing an exception (Fedderke & Li, 2020). Increases in stock or oil prices lead to increases in prices (McQuillan & Lucey, 2016; Pownall et al., 2019).

Future Research:
Given the findings of the South African market, it would be interesting for future research to test the findings in different samples, and to study the impact of the economy on other emerging, or non-Western, art markets.

2) Prices on the *financial markets* and on the art market are linked.

The financial market is related to and can indicate prices (Chanel, 1995; Cinefra et al., 2019). Stock market performance, luxury consumption, equity market returns, income, and income inequality relate to or correlate with prices (Goetzmann et al., 2011; Hiraki et al., 2009; Palanca-Tan & Santiago, 2018).[12]

4.3.8.2 Law

EXTERNAL FACTORS
Law

1) **Law:** Legal regulations can influence prices.

[12] There is an extensive literature stream on art investment that focuses on the (cor)relation between the financial and art markets, which is not considered in this literature review. Only the results mentioned in papers focusing on price determinants are considered here.

1) *Legal regulations* can influence prices.

Legal regulations like *Artist Resale Rights* or an export veto can influence prices (Banternghansa & Graddy, 2011; Onofri, 2009).

> ***Future Research:***
> The mixed and scarce literature calls for more research on the impact of legal provisions on prices.

4.3.8.3 Politics

> **EXTERNAL FACTORS**
> *Politics*
>
> **1) Politics:** Political stability enables higher prices.

1) *Political stability* enables higher prices.

(Higher) level of democracy, (lower) inequality, and (lack of) terrorism correlate with (higher) prices, with a politically stable environment enabling higher prices (Goetzmann et al., 2011; Hellmanzik, 2013; McQuillan & Lucey, 2016).

4.3.8.4 Environment

> **EXTERNAL FACTORS**
> *Environment*
>
> **1) Environment:** (Extreme) Environmental conditions can affect prices.

1) (Extreme) *Environmental conditions* can affect prices.

Environmental conditions, such as sunshine, affect prices by increasing sentiment and risk appetite (De Silva et al., 2012; Kliger et al., 2015).

4.4 Conclusion

The systematic literature review provides a structured overview of the literature relating to price determinants at art auctions. This subchapter critically reflects on the study and assesses the quality of the review. It outlines the theoretical and practical contribution and highlights key limitations and next steps. A *research agenda* lists promising

avenues for future research (Okoli, 2015, p. 901; Scaringella & Radziwon, 2018, p. 74; Wolfswinkel et al., 2013, p. 52).

4.4.1 Critical Reflection

An important part of the critical reflection is evaluating the quality of the review (Arksey & O'Malley, 2005, p. 20): This review is valid, since it demonstrates methodological rigor from decisions on databases, keywords, and search types (Fink, 2014, p. 148) to sampling, data collection and data analysis (vom Brocke et al., 2009, p. 2208). It is reliable since it enables a replication of the results over time and across researchers (ibid.). Five of seven quality criteria for a high-quality SLR according to Webster & Watson (2002, p. xxi) are fulfilled (see *Table 6* in the Appendix). To fulfill the remaining two criteria, the author conducts in-depth qualitative research in *Study 2* and *Study 3*.

The systematic literature review methodology was chosen for four main reasons: Its scope and rigor, quality assessment of the literature, full synthesis, and resulting theoretical contribution. The SLR prevents the author from being biased by her practical experience in the research field (Arksey & O'Malley, 2005, p. 20). It allows for integration and evaluation of the fragmented and interdisciplinary discourse. Consequently, it provides a strong theoretical contribution across disciplines, including a research agenda, and a strong practical contribution by informing practice (vom Brocke et al., 2015, p. 209; Scaringella & Radziwon, 2018, p. 74).

4.4.2 Contribution

This SLR provides a broad overview of existing research about the price determinants at art auctions, which are summarized in eight concepts (see *Figure 6*):

Figure 6: Visualization of Eight Concepts of Price Determinants (Source: Own illustration).

The SLR fulfills the three high-quality criteria:

• *It presents a complete and unbiased search* (vom Brocke et al., 2015, p. 212): Avoidance of bias is assured through reliability, validity, and systematic reviewing. The completeness of the review and the relevance and saturation of the results are confirmed based on the author's field expertise.

• *It presents a scholarly contribution* (Okoli, 2015, p. 883): a detailed synthesis in writing, a matrix visualization, and a research agenda. By uncovering research gaps and formulating avenues for future research, it promotes theory building (vom Brocke et al., 2015, p. 206; Webster & Watson, 2002, p. xiii).

• *It serves practice, especially auction houses and other art market players* (Tranfield et al., 2003, p. 207). Primarily, it addresses auction house professionals and provides an empirical basis for valuation and price explanation. Secondarily, it informs other stakeholders in the art market, and inspires marketing and pricing in other industries.

The SLR provides a strong *theoretical contribution*: It bridges between disparate literature streams, increases the theoretical understanding of art prices, and provides the basis for the conceptual framework. It maps the literature and identifies key concepts,

contradictory findings, and research gaps. Most importantly, it identifies promising avenues for future research, which are summarized in the research agenda (see *Table 2*):

CONCEPT	UNIT OF ANALYSIS	Factor	Future Research
THE ARTIST	**Identity**	Gender	Impact of artist's gender on prices, e.g., with different samples (Agnello, 2010), in Indigenous art markets (Farrell et al., 2021), in relation to society (Agnello, 2010), and regarding the supply and demand factors (Bocart et al., 2021).
THE ARTWORK	**Physical Characteristics**	Medium	Existence of a generalizable impact of artwork medium on prices.
		Color	Role of color for prices, e.g., for other artists and artworks (Charlin & Cifuentes 2021; Cinefra et al., 2019), other color attributes (Charlin & Cifuentes, 2021) and other markets (Stepanova, 2019).
		Signature	Impact of signature on prices.
		Subject	Relation between influence of subject on prices and changing nature of art production (e.g. artistic labor) and consumption (e.g. consumers' tastes).
	Sale Characteristics	Previous Prices	Qualitative research about art prices given the fact that past prices only partially explain current prices and that theory and practice apparently (over)rely on price data (Coslor, 2016, p. 16).
THE ART MARKET	**No Specification [-]**	Valuation	Process of valuation and biasing of pre-sale estimates, especially qualitative studies about the (marketing) strategy behind valuation. More qualitative research and more quantitative research on single artist level.
THE AUCTION HOUSE	**No Specification [-]**	Experience	(Qualitative) Research about the influence of auction house experience on prices.
		Promotional Material	Relation between promotional material and prices as correlation or causality including direction of causality.
THE AUCTION	**Price Mechanism**	Price Effects & Bi	Research on online bidding and online/hybrid auctions.
	Auction Concept	Type of Sale	Law of one price in the context of online auctions: How – or why not – do online auctions
EXTERNAL FACTORS	**Economy**	Overall Economy	Impact of the economy on prices in emerging, non-Western markets.
	Law	Law	Impact of legal provisions on prices.

Table 2: Research Agenda (Source: Own presentation).

The SLR provides a strong *practical contribution*: Primarily, it informs auction house professionals and art experts to counteract the fact that experts' "predictions do not optimally process the publicly available information" (Ashenfelter & Graddy, 2003, p. 764). Therefore, it synthesizes the existing evidence on (quantifiable) price determinants. On the one hand, this enables a more informed valuation and explanation of art prices. On the other hand, it enables other stakeholders, to assess their (i.a.

bidding, selling) strategy. Finally, it provides inspiration for other industries to (re)consider the use of auctions. More specific practical implications are developed based on the in-depth qualitative analysis of the auction price mechanism in *Study 2* and *Study 2* and presented in the *Chapter 7*.

4.4.3 Limitations & Outlook

While the theoretical contribution justifies the required time (Okoli, 2015, p. 882), a SLR is indeed a "Sisyphean task" (vom Brocke et al., 2009, p. 2207), especially if conducted by one researcher. Nevertheless, unlike meta-analysis, a SLR does not provide a quantitative synthesis. Although the author would like to show the merits of combining quantitative and qualitative research, she believes that meta-analysis is a promising research endeavor. In addition, she believes it would be valuable to include some of the excluded research streams or objects, such as studies on art investment or other art categories. She also expects added value for art auctions from examining the general literature on auction prices. Since the research field of art auctions is comparatively small and specific, it would be valuable to see to what extent the general research on (online) auctions is applicable to art.

In addition, since most studies apply quantitative research methods, this review lacks a qualitative perspective and thus, an in-depth explanation of art prices. In order to provide a conceptual framework for the mechanism of auction prices and justify theses, the author needs additional qualitative insights, practical knowledge, and examples. This is consistent with Arksey & O'Malley (2005) who state that "systematic reviews can be improved and the results made more useful if practitioners and consumers contribute to the work" (p. 28). This "consultation exercise" (p. 28) is conducted in *Study 2*.

5 *Study 2:* Semi-Structured Expert Interviews

Chapter 5 presents *Study 2:* eleven semi-structured expert interviews with professionals from the largest auction houses[13] in the GSA region. The study is exploratory in nature. It aims to understand auction prices from a practical perspective. The aim is to complement the theoretical background (*Study 1*) with professional knowledge and experience *(Study 2*). *Study 1* and *Study 2* together form the basis of the conceptual framework. Chapter 5 is divided into four subchapters: *5.1 Method* summarizes the interviewing literature and documents the preparation and implementation of the interviews. *5.2 Results* presents the findings. *5.3 Discussion* reviews the findings. *5.4 Conclusion* critically reflects the study. It outlines the contribution, identifies limitations, and formulates theoretical and practical implications.

5.1 Method

The dominant research type in social sciences is empirical research. Empirical research is based on human observation and aims at „obtaining direct, observable information from the world, rather than, for example, by theorizing, or by reasoning, or by arguing from first principles" (Punch, 2014, pp. 2). One can distinguish in quantitative and qualitative research (Bernard, 2012, pp. 22; Punch, 2014, pp. 3): Qualitative research is used for the exploration of a research field. Likewise, a qualitative method is chosen for the exploratory purpose of this study (Punch, 2014, pp. 19). To complement *Study 1*, this study aims to provide a practical perspective to the question which factors influence prices (RQ1), and to understand *how* different factors influence prices (RQ2). The research questions are:

Research Question 1 (RQ1): *Which factors influence prices at art auctions?*

Research Question 2 (RQ2): *How do these factors influence prices at art auctions?*

5.1.1 Expert Interviews

The term *interview* describes a meeting between different parties that is based on questions about a topic or person ([Interview], n.d., para. 1-3). Interviews are suitable

[13] subsidiaries of the largest international houses and the largest national houses

to answer explorative research questions (Punch, 2014, pp. 19). They study behavioral patterns, opinions, and attitudes (Buber & Holzmüller, 2009, p. 419). In other words, interviews analyze „the contexts of different people's everyday social, cultural, political and economic lives" (Crang & Cook, 2007, pp. 60). Due to the complexity and particularity of this research, expert interviews are selected as suitable interview form. Expert interviews are common in qualitative, explorative research (Buber & Holzmüller, 2009, p. 418; Diekmann, 2010, p. 34; Starks & Brown Trinidad, 2007, p. 1375). They focus on experts' advanced knowledge and practical experience in the field (Mey & Mruck, 2007, p. 254).

5.1.2 Sample

Data quality depends on the selection of interview partners (Gläser & Laudel, 2010, p. 117). *Table 7* in the Appendix shows the four-point approach to qualitative sampling by Robinson (2014, p. 26):

1) *Sample universe:* Interview partners should belong to the same *sample universe* (Robinson, 2014, pp. 25). In this case, the sample universe includes (former) professionals from subsidiaries of the largest international auction houses (*Level 3*) and the largest national auction houses (*Level 2*) (Throsby, 1994, p. 5). Practical experience in the industry qualifies the interviewees as experts (Flick, 2018, p. 166). Due to feasibility and market access, the *target population* (Robinson, 2014, p. 27) is limited to the GSA region.

2) *Sample size:* The final *sample* includes eleven interview partners. While this *sample size* may seem small, it mirrors the small size of the *target population*: The largest Swiss auction house *Kornfeld* has 12 employees, the Swiss subsidiary of *Christie's* less than ten. Due to the small target population, *data saturation* is chosen as determinant of sample size (Fusch & Ness, 2015). Fusch & Ness (2015) characterize saturation as a combination of rich (quality) and thick (quantity) data. Richness is assured here through in-depth interviewing, thorough transcription, and rigorous analysis. Thickness is confirmed at the final interviews, which provide no additional information. Likewise, saturation reflects "the point of no new data" (ibid., p. 1409).

3) *Sample strategy:* The *sample strategy* combines convenience and purposive sampling (Robinson, 2014, p. 31). *Purposive sampling* is common in qualitative, social research (Mayring, 2010, p. 603). According to Robinson (2014), „[p]urposive sampling strategies are non-random ways of ensuring that particular categories of cases within a sampling universe are represented in the final sample“ (p. 32). More precisely, quota-selection is applied (Miles & Huberman, 1994, p. 28). Quota-selection identifies 'major subgroups' in the sample population which are "representative of their occurrence in the target population" (Miller & Brewer, 2003, p. 273). Here, an acquisition list is created for the three to five largest national auction houses per country, including the subsidiaries of the two largest international auction houses *Christie's* and *Sotheby's*. The first three respondents were selected using the *convenience sampling* method which identifies „potential participants who are convenient in their proximity and willingness to participate“ (Robinson, 2014, p. 32). These interviewees are selected from the author's professional network. Heterogeneity is ensured by including a variety of professions (Gläser & Laudel, 2010, p. 117; Robinson, 2014, p. 27).

4) *Sample sourcing:* The sample is *sourced* on the basis of the acquisition list. Interviewees are contacted one by one via email and receive an introduction of the researcher, the research project, and the research institution (Dresing & Pehl, 2015, p. 12). All interviews are arranged via email and scheduled in person. Interviews are conducted until content saturation and a balanced geographical distribution are ensured.

5.1.3 Guideline & Implementation

The study uses a semi-structured guideline interview. Guideline interviews with experts are suitable if they address several topics and aim to uncover specific knowledge (Gläser & Laudel, 2010, p. 111). Interview guidelines are predefined questions in a specific order. The questions should be short, understandable, open, process-oriented, and text generating. Semi-structured means that the interviewer can modify the sequence, ask follow-up questions, and set individual foci to encourage an open discussion (Dresing & Pehl, 2015, pp. 10; Gill, Stewart, Treasure, & Chadwick, 2008, p. 291). Flick (2018, p. 150) finds that open discussions encourage interviewees to share more information, compared to standardized interviews or questionnaires.

Complete transcripts in standard orthography are created for each interview. Transcription is the first step of data analysis (Misoch, 2015, pp. 252). It is a prerequisite for systematic data analysis in qualitative research and ensures the quality of data interpretation. The term "transcription" comes from the latin verb *transcribere* and means transfer of verbal data into written form (Dresing & Pehl, 2015, p. 17; Misoch, 2015, p. 249). This requires a *transcription system* or *transcription rules*, *tape logs*[14] and *transcription heads*[15] (Dittmar, 2004, pp. 227; Misoch, 2015, pp. 259). The *transcription rules* are defined following Dresing & Pehl (2015, p. 21) (*see Table 8* in the Appendix). For each interview, a *transcription head* (see *Table 9-20* in the Appendix), and a *tape log* in *f4 transkript* are created. To increase data quality, all interviews are conducted and transcribed manually by the author (Mero-Jaffe, 2011, p. 233). To assure reliability, all transcripts are reviewed (Dittmar, 2004, p. 231; Dresing & Pehl, 2015, p. 20; Misoch, 2015, p. 252).[16]

During data analysis, transcripts are coded in the computer software *atlas.ti*. Coding represents "a way of (…) indexing or mapping data, to provide an overview of disparate data that allows the researcher to make sense of them in relation to their research questions" (Elliott, 2018, p. 2851). Punch (2014, p. 174) divides the coding process in first level and higher order coding: *First level codes* are descriptive summaries of data. *Higher order codes* are inferential and interpretative codes. They are based on descriptive codes and discover patterns in the data. Relevant statements are identified based on the research question. Then, each statement is assigned one (or more) code(s). Elliott (2016, p. 2852) discerns between codes and categories: *Codes* are first order, descriptive or inferential labels of data pieces. *Categories* are higher order groups of codes which reflect a general idea or broad theme in the literature. Throughout the coding process, and with increasing level of abstraction, codes and categories emerge (Wolfswinkel et al., 2013, p. 50). The total number of codes depends on the data. It usually lies between 30-300 and should be lower than thousand (Elliott, 2018, p. 2852).

During higher level coding*, Gioia method* (Gioia, Corley & Hamilton, 2013) helps to develop an inductive theory. Like Okoli's (2015) guideline, Gioia method ensures methodological rigor in qualitative research. It is designed for the study of socially

[14] A *tape log* is an audio protocol of the interview.
[15] A *transcription head* is a descriptive summary including interview number, interviewee name, age, and gender, and interview time, place, duration, mode (face-to-face, telephone, etc.) and atmosphere (Misoch, 2015, p. 259).
[16] All transcripts are available in *Appendix C*.

constructed processes and identifies mechanisms and phases of the auction process (Rousseau et al., 2008, p. 53). The method "focus[es] more on the means by which organization members go about constructing and understanding their experience and less on the number or frequency of measureable occurrences" (Gioia et al., 2013, p. 16). While the frequency of codes should not be interpreted, "[c]ounting may also provide a useful indicator for the importance of a given code (Elliott, 2018, p. 2857).

According to Gioia et al. (2013), the people that are involved in the social construction are "knowledgeable agents" (p. 17) who can explain their attitudes, motivations, and behavior. Investigating their experience "creates rich opportunities for discovery of new concepts rather than affirmation of existing concepts" (ibid.). This confirms once again the choice of experts as interview partners. In short, Gioia method is chosen for three main reasons: It presents a systematic methodology, documents sense-making, and ensures qualitative rigor and creativity at the same time. As a result, it produces comprehensible and credible results. *Figure 7* presents an excerpt of the data analysis in *atlas.ti* to illustrate the coding process.

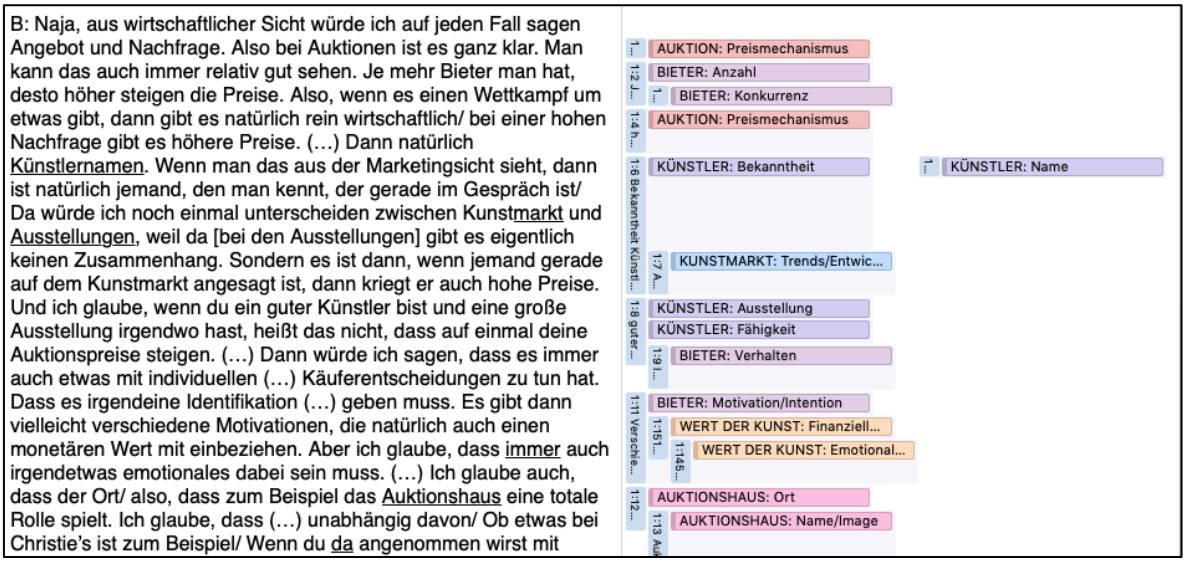

Figure 7: Coding Excerpt from Atlas.ti (Source: Atlas.ti).

5.2 Results

This section presents the results of *Study 2*. It is divided into a descriptive and a content analysis. It summarizes information about the factors practitioners consider important and presents original quotes to support and illustrate their statements. The subsequent

discussion reflects and visualizes these findings. Based on contradictory statements and a comparison between theory (*Study 1*) and practice (*Study 2*), seven controversial theses are formulated for *Study 3*.

5.2.1 Descriptive Analysis

This section describes the sample, the guideline, and the resulting categories and codes.

5.2.1.1 Sample

The final sample includes eleven interviewees, eight females and three males. The unbalanced share between men and women results from the selection process. It also suggests a female dominance in the profession. The occupations include five managers, four art experts, and two marketeers. The geographical distribution includes four German, four Swiss, and three Austrian auction houses or subsidiaries, resembling the countries' global market shares.[17] The sample includes seven auction houses with three interviewees from *KARL & FABER,* two from *Christie's* and *Sotheby's,* and one each from *Kornfeld, Dorotheum, Lempertz,* and *Van Ham.* Six of these houses belong to the twelve biggest auction houses in Europe (Statista Research Department, 2015).[18] All interviews are conducted between 26 April 2019 und 30 March 2020, nine in person, two via telephone. The interviews last between 35 and 76 minutes, with a total of 10.18 hours of interview material and an average duration of 51.5 minutes.

5.2.1.2 Guideline & Transcription

The interview guideline is based on *Study 1* (see *Appendix B*). It starts with an introduction of the interviewer and interviewee, followed by 20 explorative, open questions. The questions explore the art auction price mechanism, including the price determinants identified in *Study 1*. In addition, the relation between the value and price of art, and the meaning of record prices is investigated. Since all interview partners are German native-speakers, the interview language is German. Interviewees are given a "monologic right to speak" (Dresing & Pehl, 2015, pp. 11). All interviews are tape-recorded with the interviewee's consent and manually transcribed with the transcription

[17] 2% Germany, 2% Switzerland, 1% Austria
[18] *Figure 31* in the Appendix shows the sample distribution across genders, occupations, and countries. *Figure 32* in the Appendix shows the distribution of auction houses.

software *f4transkript.* A *tape log* of each interview is available in *f4transkript.* All *transcripts* and *transcription heads* are available in *Appendix D & E*.

5.2.1.3 Categories and Codes

The author assigns first level descriptive codes to 814 citations (42-112 per interview), relating to 73 higher order codes, and ten categories. Each code is numbered in the format (X(*number of interview*):Y(*number of code*)).[19] The number of descriptive codes assigned to higher order codes is indicated in the result section.[20] *Figure 8* shows the coding process and one example for Code 1:78.

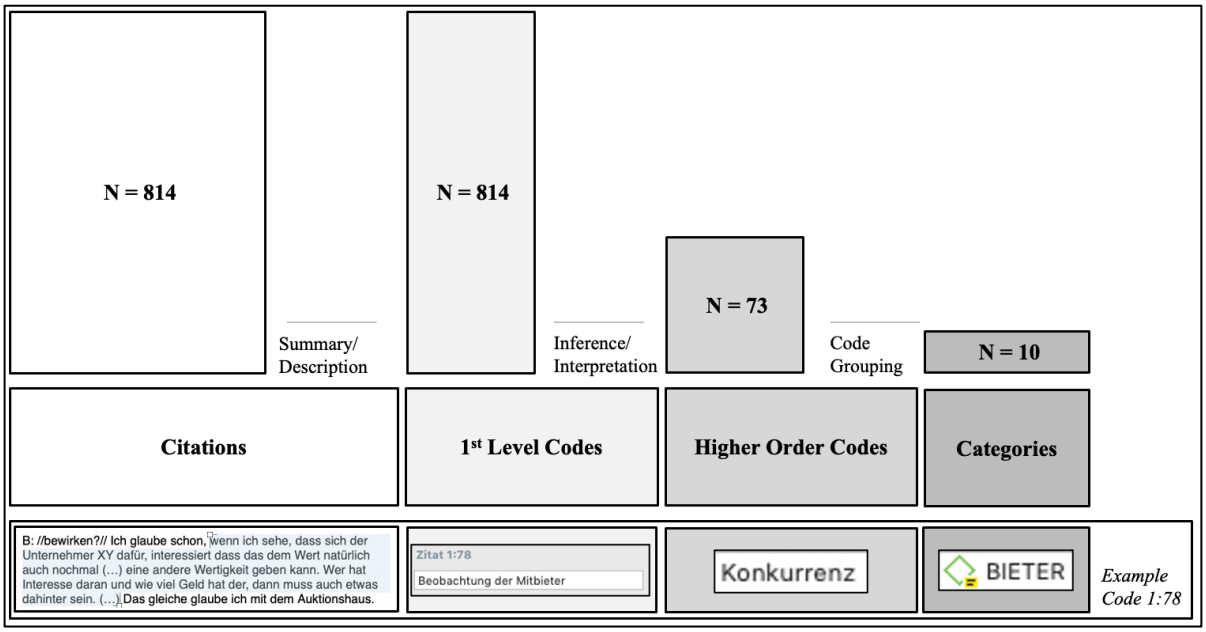

Figure 8: Coding Process including Example (Source: Own illustration based on Elliott, 2018, pp. 2852).

The ten resulting categories include six categories that group related price determinants: *The Artist, The Artwork, The Auction House, The Auction, The Bidder(s),* and *External Factors.* Two categories summarize practical knowledge about *The Value of Art,* and *The Price of Art.* One category summarizes the *Case Study of the 'Salvator Mundi',* another compiles practice-relevant *Research Topic*s. On this basis, a call for future research is formulated. *Figure 9* shows the ten categories and 73 higher order codes:

[19] For instance, the Code (7:17) refers to Code 17 in interview 7.
[20] See category 'The Artist: Name'

SEMI-STRUCTURED EXPERT INTERVIEWS
10 Categories incl. 73 Higher Order Codes

1) The Artist (Name, Fame, Trends)
2) The Artwork (Quality, Condition, Rarity, Attribution, Authenticity, Size, Medium, Dating, Canonization, Publications & Exhibitions, Provenance, and Reference Prices)
3) The Auction House (Location, Premises, Image, Expertise, Network/ Outreach, Employees, Marketing, Customer Management, and Consignors)
4) The Auction (Price Mechanism, Price Level, Timing, Spatial Arrangement, Concept, Preparation (Time), Atmosphere, Digitalization, and Auctioneer)
5) The Bidder(s) (Wealth, Willingness-To-Pay, Personality, Expertise, Intention, Behavior, Number of Bidders, Mood, and Competition)
6) External Factors (Economy, Law, Politics, Environment, and Society)
7) The Value of Art (13 Value Dimensions)
8) The Price of Art (Role of Art Prices, Price Segments, Price Estimate, Hammer Price, Criticism)
9) Case Study 'Salvator Mundi' (Artist, Artwork, Auction House, Marketing, Bidder(s), and Criticism)
10) Research Topics (Customers, Auction Dynamics, Art History, External Factors, and Art Market Growth)

Figure 9: Ten Categories incl. 73 Higher Order Codes (Source: Own illustration).

Figure 10 shows the six categories of price determinants (compare to *Figure 4 & 5*).

THE ARTIST	THE ARTWORK	THE AUCTION HOUSE	THE AUCTION	THE BIDDER(S)	EXTERNAL FACTORS
Name	Quality	Location	Price Mechanism	Wealth	Economy
Fame	Condition	Premises	Price Level	Willingness-To-Pay	Law
Trends	Rarity	Image	Timing	Personality	Politics
	Attribution	Expertise	Spatial Arrangement	Expertise	Environment
	Authenticity	Network & Outreach	Concept	Intention	Society
	Size	Employees	Preparation (Time)	Behavior	
	Medium	Marketing	Atmosphere	Number of Bidders	
	Dating	Customer Management	Digitalization	Mood	
	Canonization	Consignors	Auctioneer	Competition	
	Publ. & Exhibitions				
	Provenance				
	Reference Prices				

Figure 10: Six Categories (Source: Own illustration).

To illustrate, all higher order codes relating to the influence of the artist on auction prices are grouped in the category "The Artist". The final category consists of three higher order codes, the artist's *name*, *fame*, and *trends*, which are inferred from 26 first level codes. One example for a first level code is „[n]otoriety by originality and

peculiarity work of art" (7:20: "Bekanntheit durch Originalität und Besonderheit Kunstwerk").[21] *Figure 33* in the Appendix shows the category "The Auction House" and the assigned codes as example.

5.2.2 Content Analysis

5.2.2.1 The Value of Art

The interviewees name *13 value dimensions* (in order of frequency): financial, true, market, art-historical, emotional, social, aesthetic, ideational, symbolic, cultural, artistic, material, and subjective value.

THE VALUE OF ART *13 Value Dimensions*	
• financial value	*– 11 Codes*
• true value	*– 10 Codes*
• market value	*– 8 Codes*
• art-historical value	*– 7 Codes*
• emotional value	*– 5 Codes*
• social value	*– 5 Codes*
• aesthetic value	*– 3 Codes*
• ideational value	*– 2 Codes*
• symbolic value	*– 2 Codes*
• cultural value	*– 2 Codes*
• artistic value	*– 2 Codes*
• material value	*– 1 Code*
• subjective value	*– 1 Code*

1) *Financial value* (11:11) is the "speculative component" (1:25), "money value" (3:8), or "monetary value" (1:151) of art. It has become more important throughout globalization (2:17). One interviewee admits, "I always think about what it costs. (…) [I]t is impossible to dissociate if you work in this field. You always compare" (8:33). Today, art trade resembles the stock exchange (1:25). Some people only buy art if they consider it "lucrative" (3:8) or associate art investment with social affiliation (3:10). Their connection to art constitutes "a mere factual relationship" (2:42). Financial value has nothing to do with the true value, or essence, of art (2:42; 2:87). Instead, art becomes

[21] Full Citation: "Das heisst, die Aufmerksamkeit, die ein Kunstwerk erregt und auch etwas Neues bringt, hat (…) einen Einfluss darauf, wie man wahrgenommen wird. Das ist auch das Ausschlaggebende, einer der ausschlaggebenden Punkte, wann ein Künstler für den Sekundärmarkt gereift ist: der Bekanntheitsgrad. Der ist einfach auch durch die Originalität und die Besonderheit eines Kunstwerkes stark beeinflusst.

a “refuge to save money” (2:87). While works of Modern art (2:90) are considered a safe investment, more and more unknown artists obtain „fantasy prices“ (2:93).

2) *True value* suggests that there is something like a “real” (1:83; 2:20), “genuine” (2:42), or “right” (2:18) value of art. Apparently, true value is recognized by the market (1:83). However, prices for certain artists are disproportionate (2:20), and many valuable artworks do not obtain adequate prices. Furthermore, buying art for self-expression or for storage has nothing to do with its actual value (2:52). Likewise, the value of art is hard to quantify (2:19; 6:6), and something completely different than the price (2:15).

3) *Market value* reflects the price of an artwork at a certain point in time. It depends on economic factors like demand and supply, the economic and political situation, the location, the auction context (7:21), art market recognition (8:12) and taste (11:74). Due to the role of taste, unfashionable object categories like furniture or rugs can disappear from the auction market (9:9). While “no reliable parameters exist to assess an artwork” (6:8) at any point in time, market value is assessed in the moment of sale. It *can* reflect the value of an artwork (11:9). Only one interviewee finds that at auction, “the price *definitely always* (…) equals the value” (8:16; [emphasis added]). Accordingly, the relation between value and price is “parallel”, “constant”, “a correlation” (8:12; 8:16).

4) *Art-historical value* relates to the role of an artwork in (art) history (11:14; 11:16), including its scientific (3:71) and historic contextualization (11:13). Art-historical value (11:82) is independent of the economic market. It is influenced by e.g., innovative capacity, by whether “an artwork or artist has initiated a certain [art] stream” (11:15). Historic contextualization points to “the value of an artwork in a certain context (…)”, which is “a considerable factor beyond the price” (11:13). An artwork reflects “[w]hat has moved people in a certain time? And why did it move them?” (11:16).

5) *Emotional value* (1:145; 3:1; 3:2; 3:7; 6:7) mirrors that buying art is motivated by “many emotions” (3:2), “very emotional” (6:7), or “mainly an emotion” (3:1).

6) *Social value* reflects that art is bought for “self-presentation” (2:18), “standing” (3:9), or affiliation (3:10).

7) *Aesthetic value*, the beauty or sophistication of art, is a relevant purchasing motif (8:34).

8) *Ideational value* (1:27, 7:16) means that art reflects perspectives, values, or needs.

9) *Symbolic value* refers to what a person sees in an artwork (3:4; 9:6).

10) *Cultural value* emphasizes the relevance of art as cultural artifact (1:128; 1:130).

11) *Artistic value* refers to the "artisan" (7:18) and "qualitative value of art" (2:116) including "the quality of execution, the originality of an artwork, (…) [,] the attention an artwork attracts and the novelty it creates" (7:19). There may be a „discrepancy between the quality of an artwork and what is in demand on the market" (7:18). In other words, the price is not always a mirror of artistic value (2:16; 7:18).

12) *Material value* or "object value" (7:17) describes the value of the materials used.

13) *Subjective value* (2:62; 3:5; 3:30; 4:6; 9:6) represents the "personal value" (4:6), "individually assessed value" (2:62; 3:30), "relation with" (3:5), or individual "use value" (9:6) of art for an individual.

The interviewees disagree regarding the relation between the value and price of art: Either the price on the secondary art market equals the value of an artwork (1:83; 8:12; 8:16), or the value is disproportionate with and something completely different than the price (2:15; 2:19; 6:6; 11:74), or the price *can* reflect the value of an artwork ([Emphasis added], 11:9; 2:20).

5.2.2.2 The Price of Art

The interviewees discuss the *role of art prices*, different *price segments* and price types, including *price estimate* and *hammer price*. They also share *criticism* about art prices.

THE PRICE OF ART	
1) Role of art prices	*– 5 Codes*
2) Price segments	*– 6 Codes*
3) Price estimate	*– 8 Codes*
4) Hammer price	*– 22 Codes*
5) Criticism	*– 12 Codes*

1) Role of Art Prices (5 Codes)

Prices are a *central issue* in the art market (11:1). They are "the mainstay" (11:3) of art trade, "the basis (…) for the buying and selling of artworks, which, evidently, is no statement of the quality of an artwork" (11:3). Prices have gained a quality of their own (10:1). Unfortunately, people talk more about prices than about art (4:3; 4:58).

2) Price Segments (6 Codes)

One must discern between *primary* and *secondary art market* (4:11; 6:2, 6:34). While prices on the secondary art market are "objectified market prices" (8:37), on the primary market „one can call every price, as long as one finds someone who is willing to pay it" (6:2). Auction prices for living artists are usually lower and "very often miles apart" (6:2) from the „fantasy prices" (6:34) of galleries (6:2; 9:38). One the other hand, the art market has different *price segments* and high prices only account for a small segment of the market (9:1). While „[e]veryone is talking about high prices in the art market, but in fact, we are only talking about the contemporary art market, or maybe the modern art market, but not about the whole rest of the field, where there are basically no heights" (9:1).

3) Price Estimate (8 Codes)

The *price estimate* is defined prior to the sale (7:5). It depends on 'hard facts' (1:21; 1:29) including the *artist* and the *artwork,* e.g., provenance, rarity, origin, technique, subject, and condition (7:7; 7:9; 8:68), and *reference prices* (7:7). Apparently, every artwork sells if it has the *right price estimate* (8:76). However, "[t]he art market is not an exact science" (8:5; 8:68). This makes defining the 'right' price estimate a *challenge* (4:2). At the same time, experts can define *accurate price estimates*, of around 80 to 90% accurateness (8:2). The level of accurateness depends on the extent of *art-historical documentation* (11:95). Likewise, „art history itself has made a very clear selection of art over centuries and has considered pieces as valuable and has written

works on them, and clearly did not consider pieces as valuable and did not write about them“ (11:95).

4) Hammer Price (22 Codes)

The *hammer price* reflects the “amount of money” (9:4) at which an artwork is hammered down. It is influenced by a *variety of price determinants*, by “many (different)” (7:8; 11:5) and “diverse” (5:11; 5:21) *influenceable and uninfluenceable* (1:68), as well as “predictable and unpredictable variables” (1:16). The *tangible, measurable* and *hard factors* (1:21; 1:24; 1:29; 4:7) include supply and demand, the economic situation, and art investment (7:6; 7:10). Other factors are artwork condition and Zeitgeist (11:5). The hammer price is *complex* and *multidimensional* (7:13). All price determinants together form a *relationship network* (5:11; 5:21; 11:18). This means that “[e]very single one matters. The more fits, the higher the price” (5:11). However, there exists *no formula* and “it can also go wrong. (…) There is no guarantee” (5:21). The remaining uncertainty makes the formation of art prices a *complicated* (5:97), *fragile* and *emotional* (5:72) topic. Only a small portion of artworks obtain high prices (9:2). Nevertheless, the focus of the *media* (4:1) and the *public* (9:3) is on high prices, while “[t]he whole other market is not even discussed in the press, only in certain specialist circles” (9:3). This “*sensation-seeking*” (9:3) behavior complies with our current world. *Prices will continue to rise*, and eventually “the Da Vinci will be topped” (3:62).

5) Criticism (12 Codes)

Some interviewees share *5) criticism* on art prices: Record prices in the millions are described as “*abnormal*” (3:12) and “*absurd*” (3:79). They are associated with *price fluctuations* (11:2) and the bursting of *price bubbles* (3:13). While doubling prices is acceptable given seller costs, rent and resale risk (8:9), a ‘*pain threshold*’ is reached when prices increase tenfold (8:9). Thus, a *critical reflection* of prices and *limits* is necessary from an ethical perspective (1:27; 1:141; 1:148; 3:79). Instead of “unrestrained growth” (1:125), prices must be *transparent, traceable, tangible, fair, verifiable, comprehensible,* and *democratic* (1:116; 1:117; 1:148).

5.2.2.3 The Artist

Relating to the artist, the interviewees emphasize the importance of the *name* and *fame* of artists, as well as *trends* for prices.

THE ARTIST	
1) Name	*– 8 Codes*
2) Fame	*– 8 Codes*
3) Trends	*– 10 Codes*

1) Name (8 Codes)

The artist's *name* is relevant to prices (1:5; 4:15; 5:4; 6:14), to the point that *names command high prices* (2:16). Yet, the role of the artist's name varies for different *types of collectors.* Some collectors explicitly look for certain names (2:1; 2:7), especially in Contemporary Art where names are like *brands*, and artists are like *popstars* (9:16).

2) Fame (8 Codes)

The impact of the name depends on the artist's *2) fame* (1:6; 6:12; 6:36). In other words, the artist must be "someone you know, someone who is in conversation" (1:6), either due to the originality and particularity of their *artwork* (7:20)[22], or through success on the *primary art market* (6:13)[23]. Fame is closely linked to an artist's *reputation* (6:36) and *market value* (6:12; 7:65). The latter is mirrored in "exhibitions, current exhibitions, retrospectives, *documenta,* and *Biennale* participations" (6:13). Fame makes "great artists" immune to economic crises (11:81), and even controversial works – such as the 'Salvator Mundi' – sell for record prices (8:22).

3) Trends (10 Codes)

Beyond fame, *3) trends* and *hypes* cause additional demand for artists (9:8; 10:2). Currently, a lot of *novel* and *young artists* are selling for high prices on the primary (5:90; 11:70) and the secondary market (7:62). So-called *first open' auctions*[24] especially attract young collectors, with the required *risk appetite* and *willingness to buy* (11:70). In addition, auction houses actively *(re)discover artists* (8:69; 8:73; 10:13). One example is the consideration of *social and political issues* in the art market (8:69), which one interviewee describes as a "desperate search (...) for positions that map

[22] see category 'The Artwork'
[23] see category 'The Art Market'
[24] which means that artists are sold at auction for the very first time.

certain patterns like gender discussion, race discussion, certain (...) political discussions" (8:69). As a result, trendy artists obtain "total fantasy prices, (...) which completely exaggerate the prices of long-established artists" (2:91). It is questionable whether these short-term "stars" (10:5) can sustain high prices in the long-term.

5.2.2.4 The Artwork

The interviewees mention the role of the artwork's *quality, condition, rarity, attribution, authenticity, size, medium, dating, canonization, publications and exhibitions*, *provenance,* and *reference prices* for prices.

THE ARTWORK	
1) Quality	*– 17 Codes*
2) Condition	*– 9 Codes*
3) Rarity	*– 6 Codes*
4) Attribution	*– 2 Codes*
5) Authenticity	*– 1 Codes*
6) Size	*– 2 Codes*
7) Medium	*– 1 Codes*
8) Dating	*– 1 Codes*
9) Canonization	*– 28 Codes*
10) Publications/Exhibitions	*– 16 Codes*
11) Provenance	*– 13 Codes*
12) Reference Prices	*– 20 Codes*

1) Quality (17 Codes)

Quality (4:25; 5:3; 5:38; 5:39; 9:7) refers to the "*artistic quality*" (10:41) of a work, *the quality of execution* (7:19) or *composition* (4:18). It is "the most important thing" (5:87), "absolutely crucial" (5:39). This is because "whatever crises the art market has had over the years, these tips have always gone well" (5:38). The quality of art may vary within one oeuvre (5:87). This is why a physical examination of each work is necessary to assess quality. In other words, "you have to see the stroke, you have to see the feeling" (5:87). The interviewees disagree regarding the relation between artwork quality and price: Either "a high price indicates artistic quality" (10:3) in 90% of cases, or an artwork "which has a high price is likely to be of high artistic quality. This no longer applies for what has no price or a very low one" (10:7), or "(t)he price is always a pivotal point, (…) but (…) has no meaningfulness about the quality of an artwork" (11:4). One interviewee adds that quality must be recognized by the market for an artist to receive a corresponding price (5:24; 10:7). Another interviewee explains that it is *not*

merely quality, but the combination of quality with other factors that leads to high prices (5:22). Yet, one interviewee *qualifies the role of quality* by saying that it matters „in the best case“ (6:10).

2) Condition (9 Codes)

Condition (2:8; 2:65; 4:13; 6:16; 11:7; 11:20; 11:27) is informative of an artwork's *conservation status* (9:7). While a good condition is required for a successful sale, some "sources of live" (4:13) are unavoidable. Prior to a sale, information on storage and restoration (11:20) is summarized in the *condition report* for each artwork (4:56).

3) Rarity (6 Codes)

Rarity (5:6; 9:14; 10:31; 11:17) is associated with *uniqueness* (9:7), and *accessibility* (11:17). The degree of uniqueness depends on whether an artwork is a unique, a copy or a multiple (11:17), on the edition size (if applicable) (6:15), and the number of comparable artworks (10:31). Accessibility depends on if and how often an artwork is up for sale. One expert illustrates the example with the South Seas paintings by Paul Gauguin: "If (…) one comes on the market, (…) it may be the only one that is available at all in your lifetime" (10:31).

4) Attribution (2 Codes)

Attribution refers to the assignment of a work to a certain (group of) artist(s).[25] The attribution including its *reliability* and *source* is important for prices (11:41; 11:21). It "makes a blatant difference" (11:21).

5) Authenticity (1 Code)

Authenticity reflects *genuineness* and confirms attribution (5:5). It excludes the possibility that a work is a forgery or that the attribution is false.

6) Size (2 Codes)

Size refers to the dimensions and measurements of an artwork (1:23; 6:11).

7) Medium (1 Code)

Medium reflects the *type of artwork*, e.g., painting, drawing or sculpture (11:26).

[25] see category 'The Artist'

8) Dating (1 Code)

Dating characteristics provide information about the *date of origin* or the affiliation of a work with a specific epoch (2:7).

9) Canonization (28 Codes)

Canonization refers to the *selection* (11:96) and *institutional recognition* of artworks within art history (10:68). It emphasizes the *meaning* (4:15; 7:66), *importance* (4:15), and *artistic value* of an artwork (10:11; 10:12; 10:69) within the art world. In more detail, canonization defines

"[w]hat the institutions have digested over the decades, so to speak, this canon, is not conclusive and (...) it is edited again and again, in retrospect. (…) It is a concert in which the independent, that is, in the best case, state-organized, democratically organized institutions, and that means the Western world, have the loudest voice. Then to this chorus belong in principle the art critics, the great collectors, the great gallerists, who with their selection express something that is very strongly perceivable today" (10:11).

Canonization is important for prices because *artistic quality* must be recognized by the *market* (10:7; 10:14) for *economic valuation* to take place (11:97). Contrary, "[t]here can be no price for an artist that no one knows" (5:93). One interviewee elaborates the *consequences of canonization*. Accordingly, "what has a high price is very likely to have a high artistic quality" (10:7), but "conversely (…) there is a great deal of art that is likely to be highly interesting artistically, but which is not perceived by the market systems and therefore does not have this distinction of high price" (10:7). More recently, institutions have begun to *reconstruct* art history by adding positions on *social issues*, such as gender and race (8:71; 8:72). One interviewee finds this problematic, commenting "until 1950, women were less present. (…) I can't change it" (8:71).

In the 'concert' of canonization, primary and secondary market play different roles: The primary market creates values, the secondary market confirms these values (or not) (8:17). Initially, institutions on the *primary market* create an *awareness* for certain artists and artworks (2:84; 5:93; 6:13; 7:15). More precisely, museums (2:13; 5:9; 5:60), galleries (10:6), prizes (5:60), art fairs (3:39), *documenta* and *Biennale* exhibitions, (6:13) set *trends* (5:61) and increase the *value* of art by showing certain positions. Here, artists usually gain the required level of *maturity* to enter the secondary market. Maturity reflects the price and recognition level, that prevents artists from failing at auction (7:15). Ideally, the selection mechanism of the primary market leads to a shortage that unloads on the auction market (10:60) and further reinforces the fame of

an artists (11:76). Hence, auctions are described as *delayed reflection of a dynamic primary market* (11:72). Finally, the influence of institutions is largely limited to the *Western world* (8:60). The power is concentrated in "a narrow strip between the USA and Europe, (…) and (…) a bit in Asia. (…) And (…) it is striking (…) [that] Switzerland is in fifth place with a 2% market share" (8.60).

10) Publications and Exhibitions (16 Codes)

Publications and *exhibitions* in collections and museums (2:11; 2:12) underline the *importance* and *relevance* attributed to a work.[26] They amplify its *significance* and increase the *attention* and *willingness-to-pay* of (potential) buyers (2:47; 2:50; 7:43). Exhibitions include *national* and *international exhibitions* (5:13; 5:16; 11:45), *before and during the auction* (5:13; 5:44), as well as *on- and offline*. On the one hand, the importance of a work is reflected in its position in the *auction room* (2:44; 5:18; 5:46; 5:48; 7:43). The *most important work* is positioned right behind the auctioneer (5:46) – like the shredded Banksy – because these are the images that command headlines (7:43). Ideally, each artwork in the room "must be well lit. It must stand on its own. It must not be disturbed by the neighborhood of other works that have nothing to do with it" (2:47). However, according to one interviewee, only the *highlights* are presented adequately. The remaining "works are not even straight and have no dignity" (2:46). On the other hand, the importance of a work is reflected in its presentation in the *print and digital catalogue* (3:22; 5:42; 11:68). This includes the catalogue position, the amount of description and contextualization, and the number and quality of images presented (3:22; 5:42).

11) Provenance (13 Codes)

Provenance (2:64; 3:70, 4:28; 10:43; 11:39) refers to the history of ownership. Ideally, it is a *continuous documentation of important (last) collectors and collections* (4:14; 10:37), and "*major cultural players* of the Western world" (10:37). Furthermore, a work should *not have been traded too often* (4:27; 5:22). A good provenance is "fundamental" (2:9), a "big factor" (3:21). It boosts the *importance of a lot* (4:14), creates *trust* among consumers, and increases *willingness-to-pay* (11:39). However, the importance of provenance differs between media and eras: It is especially important in Classical Modernism (11:28) and only "in some cases" (6:17) for Prints. Connecting to

[26] see category 'The Art Market'

provenance, another relevant issue is the *restitution* of unjustly expropriated art. According to one interviewee, the restitution of works by Egon Schiele and Gustav Klimt has led to higher prices for their artworks (5:10).

12) Reference Prices (20 Codes)

Reference prices[27] are important anchors for bidders. Hence, it is crucial to define a "right" (5:43), "attractive" (5:55), and "adequate" (8:54) *price estimate* (3:15). A price estimate is *attractive* if an individual considers it *affordable* (5:55). A price estimate is *adequate* if it is neither too high nor too low: "If it is too low (…) it sells, but people suddenly become very reluctant to go higher (…). If it's too high, (…) [people] may sense that (…) it is priced for [them and] (…) do not go along" (8:54). In addition, *starting prices* are strategically set lower to animate buyers (4:4; 11:73; 11:75). *Reference prices* (6:1) or *current prices* (2:4) are helpful for valuation. Similarly, a lack of reference prices complicates the valuation of works by young artists (6:5). Beyond the individual level, the *general price level* (1:85) and *price development* (2:4) are crucial, especially if buyers consider a *resale option* (2:66; 8:15). While "[w]ith art, there is always a latent feeling that prices should go up, but most of the time they do not" (11:37). Only *1% of artworks* are eligible as investment (8:10).

5.2.2.5 The Auction House

The interviewees explain the role of the *location, premises, image, expertise, network/outreach, employees, marketing, customer management*, and *consignors* for prices.

THE AUCTION HOUSE	
1) Location	*– 9 Codes*
2) Premises	*– 12 Codes*
3) Image	*– 8 Codes*
4) Expertise	*– 6 Codes*
5) Network/Outreach	*– 21 Codes*
6) Employees	*– 9 Codes*
7) Marketing	*– 14 Codes*
8) Customer Management	*– 22 Codes*
9) Consignors	*– 12 Codes*

[27] see category 'The Price of Art'

1) Location (9 Codes)

The *location* (1:12; 1:19; 7:24) influences the *demand* (7:24) and *supply* (10:50) of art. It is especially important for the *acquisition* of artworks, since the "replenishment function of the area plays an important role" (10:50). For instance, a location with *wealthy inhabitants, economic prosperity*, and a high amount of *culture* and *competition* are beneficial for prices (3:58). As such, the location plays an "absolute role" (1:12). Ideally, and

"at the highest level, there's this metropolitan region where you have a large transit of foreigners, so you're more independent of what you can draw from the immediate region for supplies and at the same time you don't have to rely only on the local residents as potential buyers. (…) London, New York and Hong Kong are the best examples." (10:50)

Emphasizing the role of location, some auction houses have *target-group-specific* locations depending on the exclusivity and price segment of a sale (7:38). However, the artwork is far more important than the location or premises (1:81).

2) Premises (12 Codes)

The *premises* (1:79; 3:23; 4:61) mirror the *image* of a house and create a certain *atmosphere* (3:33) and *willingness-to-pay* (11:60). A premise "influences people in how they perceive the house and (…) how much the company invests to generate an appropriate atmosphere" (11:60). Likewise, a "beautiful room" (2:48) or "large representative rooms" (1:79) are like "a foot in the door" (2:45). They lead (potential) customers to return (2:45). In this context, the *auction room* is particularly important (2:48; 4:33). In addition, a harmonious interplay between the premises and the object(s) for sale is crucial (3:36; 11:55). While the premises may influence bidders *last minute*, most of them have made their decisions prior to the sale (7:24). The work and bidders are thus more important than the premises (1:81; 7:24).

3) Image (8 Codes)

The *image* (1:15; 2:126) refers to the effect of the *name* (1:15; 3:27) and *positioning* of the auction house on potential customers. The image represents the *reliability* (11:87), *economic security* (11:44; 11:87), *seriousness, self-presentation,* and external *appearance* of a house (11:44), as well as its *exclusivity* and *role in the art market* (2:88). It reflects "[w]hat we do. What we are. What we can achieve" (2:126). The image is crucial for the *trust* of bidders and consignors (2:126; 3:27; 11:87). Likewise, a *(brand) image* increases *willingness-to-pay* (1:13). For instance, clients at *Christie's*

assume higher prices (1:13; 1:15). The image is transported and reinforced by, e.g., the premises (11:60), and can be multiplied through *marketing* (2:88). This includes

"[h]ow to communicate to the outside world, with what kind of images, what kind of atmosphere (…), your website, social media, ads, events (...). The way you deal with customers. (...) That you position yourself as a company: What else do we deal with? That you don't just say, yes, we sell art and that's it. But that we also show that we also reflect art. (...) We are part of the art market. That one also lives this outwardly, (...) through publications" (2:88).

4) Expertise (6 Codes)

Expertise in *public and private sales* (8:35) generates trust. It includes the *overall experience* (3:26), *market knowledge* (9:27) and *specialization* (2:30; 2:32; 2:122) of auction houses. *Market knowledge* is beneficial, because the houses with the most knowledge about market participants are expected to 'make' prices (9:27). Specialization, e.g., on a certain style or epoch, affects the *image* (2:30) and motivates *consignments* (2:32; 2:122).

5) Network/Outreach (21 Codes)

Network and *outreach* are crucial because the *number of bidders* relies on it (2:113). The *reach to customers* is "the most important thing" (1:72). Hence, the *global reach* (9:23) and "larger distribution list" (1:14) of *Christie's* and *Sotheby's* are a competitive advantage (1:14; 9:23). Overall, public auction houses have a *network* advantage compared to dealers on the primary market, a "broader network" (8:42) and more "multipliers" (8:42) compared to private sales. More precisely, a "private sale (...) can only draw on a *network* of people who are (...) in the network. (...) The auction brings much more publicity (…) [and] more potential buyers" (8:40). Still, while many smaller *galleries disappear* (8:66), *top galleries* become a serious competition for auction houses, especially the Big Four, Zwirner, Pace, Gagosian, and Hauser & Wirth (8:67). Driven by the increasing importance of *emerging markets* and *online and hybrid auctions* (3:66; 6:52), auction houses have reinforced their *international presence* and increased their *number of (new) bidders* (4:51; 6:46). Auction houses have expanded to *new generations and new markets* (2:94; 2:95; 5:92), e.g., by establishing subsidiaries and acquiring clients in China, India, and the Arab Emirates. This "interconnectedness and presence at the market level is an important milestone" (11:46).

6) Employees (9 Codes)

Employees (3:23) create *trust* among customers, especially among consignors (3:61), through their "*professionality*" (3:31), "*interplay*" (3:60), "good *collaboration*" (3:61), *appearance* and *competence* (5:47; 5:50). In reality, there is always a *lack of manpower* (2:121), *insufficient exchange* between experts and marketing (2:105), and *no time* for reflection (7:64).

7) Marketing (14 Codes)

Marketing (2:108; 3:20; 5:15) attracts *attention*. This is why the big companies, including *Christie's* and *Sotheby's* (9:22), are considered a "marketing machine" (8:44), even an "insane marketing machine" (6:9). Marketing aims at *image promotion* (2:89), e.g., through (online) communication, advertisements, publications, promotions, events, and art prizes. The power of marketing is stronger for speculative works (1:84). The most important measures are *targeted marketing* (2:108), *digital media* (11:49), and *social media* (3:64). Collaborations with luxury brands are not very successful (5:67).

8) Customer Management (22 Codes)

Customer management is key for auction houses because the typical "customer wants to be 'pampered'. He wants to be courted. He must feel comfortable" (2:51; see also 2:52; 2:53; 6:4). This includes *targeted customer approach* (5:17), *acquisition* (1:67), *welcome* (2:53), *interaction* (2:114), *service* (2:53; 3:73), and *care* (5:57). The whole customer journey must be *personal* and *personalized* (2:54; 2:103), and full of attention, gestures, and appreciation (2:98). Beyond *direct marketing*, auction houses "make efforts to provide customer advice across all lines of business" (7:46). The overall goal is to create *trust* (5:58) and *retain customers* (2:98). Such active customer management takes years (7:4) and requires *customer understanding* (1:60). To understand customers, auction houses

"would simply have to know exactly what the structure of our clientele is – in the sense of: Who buys for investment? Who buys for passion? And so on – and have different types of art collectors who can be served in different ways. If we could understand the structure of our clientele and the motivation of the various groups within it, we could certainly act in a much more targeted manner in marketing" (2:117).

A lot of potential for targeted communication lies in *databases* (2:118). However, this potential is *unexploited* (2:117; 2:118) due to lack of *manpower* (2:119) and professional databases (2:104). Only one interviewee reports that they have recently merged with a company that performs *algorithm-based customer management* (7:46).

9) Consignors (12 Codes)

Consignors are of fundamental importance to auction houses because "[w]ithout them, there is no auction" (2:31). Hence, the *focus in customer relation* is on sellers, with strong and increasing *competition for consignors* (4:29; 7:3). More precisely, "[t]he market has become more and more limited in recent years. It is becoming more and more difficult to find original works that have not been on the market for a long time" (7:3). Due to their key role for auction houses, and the increasing competition, it is crucial for auction houses to *understand consignors* (2:97; 7:47) and *work towards attractive consignments* by establishing relations to potential consignors until the moment of sale (7:47). One interviewee explains that the *key reasons to sell* an artwork are good reference prices (1:111), individual circumstances like inheritance (1:110), or – in short – the *3 D's*: "death, debt, divorce" (1:108). Still, understanding the behavior of consignors bears a lot of *untapped potential* (2:99).

5.2.2.6 The Auction

The interviewees discuss the role of the *price mechanism,* the *price level,* the *timing,* the *spatial arrangement,* the *concept,* the *preparation (time),* the *atmosphere* during the auction, the impact of *digitalization,* and the practices of the *auctioneer* for prices.

THE AUCTION	
1) Price mechanism	*– 29 Codes*
2) Price level	*– 7 Codes*
3) Timing	*– 23 Codes*
4) Spatial arrangement	*– 10 Codes*
5) Concept	*– 25 Codes*
6) Preparation (time)	*– 7 Codes*
7) Atmosphere	*– 30 Codes*
8) Digitalization	*– 16 Codes*
9) Auctioneer	*– 24 Codes*

1) Price Mechanism (29 Codes)

The *price mechanism* is relevant because auction prices depend on *market* factors (4:17) including *supply* and *demand* (1:1). The demand for art includes *commercial, intellectual,* and *financial demand* (10:12). It reflects the *interest of individuals* (11:29) and is influenced by *collector's tastes* and *fashions* (5:25; 10:35; 11:74). Demand can be *transparent* or *unclear* (10:15; 10:26). It is especially important that demand be high

at a particular *time* (1:4; 3:45; 4:17; 7:11; 10:12; 10:33; 11:6). Auctions are geared to *sales and profit targets* (4:24). They start with a *preview* (2:49) and end with a *post-sale*, during which unsold artworks are offered for a fixed price (2:27).

The price is *not set* before the sale (2:25) but *negotiated* during the auction (1:36). The process of negotiation is compared to a *game* (3:35; 9:34), a "game (…) of value enhancement" (2:106). As such, there is "this *moment of the irretrievable*" (10:33): The auction is a "platform for surprises" (8:50), and *price surprises* are explained through surplus demand (10:24), "a fashion on the demand side that has not yet fully developed and is therefore not yet fully understood by the market systems" (10:24). As a result, prices range from *bargain opportunities* (2:25) to *surprisingly high prices* (5:62). Hence, there is always *risk* (8:38) and a "random factor" (11:29): But contrary to private sales, "only in the auction you have the possibility that two buyers suddenly turn off rationality and bid on a work much higher" (8:38). Final *prices* are public and transparent (1:31). They are "objectified market price[s]" (8:37), since the auction market has changed from dealer to *end price market* (8:7).

One interviewee provides two examples for an ordinary and an extraordinary auction. An *ordinary auction* happens every day. Due to the growth of markets and price levels, the expectations of sellers are high and prices just above the lower price estimate (10:32). An *extraordinary auction* exceeds expectations (10:33). For instance, in 'Blockbuster' auctions reflect "this moment of the irretrievable" (10:33) which creates a social mood that unloads during the auction.

2) Price Level (7 Codes)

Auction houses belong to different *price levels (5:95)*. For instance, *Christie's* is known for the top price level and *Dorotheum* for a broad range of levels (7:14). Price levels may affect the valuation of artworks (with higher price estimates at *Christie's* and *Sotheby's*) (9:21). There is

„the Level 1 Market (...) which is in all the newspapers. Then (…) the next one; (...) there's also art, which isn't bad, but it's levels below. And then there are probably some that are even further below. (…) You'll find individual pieces that absolutely have value, but the price is ridiculous." *(5:95)*.

Today, auction houses increasingly focus on the most profitable segments like Old Masters, Classical Modernism, Contemporary Art, and Jewelry (5:65), so that less profitable segments disappear (7:1).

3) Timing (23 Codes)

The *timing* of an auction – the *season*, the *day of week* and the *time of day* (1:18) – is *important for bidders and consignors*. It is *deliberately chosen* (4:35) and considers *buyers and sellers* (2:55; 2:58; 2:59; 4:31; 6:42; 11:69), *employees*, the *price segment* (7:36; 7:37; 7:39), the *competition* (3:39; 6:42; 7:54) and the *international art calendar* (7:54), including (gallery) exhibitions, fairs, and events.

• There is a routine regarding *season*: The *spring and fall auctions* are the most important ones (2:56; 4:21; 6:42), especially the auctions in *London* and *New York* in February, May, October, and November (4:21). On the one hand, the season is important for *private buyers.* Likewise, there are few auctions in summer, because people are more likely to be on holidays, do other things, or visit art fairs (3:39). In addition, the *Christmas season* has a special effect on bidders (3:37; 7:59; 11:68) and increases willingness-to-pay (11:68). Obviously, the role of Christmas (and timing in general) depends on *cultural factors* (11:69). On the other hand, the season is important for *sellers*. Consignors often want to sell before year end (7:59) and assume that the fall auctions are more successful (6:42). This is "complete nonsense" (6:42), because the spring auctions perform better for some categories (6:42).

• There is a routine regarding the *day of the week*: Auctions take place on the *same weekday* for convenience – for communication, buyers, and sellers (2:58; 2:59). However, auctions on the weekend may be an attractive event for bidders (2:60).

• The *time of the day* is based on the *availability of bidders* (2:55; 4:31), the *feasibility for employees* (4:32), the *exclusivity*, and the *price segment* (7:35; 7:36; 7:37; 7:39). For instance, auction houses consider international *time differences* to increase the number of bidders worldwide (2:55; 4:31). They attract the highest number of auction room bidders in the *evening* (2:55). *Evening auctions* have "another degree of importance" (7:35). They are in the *higher price segment*, which manifests in an elegant setting and clothing. One interviewee elaborates,

"[t]here are more works in the lower price segment (…) and one wants to give the works in the higher price segment this level of importance. The evening auctions are usually limited (…), there is a certain scarcity. It's not always open to the public, you have to reserve a seat in advance. (...) [T]here is another exclusivity factor that helps the whole context to increase the exclusivity of the works." (7:36).

4) Spatial Arrangement (10 Codes)

The *spatial arrangement*, e.g., the appeal of the room or a bidder's position (5:51), is *subordinate, secondary,* or *irrelevant* (5:51; 6:26; 7:42). A *certain setting* is taken for granted (10:48). Additional expectations depend on cultural differences, the *price level,* and the *bidder type* (e.g., glamour bidder vs. dealer) (10:45; 10:46; 10:47). The spatial arrangement has become less important for online and telephone bidders (9:29). Dealers even benefit from a simple or inadequate setting (10:47). However, it is much more important in the higher *price segment*, like at evening auctions, where many people still bid live (9:29). Here, it *mirrors* how auction houses treat customers and handle artworks (10:45).

In addition, the *spatial arrangement* matters for the cooperation between *employees* (and the auctioneer) (6:26). The position of the *auctioneer*, the *artworks*, the *employees*, the *press*, and the *bidders* are meticulously planned (4:38; 5:44; 10:45). One interviewee elaborates (5:44): The *auctioneer* is elevated and visible. The most important *artworks* are behind him or visible in the auction room. The *employees* on the telephone are filmed. The *press* has a good view but cannot hear bidders and employees. The auction house creates a *seating arrangement* for bidders (5:44). Apparently, "[t]his seating plan is an art" (5:44): Actual bidders are in the first ten rows, or, if they do not wish to be seen, in the last row, on the telephone or in skype boxes.

5) Auction Concept (25 Codes)

The *auction concept* concerns the number, sequence, and composition of artworks, as well as the overall context of an auction. It affects the *number of bidders*, the *auction dynamics* (7:34) and hence, consumers' *willingness-to-pay.*

- The *number of artworks* should be *small* enough to sustain excitement and large enough to spread risk (1:73; 3:41; 4:30; 7:34). *Quality*, not quantity, is critical (1:73, 4:25).

- The *sequence* of artworks should follow a certain *dramaturgy* (7:34), for instance through alternation between more and less important works (6:24).

• The overall *composition of artworks* should be *curated* (6:24). To reinforce auction dynamics, it is recommended to focus on a specific *target group with a common area of interests* (5:40; 6:24). While the 'Salvator Mundi' is a "sensational" (7:29) exception, auction houses must consider whether a combination of styles adds excitement (7:34; 10:44). When works from different areas of interest are included in the same auction, *cross-contextualization* supports pricing and creates incentives for *cross-selling* (7:28; 10:43). The necessity of contextualization increases with the price level (7:65), e.g., *Sotheby's* and *Christie's* conduct *theme* (9:28) and *blockbuster auctions* (10:43) to *acquire new customers.* A charity auction attracts more bidders (7:25; 7:26; 7:29; 7:34).

More recently, auction concepts have become *more dynamic* since "collectors buy much more eclectically today (…) [a]nd people combine much more freely" (10:44). Still, the ability of auction houses to curate and contextualize is *limited* by actual consignments (8:43).

6) Preparation (time) (7 Codes)

Preparation (time) is required for *thorough research* about a work including attribution, provenance, background, and additional information (11:38; 11:68; 11:94), and for the *creation, repetition, and multiplication of content* to anchor a work and create an atmosphere (1:63; 1:69). A good preparation creates *trust* among consumers and increases *willingness-to-pay* (11:42). According to one interviewee, auction houses can only exert influence *before* the auction (1:70).

7) Atmosphere (30 Codes)

The *atmosphere* (2:124; 2:74; 3:23; 3:29) can increase buyers' *willingness-to-pay* (2:71; 3:48). This is because the auction has *event* character (8:46). It is a *happening* (3:46; 3:54) or *spectacle* (1:120), that must be experienced with others. In other words, the "shared experience of a record, of a bidding war (...) is something very special" (4:53). As a result, a *harmonious* and *dynamic* atmosphere (1:89; 3:32; 6:32) creates *demand* (8:46), and an *appeal of bidding* (2:107). The atmosphere is especially important for *room bidders* who witness the auction live (1:30; 4:43; 4:53). It is less noticeable and influential for *online* and *telephone bidders* (2:69; 4:43; 4:45). While live auctions are more exciting and require fast *decision-making*, online auctions are calmer and provide bidders with more *time* (2:69; 2:71). With an increasing share of

online and telephone bidding, the role of the atmosphere has *decreased* over the years (9:32).

8) Digitalization (16 Codes)

Digitalization has an „insane impact“ (9:44) on art auctions. First, it promotes *transparency* (1:112; 5:82; 6:35; 8:3). Some interviewees consider the market as "actually very transparent" (8:3) or “super transparent” (6:35). However, the effect of transparency is ambivalent: *Expertise* is required to understand and compare information on *databases* like *artnet* and *artprice* (1:22; 4:50). The market thus remains relatively *opaque* for laymen. They compare apples and oranges and make wrong assumptions (8:4; 9:46). In addition, the ability of customers to compare prices online is “not only good for the market” (8:3). It “naturally also shift[s] a price structure” (9:45).
Second, the current state of online bidding and pure online auctions (*Online Only*) differs:

- *Online Only* is already established, and its impact is growing, since it opens and extends the market, especially in the lower price segment and for *new product* and *novel customer segments* (4:52; 7:61; 8:47; 8:48; 8:49). One interviewee elaborates that

“the online market (…) is growing tremendously, and we're acquiring new customers that we didn't have otherwise. I believe that in the future we will expand this to other sectors and perhaps also to higher price segments, that this will bring higher visibility and I believe that the future will see more of a shift to online auctions” (7:61).

- *Online bidding* is *not fully established* yet (8:49). According to one interviewee, it will “certainly take another ten, 20 years until online bidding (…) will be in the same proportion as telephone bidding or room bidding or written bidding” (8:49). *Online bidding* reduces *live bidding* and diminishes the physical experience of art (9:30). At the same time, the *physical experience* remains important, because „the classic auction still provides a platform for surprises” (8:48). *Online bidder behavior* is different (8:47). For instance, payment behavior has worsened due to anonymization (9:46).

9) Auctioneer (24 Codes)

The *auctioneer* is *the distinguishing feature* in the price mechanism. They have a potential impact on bidders’ behavior and *willingness-to-pay* (3:48; 4:36; 5:49, 11:48). Their role resembles a “psychological game” (2:112; 9:33, 11:48): They must have the

ability to sense and multiply the *mood* of bidders (11:48; 11:52), to increase *competition* (5:19), and to exhaust *price potential* (2:112). The influence is stronger "[t]he better the auctioneer (...) senses this (…) biological mixture in an auction room, in the best case, absorbs and multiplies it" (11:48). More precisely, the "craft of the auctioneer" (11:53) can make a great difference through *skill* (1:71), *pace* (3:34), *manner* of auctioning, ability to *entertain* (6:28), *appearance, dynamic* (5:49) and *charisma* (8:8).

The importance of the auctioneer is reflected in their *heightened position* in the auction room (5:45). Consequently, the auctioneer has more influence on room bidders (3:51; 3:55). Furthermore, their impact depends on the *price segment*, the *interaction* with bidders (1:91; 8:29), and bidders' *professionality* (private buyer vs. professional dealer) (10:21). Their impact is higher for less professional bidders, because "if you're an art dealer and you're reselling something, you just have a limit (…) you're less temptable, even if the auctioneer is great" (10:21). Also, their impact is higher in *low* and *high price segments*, where prices depend on *mood* and *willingness-to-pay*, where the bidder "draws confirmation from the mood in the room, where the mood in the room can be very much influenced by the auctioneer and where the buyer also has a certain event idea" (10:21).

5.2.2.7The Bidder(s)

The impact of bidders on prices depends on their *wealth, willingness-to-pay, personality, expertise, intention,* and *behavior*, as well as on the overall *number of bidders*, the *mood,* and the *competition* at auction.

THE BIDDER(S)	
1) Wealth	*– 9 Codes*
2) Willingness-to-pay	*– 32 Codes*
3) Personality	*– 21 Codes*
4) Expertise	*– 5 Codes*
5) Intention	*– 32 Codes*
6) Behavior	*– 19 Codes*
7) Number of bidders	*– 14 Codes*
8) Mood	*– 8 Codes*
9) Competition	*– 42 Codes*
10) Trends	*– 18 Codes*

1) Wealth (9 Codes)

The impact of bidders depends on their *wealth* (1:86; 1:153; 5:64; 6:57; 10:28), which reflects their *budget* (4:60), *financial means* (6:57), and individual *account balance* (2:61). Even though bidders at art auctions belong to a *small percentage* of wealthy people (5:64), an estimated *99%* are financially constrained (10:52). *Christie's* and *Sotheby's* have a wealthier clientele than other houses (9:24), which presents a competitive advantage (9:24).

2) Willingness-to-Pay (32 Codes)

The impact of bidders depends on the *willingness-to-pay* of the *two highest bidders* (3:49; 5:1; 6:3; 6:29; 8:1; 8:6; 11:89). *Willingness-to-pay*, or *willingness-to-purchase* (1:100), is "superindividual" (6:29). It depends on various factors[28] such as *bidder type* (11:64; 11:65; 11:66), *personal relation* to the artwork (7:49), *subjective value* of the artwork (1:153; 1:154), role of the artwork in the bidder's *collection* (8:52), *information* provided by the auction house (5:53; 11:42), appeal of the *price estimate* (7:48), additional or *alternative purchases* (1:153), *trust* in the auction house and *perceived safety* (11:42; 11:43), auction *location* (11:60), the *auctioneer* (11:48), *competition* (9:35; 10:17; 11:61), or *laws*[29] (11:77). Other circumstances, such as *charity auctions* (7:27) and *inheritance* (6:54) increase willingness-to-pay, because "in the euphoria of this money, [people] are willing to spend very, very much money" (6:54).

Two bidders can cause *exceptional prices* and *price surprises* (8:6; 11:30). Any price is possible (6:3), if "two people who have enough cash and want something badly enough, push up the price, which cannot be justified objectively" (8:6). Most bidders define a *personal limit prior* to the auction (3:47; 5:56; 7:50). Some hold on to this limit no matter what. Others bid far beyond and make emotional decisions (6:30; 7:51; 11:48). In other words, for some "the price is completely secondary. (…) [Others] have very, very precise limits (…) and then they bid exactly up to this and (...) not one step further" (6:30). Only very few bidders have an *unlimited willingness-to-pay* (6:20).

3) Personality (21 Codes)

The impact of bidders depends on their *personality* (1:39; 1:58) which in turn depends on, e.g., amount and type of *interest in art* (1:99), degree of *rationality* (1:95), strength

[28] which are discussed as part of other concepts in this result section
[29] such as the protection of species

of *will* and determination (1:35, 3:6), *play drive* (2:68), *nerves* (2:73), and *need for attention* (5:99). On the one hand, bidder personality *influences bidder behavior*. For instance, someone with a strong need for attention will be more likely to bid live in the room, than on the telephone or online (6:49). On the other hand, *different bidder types* (1:35; 1:61; 6:31) differ regarding *intention, risk appetite, willingness-to-pay,* and *rationality* or calculation (1:35; 1:95; 2:67; 6:30). For instance, one can distinguish the dealer, the intermediary, and the collector (11:63; 11:64; 11:66; 11:67). The *dealer* has a resale interest and a fixed limit (11:64). The *intermediary* has clear price margins but is influenceable by their buyer (11:66). The *collector* has an individual interest, e.g., collection expansion or self-expression (11:67). Other bidder types are glamour or event buyers (10:47), resellers (10:47), and social buyers or shoppers (10:54). These descriptions underline the *link between bidder identity and motivation*: the bidder type depends on what bidders "want to achieve? Are those soft factors? Or (...) are they completely calculated? Do they need hard facts to buy? Do they need emotionality?" (1:61).

4) Expertise (5 Codes)

The impact of bidders depends on their *expertise* with art and art auctions. For instance, *prior experience* (1:88) with different auction houses and price levels shape expectations (10:45). Bidders are usually *experienced* with art auctions (3:17). They often have more *knowledge* about their collecting areas than auction houses (8:55), because in-depth *analysis* and constant *observation* of the market is required (2:6; 9:11), e.g., to classify prices.

5) Intention (32 Codes)

The impact of bidders depends on their *intention*. The intention reflects *subjective values*, individual *benefits* (10:51), purchase *reasons* (1:147) and *motivations* (1:11; 1:87; 8:57), as well as *purposes* (2:102; 10:51) and *goals* (1:61; 11:62). It differs with regards to the importance bidders attribute to *passion* (2:2), *emotions* (1:11), to their *relation* to art (5:73), as well as on their strength of *interest* (4:39), their individual *preferences* (11:30), need for *information* and *collection behavior* (2:7). One interviewee differentiates between two dominant motives: *emotions* and *standing* (3:3). Another interviewee differentiates between *financial, social*, and *individual motives* (1:87). Likewise,

"[s]omeone may really think about a value investment. Someone is thinking primarily about how to impress his friends. Again another thinks to himself, 'This doesn't hurt me,' 'I really want it', 'I find it emotionally appealing' (1:87).

Different personalities have diverging expectations (11:33). Some collect art for *ownership* (11:59) or for the development of (museum) *collections* (2:18; 2:63; 10:29, 10:53; 11:67). Others buy art for *charity* (7:26), *power* (3:62), *prestige* (2:131; 5:20; 5:66), *self-representation* (2:18; 10:55; 11:67), or *social affiliation* (3:62). Again, others have a *resale interest* (10:23), or buy art for the *money* as a (value) *investment* (1:11; 1:87; 2:2; 2:40; 2:43; 2:87; 3:62; 8:11; 11:33). Only very few bidders buy art only for investment (8:13), most "buy it out of an inner drive, out of a desire to deal with something different from what they do every day" (8:13).

6) Behavior (19 Codes)

The impact of bidders depends on their *behavior*. Overall, there are strong differences in individual *bidding* (4:41; 6:55) and *collecting behavior* (10:67). Bidding behavior depends on bidder's *will* (2:75), *trust* (4:55; 5:69; 11:42), *risk aversion* (2:67) and *willingness-to-pay* (2:67). Usually, bidding is a *targeted* activity (3:40). It is driven by *biological* and *mental aspects* (11:54) and characterized by *individual buying decisions* (1:9). Decisions are often *emotional* (11:50), *subjective, irrational,* and *spontaneous* (8:30; 11:90), and based on *gut feeling*. As a result, bidding behavior is "special" (11:91). It ranges from *impulsive* to *calculated* (6:55) and reflects the "the willingness of a single collector (...) to exceed his self-imposed limit (…). A subjective behavior, (…) which seems completely irrational at first. This spontaneity" (11:90). Today, bidders often '*buy with their ears*'[30] (4:19) and behave like aggressive *top dogs* (10:57).

7) Number of Bidders (14 Codes)

The impact of bidders depends on the *number of bidders* (1:2; 2:28; 2:123; 3:50; 6:27; 7:41; 10:25; 10:56). Together, they represent the *group of potential buyers* (5:26) and mirror the extent of *surplus demand* (7:53; 10:25). Average *subjective value* und *willingness-to-pay* increase with the number of bidders (1:2; 2:22; 10:25), "[v]ery simple mathematics" (10:25). Many (especially *room* (3:50)) bidders increase *pleasure* (6:27), *dynamics* and *competition* (7:41; 7:53). The auction usually attracts more *potential buyers* than other distribution channels (8:41), a minimum of *two bidders*

[30] not eyes, meaning that bidders are influenced by the behavior and decisions of others

(2:22), and ideally "as many people as possible" (5:14). Because prices depend on bidders, they range from *bargains* to *record prices* (2:28; 2:123).

8) Mood (8 Codes)

The *mood* of bidders – bidders' *subjective wellbeing*, their *mood of the day* (3:75; 3:81; 5:52; 11:51), and the overall *atmosphere* and *spirit* between them and the auctioneer (1:28; 1:152; 3:75; 11:57) – can influence prices. It can create *tension* (11:57) and intensify the *appeal of bidding* (2:107), thereby increasing bidder's *willingness-to-pay* (3:75). Overall, the impact of mood differs between *price segments* (10:22). According to one interviewee, mood makes "a very big difference in art auctions" (10:22), especially in the *low* and *high price segment*, where a bidder "draws confirmation from the mood in the room, where the mood in the room can be very strongly influenced by the auctioneer and where the buyer also has a certain event idea of what he is doing there" (10:22).

9) Competition (42 Codes)

The influence of bidders depends on the *competition* between them (1:3; 9:36). Competition concerns the social interaction, personal relations, and *rivalry* between bidders. It *signalizes the value* of a work and *increases the overall willingness-to-pay* (10:17; 11:98). It reduces *rationality* and increases the dominance of *psychological and biological aspects* (8:30; 8:53; 11:49). Opposite, lack of competition can reduce motivation (11:58).

- One interviewee describes room bidders as "*biological mixture*" (11:49). Their *social interaction* (1:77; 1:93) is important because *bidders observe each other* closely (1:78; 2:81; 2:82; 5:59; 8:30; 9:37; 10:58) and *influence each other* (2:82; 10:59; 11:98). The influence is stronger in the room because relationships are personal (1:77; 1:93; 3:50).

- *Personal relations* between bidders influence their competition (6:33; 7:52; 9:37). More precisely, „[i]f the bidders know each other and are in a competitive relationship (…) the whole bidding war goes to a political level, where it's all about who wins" (7:52). Personal relationships have a negative impact on prices if they lead to *price fixing* (8:51). One interviewee does not consider personal relationships to be crucial (3:53).

• The strength of competition depends on *rivalry* (1:137; 2:78; 2:79; 2:81; 3:44; 4:40; 4:42; 6:19; 6:33; 7:52; 8:28; 11:58; 11:61). Rivalry creates a *dynamic* (6:32; 7:41) and *atmosphere* (6:32), that generates *pressure* (8:31), and *tension* (11:57). It *incentives* bidders (1:146), and triggers *instincts* (9:36), *pleasure* (6:32), and *jealousy* (2:79). Together, these aspects motivate *overbidding* (2:21), especially if rivals are wealthy (10:30). The 'Salvator Mundi' showed that "when rivalries come in, here also of a political nature, certain fuses can blow" (8:28). Still, bidders differ in the way they *deal with rivalry* (11:65). Some need the *assertion*, the feeling to win (1:137; 2:78; 6:33). For them, bidding "is not about the works. It's simply about [v]anity. (...) [H]eroism" (2:76). The result is a *bidding war* (2:80; 7:41; 7:52), that resembles *gambling* (1:37), (ridiculous) *muscle play* (2:77), a *cockfight* (4:42), and *hunting drive* (8:52). It is about

"feel[ing] resistance. There comes the caveman thinking of the hunting instinct. They want to kill this animal and they feel that there is another hunter who is after the same prey. These are quite curious, archaic patterns that come in" (8:52).

10) Trends (18 Codes)

Bidders are influenced by *trends* (5:61). Likewise, subjective tastes (5:25; 7:45) depend on trends set by famous collectors (5:98), as well as current (social) *lifestyle* (10:66), *mood* (1:74; 10:42), *fashions* (2:5; 5:8; 5:25; 10:66), *market trends* and *development* (1:74; 6:56; 7:45), and *Zeitgeist* (11:22). The resulting *excess demand* – commercial, intellectual, and financial **(**10:12; 10:27) – causes high prices. Currently, a *change in generations* and *tastes* is happening (6:50). On the one hand, there is a *lack of a new generation of collectors* (5:89; 5:91). On the other hand, the *fast pace of modern life* prevents collectors from studying art in depth (9:10). In addition, the new lifestyle (9:13; 10:66) and the desire for mobility discourage people from amassing large collections. As a result, the demand for quality is increasing (10:66).

5.2.2.8 External Factors

The interviewees discuss the influence of external factors including the *economy, politics, law,* the *environment,* and the *society* on prices.

EXTERNAL FACTORS	
1) Economy	*– 25 Codes*
2) Politics	*– 25 Codes*
3) Law	*– 12 Codes*
4) Environment	*– 11 Codes*
5) Society	*– 7 Codes*

1) Economy (25 Codes)

The *economy* has an *influence on all collectibles* (8:56). According to one interviewee, the art market *follows the economy* (9:40). It can be divided into the real and the financial economy:

• The influence of the *real economy* (3:56) is based on the *current economic state* (2:85) or *economic situation* (7:12), *demand and supply* (7:22), and *economic crises* (1:105). Poor economic situations can have different effects on consignors: The *acquisition of artworks* can be easier (6:40) or harder (5:71). If less artworks are acquired, the smaller number of artworks may sell for higher prices (5:71; 11:80). Economic crises can cause *price surprises* (10:38).

• The influence of the *financial economy* includes *financial markets* (1:104; 4:37; 6:37; 6:38; 7:57), *oil price and stocks* (10:61), *currency exchange rates* (6:38), *interest rates* (2:86; 7:57), *financial restrictions* (4:44), *financial crashes* (5:68), overall *mood* (4:37), and the *financial situation of individual collectors* (7:57). The art market is more stable than the stock market (9:41) but its success depends on the general investment situation (7:12). Likewise, financial uncertainty endangers the most important constituent of the art market: *trust* (5:68). In other words, "[t]he art market lives on trust. Trust in the economy, trust in its own money, trust in the auction house or in whoever sells. (…) [This is why] the art market is quite prone to insecurities on the financial market" (5:68).

Only one interviewee does not believe in the influence of other markets on the art market (5:63). Yet another one states that *individual purchasing motivation is more important* than the financial market, because "[i]f you are missing one top lot in your collection (…) a collector will buy this painting even in a recession period and for an incredible price" (8.57).

2) Politics (25 Codes)

Politics are a *pressing issue* for the art market (7:63). Politics influence demand and supply, including overall *politics* (1:103; 3:57), *politicians* (8:65), *political processes* (8:61), *policy frameworks* (10:9), the *political situation* (7:23), *political unrests* (5:74), and *global events* (1:109; 4:37; 7:55). Only one interviewee finds the impact of the economy *overrated* (6:41).

- *Overall politics* influence the *economy* (7:56; 8:61; 8:65). This effect can be *positive or negative* (4:46; 7:56; 10:63). For instance, uncertainty (7:56) (10:63) can prevent people from buying and consigning art, but advantageous currency exchange rates can also incentivize buyers and sellers (7:56) to use art as storage of value (10:63).

- *Politicians* especially have "ideological effects in the long-term" (8:65).

- *Policy frameworks*, like American state investments (10:9) or the handling of colonial collections (11:85), have a direct (positive or negative) impact on art trade. For instance, political regulations can have a positive impact on market transparency (7:63) or a negative effect on the number of buyers and sellers (10:63).

- *Political unrests*, like Brexit or instability in Hong Kong (5:74, 7:55), can decrease the number of bidders (5:29), since people worry about their safety and property (5:75).

- *Political insecurity* can inhibit the emergence of new art markets (5:92). In this context, auction houses have to understand "what is happening in the world at the political and economic level and which impact it will have. If it will have an impact at all" (7:63).

- *Extreme political* and *global events* (1:109) including *war* (5:76; 8:58) and *terrorism* (4:47), like 9/11 or the Gulf War, can impact bidders and consignors. They reduce the number of consignments in the short term because consignors assume bad sales (5:76; 5:77). Among bidders, they create insecurity, reduce joy, and shift the focus to "other things, that (…) are more important for the lives of people" (4:47).

3) Law (12 Codes)

Laws can *complicate* or *impede art trade* (11:97). They are *more influential than politics* (8:63), *and politicians* (8:62). More precisely, trade regulations and limitations, public and legislative authorities, and cultural policy (11:84) create "inhibition thresholds" (9:42) and insecurity. For instance, the *protection of species* (11:36) has changed the market, the inherent price structures, and the buying intention (11:77). Similarly, the German *Cultural Property Protection Act*[31] is said to impede art trade. It is akin to a "ban on handicrafts" (11:79), unsettling artists, dealers, and collectors (11:78), and stoking fears around the important topic of provenance (3:70). According to one interviewee, it "*criminalize[s] the art market* (…) and *inhibit[s] trade* completely" (8:62). Only one interviewee does not believe in these negative effects (1:107).

4) Environment (9 Codes)

Naturally, the weather is an important aspect of the *timing* (1:20). But especially since *online and telephone bidding* (6:45; 5:80) its influence on prices is negligible. Likewise, it is important *not to "overemphasize"* (5:80; 6:45; 9:43; 10:65) the role of the *environment*. Naturally, „[e]very one of us is in a better mood when the sun is shining. But (…) [e]specially in the contemporary sector, these are investors. They won't let themselves be influenced by a bit of sunshine" (9:43). The environment only affects prices (8:59; 1:101) in case of *extreme weather conditions* (5:78), *disasters* or *technical disruptions* (7:60; 9:43). Then, the auction must be cancelled, or people do not bid (10:65) or only on previously identified items (10:65).

5) Society (7 Codes)

Society influences prices (1:144) through *public interest* in art, *current social and political issues*, and the *Zeitgeist* (11:8). During the pandemic, the *impact of societal trends* has increased (11:88). Today, "people (…) search for artistic positions, sometimes desperately, that reflect(ed) certain patterns like gender discussion, race discussion" etc. (8:69). One interviewee finds this approach controversial (8:71). Accordingly, the recognition of art is not up to auction houses – but to art history and the primary market (8:74).

[31] Kulturgutschutzgesetz

5.2.2.9 Case: The Record Price of the 'Salvator Mundi'

The following section uses the record price of the 'Salvator Mundi' as a case study of the above-mentioned factors. The interviewees cite the *artist,* the *artwork,* the *auction house, marketing,* and *bidder(s)* as reasons that influenced this price. Some express *criticism* of the record price.

CASE STUDY: The 'Salvator Mundi'	
1) Artist	*– 5 Codes*
2) Artwork	*– 13 Codes*
3) Auction House	*– 3 Codes*
4) Marketing	*– 15 Codes*
5) Bidder(s)	*– 23 Codes*
6) Criticism	*– 9 Codes*

1) Artist (5 Codes)

The *prominence* of *the artist* Leonardo Da Vinci is one of the most important factors for this record price (4:9; 7:30). As such, *Da Vinci* is considered "one of the most famous artists" (4:9), who has created "probably the best-known artwork worldwide" (2:35): the *Mona Lisa*. Da Vinci combines *art-historical importance* and fame (11:24). He is "a myth" (8:22) in art history, which enabled him to sell even a controversial artwork for a record price (8:22).

2) Artwork (13 Codes)

In the case of the ‚Salvator Mundi', the *artwork* was also decisive (11:25). At least "if people want to believe in it" (7:32), the work is one of Da Vinci's *masterpieces*, "a sensation" (7:32), "a trophy" (10:30). It belongs to "a very special category of goods (…) and it actually *cannot be compared* with the 99% that otherwise define the market" (10:20). As one of 15 confirmed artworks by Da Vinci, the record price is "*almost a cheap price* in terms of rarity" (9:17; see also 10:20). Nevertheless, the work is *disputed* (1:42; 1:52; 9:19). The sale was surrounded by *controversies* about the authenticity, condition, and attribution of the artwork (1:42; 1:53; 5:37; 7:32; 9:19). The *insecurities* were *inacceptable* (1:53): In this price level, it should neither be a question "whether it truly is a Da Vinci" (9:19) nor "how many percent are still original?" (9:19). The controversies were *reinforced post-sale*: Some experts distanced themselves from their

expertise (8:21), and the work *disappeared* (5:36; 5:37). Today, it is *not exhibited* (1:42) and rumored to be *stored* in a depository (2:111) or long since traded for a yacht (5:32).

3) Auction House (3 Codes)

The record price also reflects the *power* of the *auction house Christie's* (1:55; 2:36). According to one interviewee, the auction house has gained too much weight in this sale, "at the expense of the general credibility" (1:47) of the auction house and its experts.

4) Marketing (15 Codes)

The 'Salvator Mundi' would not have achieved this price without *4) marketing* (5:12). There was "a very strong emphasis" (1:52; 3:20; 5:34) on marketing. According to one interviewee, the sale was an "incredible marketing gag" (5:34). The following marketing resources were exhausted (4:10):

- production of a thick *auction catalogue* for a single artwork (1:48),
- contextualization of the Old Master in a *Contemporary art auction* (5:30; 5:41; 7:29),
- *international exhibition* (4:10),
- *storytelling* (5:12; 5:30),
- creation of an *atmosphere* (1:50),
- recommendation by *specialists* (4:10),
- targeting of specific *customers* (4:10), and
- a long *preparation time* (1:62).

In terms of *storytelling* (5:12; 5:30), the sale of the 'Salvator Mundi' was perceived as a "wonderful story. (…) Everyone was amazed by it. (…) [E]veryone wrote about it" (5:30). Because of the *media presence*, it almost became a political issue (7:31). For *contextualization*, the combination of the Old Master with Contemporary art (7:29) was a "sensational" (5:41) marketing move (5:30; 5:41; 8:25; 8:45; 9:20). The sale benefited from to the *cult status* of Contemporary art (8:45) and the *financial power* (9:20) of its collectors. Ironically, one interviewee comments on why the work was put into a Contemporary Art auction, "[b]ecause most of it was created after 1950!"[32] (8:25).

5) Bidder(s) (23 Codes)

[32] referring to the restoration

The record price is the result of the *will* (1:57; 3:18; 5:2), *motivation* and *goals* (1:57; 10:18), *wealth* (5:2; 10:18), and *competition* (10:18) of the (winning) *bidder(s).* Apparently, five to ten bidders were still interested in the artwork way beyond the price estimate (10:16). These bidders are so-called "*trophy hunters*" (10:19): people that buy art for *public esteem* and *media publicity*. They continued to bid beyond the price estimate, driven by a high *willingness-to-pay, individual preferences* and *specific interests* (8:32; 11:31; 11:34). The *two last bidders* were two wealthy people who wanted to prove themselves (5:35). Their political rivalry (8:27) led to a "*bidding war*" (7:33). The last bid was a "*gesture of dominance* (…) [,] another very big step (…) to show this damned underbidder to stop, because he has no chance anyway" (10:18). *Rumor* has it, that the price was a *misunderstanding* caused by two relatives who accidentally competed with each other (5:31; 8:19). The buyer was interested in money, ownership, and prestige (2:37; 3:19; 5:33), not in the artwork (1:41; 3:19). He wanted to speculate, invest (2:34; 2:37) and *define himself* by price (1:43). Apparently, the price was never paid (8:18).

6) Criticism (9 Codes)

Several interviewees are *critical* of the record price: It was not about the artwork (3:19). The price itself gained such a quality, that it *seemed it should determine the value* (1:44). The interviewees are speechless (2:33) and find the result "*crazy*" (4:8), "rare" (4:8), "an *exception*" (8:23), "*unreasonable*" (1:54), and "*undesirable*" (1:118). The price crossed a *limit* (1:118) and caused *damage* (1:45; 1:54). Still, prices are expected to continue to rise to *absurd levels* (3:62).

5.2.2.10 Research Topics

To identify practice-relevant avenues for future research, the interviewees were asked about research topics they found particularly interesting. They identified the following research topics: *customers, auction dynamics, art history, external factors*, and *art market growth.*

RESEARCH TOPICS	
1) Customers	*– 12 Codes*
2) Auction Dynamics	*– 3 Codes*
5) Art History	*– 3 Codes*
3) External Factors	*– 3 Codes*
4) Art Market Growth	*– 1 Code*

1) Customers (12 Codes)

Many interviewees are interested in research about *customers*, including *buyers* and *sellers*:

• The interviewees want to know more about the behavior of *bidders* (11:91). They are especially interested in bidders' *willingness-to-pay* (11:89) including the *individual limits* that are defined prior to the auction, and the reasons that make bidders surpass this limit (11:89): the "subjective, irrational behavior and spontaneous decision making" (11:90) during the auction. Also, the interviewees are interested in the "*psychological effects*" (2:130) of different stimuli, including *bidders' identity and motivation*: "Who are they? Why do they buy? And what do they buy?" (1:149). One interviewee wants to know why bidders are so influenced by others, in other words, "[w]hy people buy more with their ears, than with their eyes?" (4:19). Others want to know how different *types of bidders* value and collect art (10:67), and how the *customer base* is changing (5:94). In this regard, one interviewee considers novel artists and new generations as the *stakeholders* of "the future" (5:94) and wants to know more about them (5:94). Another is interested in *advisory* and *targeted customer approach* (3:77).

• Interviewees want to know more about the behavior of *consignors* (2:127), especially about consignors' *decision-making*: How do they decide where (not) to consign? How do they observe and research the market? How do they form an *opinion*, online or at the auction house, and what role do *personal relations*, *recommendations*, or *past auction results* play (2:127)? Does *marketing* always have to focus on the highest-priced artworks, or can the ones with the best quality be advertised (2:101)? Customer knowledge bears potential for *targeted marketing* and *customer relations*: to improve *customer retention* and reduce "scatter losses" (2:128). It also provides insights into the *competition*: How do they treat and retain customers and how are they valued (2:127)?

2) Auction Dynamics (3 Codes)

Some interviewees are interested in research about *auction dynamics*, including the *auctioneer* and the *auction setting* (3:80). Another interviewee wants to know more about the level of "*maturity of an artist or artwork*" (7:44) that is required for them to be traded at auction. Yet another would like to know more about the *impact of the*

starting price on the final price, and the "*dynamics*" (6:21) during the auction, that make the price rise.

3) Art History (3 Codes)

A few interviewees state that they are most interested in *art history* (5:38; 8:75), because art-historic quality is decisive for the success of a sale, and the success of marketing (5:38; 9:47). In other words, "[y]ou can do what you want with a bad picture. (…) It won't work. It has to be a (…) 'masterpiece'" (5:38).

4) External Factors (3 Codes)

Some interviewees are especially interested in the influence of the economy, politics, and laws, both "*[i]n how far* the economy and politics have an impact" (6:53) on prices, and "*if at all*" (7:63). One interviewee questions whether the art market is secluded enough to be independent from world affairs and politics (7:63). Another would like to learn more about the impact of *legal regulations*, such as the Cultural Property Protection Act (3:70).

5) Art Market Growth (1 Code)

One interviewee considers it necessary to reflect critically on the growth of the art market. Accordingly, the *limits of market growth* must be discussed (1:150).

5.3 Discussion

This section discusses the findings of *Study 2*. It highlights the consensus and discrepancies in the interviews and between theory (*Study 1*) and practice (*Study 2*). It also formulates ten key findings based on the consensus, and seven controversial theses based on the discrepancies. To clarify remaining ambiguities, the latter are discussed during the focus groups in *Study 3*.

5.3.1 The Value of Art

Finding 1
The value of art is a combination of artistic, economic, and individual value.

The interviewees mention 13 value dimensions which are grouped in three value categories by the author: individual, artistic, and economic value. *Individual value*

reflects an artwork's value from the perspective of one individuum. It includes subjective, emotional, ideational, symbolic, and/or social value. Since individual value depends on subjective perception, it varies from person to person. *Artistic value* reflects the value of a work of art within the field of art. It includes aesthetic, cultural, artistic, art-historical, and true value. Artistic value is recognized and reinforced by recognized people and art institutions. To be understood as market value, it must also be recognized by buyers. *Economic value* reflects the monetary value of a work of art. It includes material, market, and financial value. Economic value is defined by market mechanisms and reflects the commercial and investment characteristics of an artwork. *Figure 11* shows the 13 value dimensions grouped in three categories:

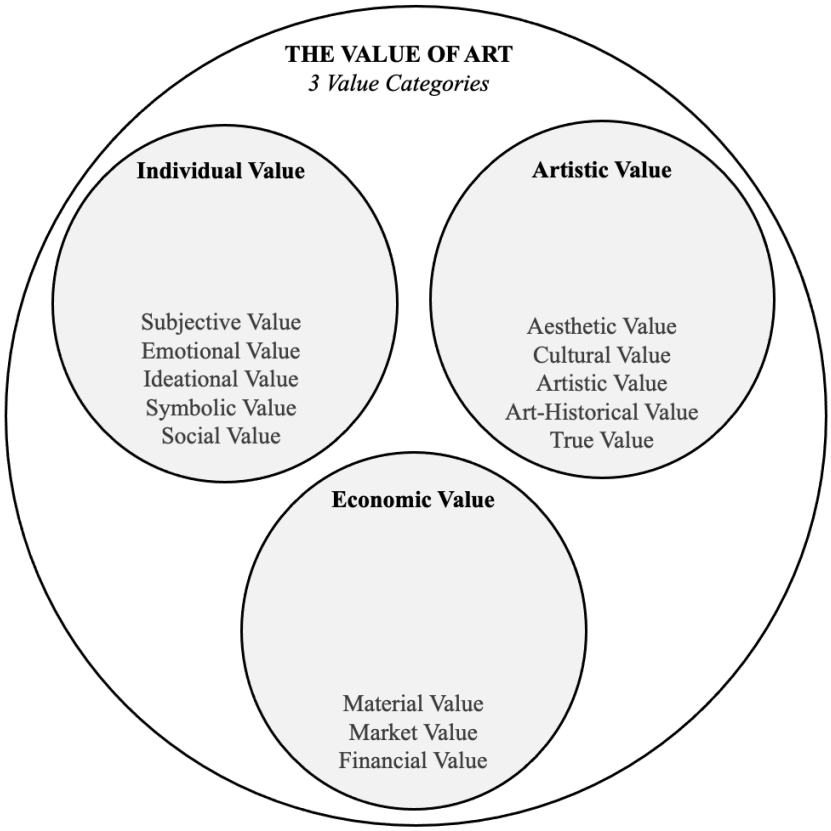

Figure 11: The Value of Art: Three Value Categories (Source: Own illustration).

Of course, it is questionable whether the findings are complete and whether this grouping is correct and useful. Value dimensions may be missing, and value categories may overlap or be incorrect. Moreover, the findings do not provide information about the weighting of dimensions and categories and their effects on prices. In this regard, a quote from an interview may be helpful. Accordingly, only the weighting of motives in

the "motive bundle" (1:59) of each bidder is important for prices, as this is reflected in the bidders' willingness to pay.

Interestingly, the opinions on the relation between the value and price of art diverge: The interviewees disagree whether the value of art equals price (8:12; 8:16) or is completely different from it (2:15; 11:74). The first discrepancy reflects contradictory interview statements:

Discrepancy 1
The interviewees disagree regarding the relation between the value and price of art.

To discuss this discrepancy during the focus groups, this controversial thesis is formulated:

The price is an indicator of the quality of a work of art.

5.3.2 The Price of Art

Finding 2
Art prices depend on various influenceable and uninfluenceable as well as predictable and unpredictable factors. This makes the price formation at art auctions fragile and complex.

The interviewees argue that prices play a key *role* in the art market, and that they have gained a quality of their own. Prices differ between primary and secondary markets as well as between different *price segments*. Setting the right price estimate is a challenge, but it makes or breaks the sale. This raises the question: Is every artwork sold at the correct price estimate? Apparently, *price estimates* are relatively accurate since they depend on hard facts. Interestingly, respondents consider artwork-related characteristics like provenance, rarity, origin, technique, and condition as 'hard facts'. Still, there is no guarantee or formula. The *hammer price* depends on various influenceable and uninfluenceable as well as predictable and unpredictable factors. *Criticism* of record prices reflects ethical concerns regarding growth and pain thresholds. Together, all factors form a *relationship network.* This inner coherence raises interesting questions, for example: Which aspects must be right for an artwork to obtain a high price?

Surprisingly, one interviewee states that *one* factor can make a high price impossible. This contradicts other statements, according to which the price reflects a variety of

factors which are more and less relevant. The second discrepancy reflects contradictory interview statements:

Discrepancy 2
The interviewees disagree regarding the importance of a single factor in the relationship network.

To discuss this discrepancy during the focus groups, this controversial thesis is formulated:

All factors are interrelated: "Every single one must be right" (5:11).

5.3.3 The Artist

Finding 3
Artists are like brands and popstars. Their impact depends on names, fame, and trends.

The role of the artist's *name* is comparable to brands and popstars. Its impact depends on *fame* and *trends*, and differs between type of collectors, to the point where names 'command' prices. Currently, new, and rediscovered artists are entering the auction market. Many of them address social and political issues and appeal to new groups of collectors.

Interestingly, while the literature considers diverse artist-related aspects[33] for prices, the interviewees mention only the career-related factors name, fame, and trends. They emphasize the importance of an artist's recognition in the art market. The third discrepancy reflects a discrepancy between literature and practice:

Discrepancy 3
Literature and practice diverge regarding the artist-related factors they consider important for auction prices: While the literature analyses diverse factors, practice only points to the importance of art market recognition (name, fame, and trends).

To discuss this discrepancy during the focus groups, this controversial thesis is formulated:

An artist who is not recognized on the art market cannot achieve a high auction price.

[33] identity, ability, style, and career

5.3.4 The Artwork

Finding 4
The impact of artworks depends on their quality, provenance, price estimate and reference prices.

The interviewees emphasize that the most important artwork characteristic is *quality*. However, quality must be recognized by the market for a work of art to fetch a corresponding price. The process of recognition is called *canonization*. Canonization refers to the selection and recognition of artworks by recognized (Western) experts and institutions, for instance, through exhibitions or prizes. Recognition reflects the value, importance, relevance, and maturity of a work of art to be traded at auction. *Provenance* reflects and reinforces recognition. Other important artwork characteristics are condition, rarity, attribution, size, medium, dating, publications, and exhibitions.

Interestingly, practical discourse focuses on the art-historical characteristics, while physical, dating and sale characteristics (as studied in the literature) are not thematized. This may be due to the importance of art market recognition for prices, but it may also reflect a bias in the perspective of art experts, who overemphasize the importance of art-historic characteristics.

Surprisingly, opinions about the relation between quality and price diverge: The interviewees disagree whether prices are quality indicators or have "no meaningfulness about the quality of an artwork" (11:4). The third discrepancy reflects contradictory interview statements:

Discrepancy 4
The interviewees disagree regarding the relation between artwork quality and price.

To discuss this discrepancy during the focus groups, this controversial thesis is formulated:

The price is an indicator of the quality of a work of art.

5.3.5 The Auction House

Finding 5
The auction house influences auction prices primarily by acquiring attractive consignments and increasing the number and willingness to pay of bidders – e.g., through (brand) image and expertise, and multiplied by networks, marketing and customer management.

The (brand) *image* of the auction house has a strong influence on bidders' willingness-to-pay. A good image signals trust, reliability, exclusivity, and economic security. Ideally, it is reflected and multiplied by the *employees*, the *premises*, and *marketing*. The *location* is especially important for acquiring consignors. *Consignors* (not bidders!) are at the heart of customer relationships. They are the basic prerequisite for conducting auctions. Auction houses have recently expanded their business to new markets and new types of customers, as well as online and hybrid auctions. A wider *network and outreach* increase the number of bidders and thus influence prices. Specialization and *expertise* further enable auction houses to make prices. This finding raises the question of what it means to 'make' prices and *how* prices are 'made'? Obviously, *active customer management* from targeted acquisition to retention is key. Surprisingly, the marketing potential of auction houses is currently not being exploited due to staff shortages and poor data management. It is questionable why this is the case and how it could be resolved.

Interestingly, opinions about the potential impact of the auction house and the power of marketing diverge. While some say that auction houses can 'make' prices, others assume that this is only possible under certain conditions and to a limited extent. The fourth discrepancy reflects contradictory interview statements:

Discrepancy 5
The interviewees disagree regarding the potential impact and marketing power of auction houses.

To discuss this discrepancy during the focus groups, this controversial thesis is formulated:

The auction house exerts a significant influence on auction prices.

5.3.6 The Auction

Finding 6
The auction mainly influences auction prices through its particular price mechanism, that depends on the auctioneer, individual and overall demand, contextualization and timing.

The auction *price mechanism* produces transparent and objectified market prices based on supply and demand. While the supply is limited, the (overall and individual) demand at the time of the sale defines the price. The *auctioneer* is the distinguishing feature in the price mechanism. Their impact depends on, e.g., appearance, charisma, entertainment, skill, professionality, pace and dynamic and on the professionality of the bidder, with higher impact in low and high price segments. The *concept* affects auction dynamics, number of bidders, and willingness-to-pay. Ideally, auctions target a specific audience, offering a small quantity of high-quality artworks that are curated, contextualized, and intentionally ordered. The levels of price estimates may differ across *price segments*. The effect of increased *transparency* through databases is ambivalent: Price information only creates transparency for buyers with the required expertise to understand and compare information.

Surprisingly, some interviewees describe *online bidding*, as opposed to *Online Only* auctions, as not fully established. The sixth discrepancy is based on contradictory interview statements:

Discrepancy 6
The interviewees disagree regarding the status of online bidding.

To discuss their opinion during the focus groups, this thesis is formulated:

Online bidding is not yet fully established.

Timing is especially important for consignors and private bidders: Some consignors assume higher profitability at fall auctions, which affects supply. Buyers are affected by the *scheduled timing* (e.g., ability to attend, exclusivity, cultural factors) and by *unpredictable aspects*. For the auction house, *preparation time* is key for the creation, repetition, and multiplication of content: to increase trust and willingness-to-pay. The role of the *spatial arrangement* differs between bidder types and price levels and has decreased due to online and telephone bidding. Yet, the room setting is deliberately thought out. Especially live, the *atmosphere*, and the shared experience of the auction, influence demand and willingness-to-pay.

5.3.7 The Bidder(s)

Finding 7
The (the two highest) bidders mainly influence auction prices through their willingness-to-pay and bidding behavior, which are based on individual factors (e.g., wealth, personality, and intention) and competition (e.g., mood, number of bidders, and rivalry).

Prices depend on (the two highest bidders') *willingness-to-pay*. In turn, willingness-to-pay depends on, i.a., the subjective value of a work, the available information, the bidder type, and trust in the auction house. Willingness-to-pay is often defined in relation to the price estimate and increases with the *number of bidders.* Different bidder types (e.g., dealer, intermediary, collector) have different *intentions* (e.g., passion, investment, status). This influences their degree of rationality and risk appetite. As a result, bidding behavior ranges from calculated to irrational. Whether bidders stick to their predefined limit depends on, e.g., *wealth, personality, mood*, and the amount and nature of *competition*. Finally, bidders are influenced by *trends* and (lack of) art *expertise*. Summarizing, both theory and practice present comprehensive insights regarding the bidder(s).

5.3.8 External Factors

Finding 8
The economy, politics, laws and society influence auction prices indirectly through their impact on confidence and supply and demand in the art market.

External factors influence prices indirectly, either positively or negatively: The *economy* affects the demand for and supply of artworks. For instance, economic crises make it easier or more difficult to acquire artworks, with both strong and tight supply leading to higher prices. Financial markets influence the general financial situation and the individual situation of bidders and consignors. Since the art market is built on trust, it is threatened by (financial) uncertainty. *Politics* influence prices by affecting sellers, bidders, and the overall economy. Political tensions and unrest such as war and terrorism create uncertainty, reduce confidence, and shift the focus of sellers and bidders, whose numbers are decreasing. Opposite, demand and supply benefit from stable political environments. *Laws* potentially impede or inhibit art trade. The *environment* only influences prices in case of environmental disasters or technical disruptions. *Society* influences prices by affecting supply and demand. Overall, there is much more information in the literature about the influence of external factors: Either

because a more holistic view is taken, or because insiders do not want to address or acknowledge the influence of external factors.

5.3.9 Case Study: The 'Salvator Mundi'

Finding 9
The record price of the 'Salvator Mundi' is the result of a bidding war – for a rare masterpiece by an acknowledged artistic genius – between two exceptional bidders at a powerful auction house and surrounded by controversial marketing measures.

The interviewees identify three main reasons for the record price of the 'Salvator Mundi': First, the price reflects the art-historical importance and fame of the *artist* (Leonardo Da Vinci) and the *artwork* (a rare masterpiece); notwithstanding the doubts about its authenticity and condition. Second, and disputed, the *auction house* played a key role. All *marketing* tools were used, including communication and events, storytelling, targeting, and media coverage. The contextualization of an Old Master in a Contemporary art auction is unprecedented. Third, the two highest bidders were decisive, triggering a bidding war based on extreme wealth, will, and rivalry.
Interestingly, respondents contradict their earlier assessment of the limited role of the auction house by emphasizing marketing as the main driver of price. In discussing this finding, ethical concerns about record prices are also raised. The seventh discrepancy is based on contradictory interview statements:

Discrepancy 7
In claiming that the record price is largely a function of marketing, respondents contradict their earlier assessment that the auction house has limited influence on prices.

To discuss this aspect during the focus groups, this controversial thesis is formulated:

Record prices are the result of marketing.

5.3.10 Research Topics

Finding 10
Auction house professionals are especially interested in research on customers, followed by auction dynamics, external effects, and art history.

The interviewees are most interested in scientific evidence on *customers* to improve acquisition and retention, data management, and overall marketing strategy. First and foremost, they are looking for primary data on *consignors*. Secondarily, they are looking for scientific knowledge about *bidders*, including their identity, psychology,

and motivation, especially the (irrational) behavior and spontaneous decision-making that leads bidders to overstep their limits. The interviewees are also interested in research on new generations. They want to know more about the influence of *auction dynamics* on prices, including the role of the auctioneer, the auction setting, and the impact of the starting price. They are interested in the impact of the *economy, politics,* and *laws* on prices. Nevertheless, they at least indicate that they consider art historical research to be the most interesting and call for critical reflection on the growth of the market.

This thesis offers insights into many of these aspects, underscoring their practical relevance. In addition, it highlights practice-relevant starting points for future research. The interviewee's preference for the artistic dimension of art, and the possible neglect of the economic dimension, is a central feature of the art market.

5.4 Conclusion

The expert interviews provide in-depth insights into the auction price mechanism. First, this subchapter critically reflects the study. Second, it outlines the theoretical and practical contribution, and formulates implications for research and practice. Finally, it identifies key limitations and next steps.

5.4.1 Critical Reflection

The quality of the interviews is ensured by a rigorous and transparent methodology. The findings are valid and reliable (Elliott, 2018, p. 2858): Validity is ensured by theory-based sampling and guideline design combined with a thorough and transparent transcription and coding process. It is enhanced by predefined coding rules. Reliability is ensured by intra-coder reliability, which allows for replication of results. In addition, the two quality criteria that remained unmet in *Study 1* are met here (Webster & Watson, 2002, p. xxi): The study adds to the conceptual framework and provides theoretical explanations and practical examples.

Expert-interviews were chosen due to three main reasons: First, understanding auction prices requires expert knowledge and practical experience. Respectively, the interviews

uncover rich and thick data on attitudes, opinions, and examples about auction prices. Second, the qualitative study adds a practical perspective to the theoretical discourse. Complementary to the (largely quantitative) literature, it enables a more comprehensive understanding of auction prices. Third, it enables a combination of, and comparison between, theoretical and practical discourses.

5.4.2 Contribution

The interview study identifies six categories of relevant price determinants. The two additional concepts identified during the SLR, 'The Auctioneer' and 'The Art Market', are missing from this overview, as their assignment to the six categories seemed more meaningful based on the interviews. For instance, the influence of the art market on auction prices was explained by the market's influence on the artist (e.g., recognition in the art market) and the artwork (e.g., exhibitions, prices), and the auctioneer's influence on auction prices was attributed to their role in the auction mechanism (e.g., competition, time pressure) and their impact on bidder(s) (e.g., atmosphere). *Figure 12* shows the resulting categories.

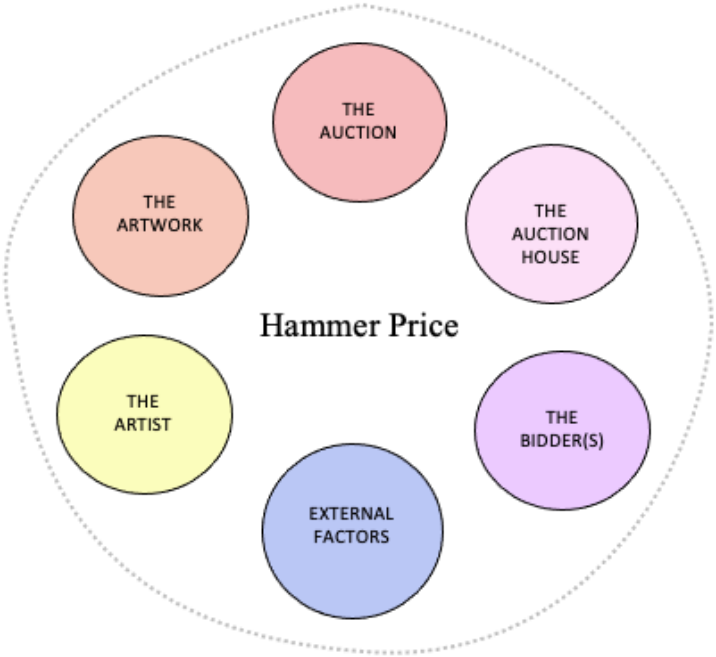

Figure 12: Visualization of Six Categories of Price Determinants (Source: Own illustration).

The results section provides more detail about the individual factors, their role within the category, and the relationship between categories. *Figure 13* summarizes ten key findings:

SEMI-STRUCTURED EXPERT INTERVIEWS
10 Findings

FINDINGS 1-10
1) The *value of art* is a combination of artistic, economic, and individual value.
2) *Art prices* depend on various influenceable and uninfluenceable as well as predictable and unpredictable factors. This makes the price formation at art auctions fragile and complex.
3) *Artists* are like brands and popstars. Their impact depends on names, fame, and trends.
4) The impact of *artworks* depends on their quality, provenance, price estimate and reference prices.
5) The *auction house* influences auction prices primarily by acquiring attractive consignments and increasing the number and willingness to pay of bidders – e.g., through (brand) image and expertise, and multiplied by networks, marketing and customer management.
6) The *auction* mainly influences auction prices through its particular price mechanism, that depends on the auctioneer, individual and overall demand, contextualization and timing.
7) The (the two highest) *bidders* mainly influence auction prices through their willingness-to-pay and bidding behavior, which are based on individual factors (e.g., wealth, personality, and intention) and competition (e.g., mood, number of bidders, and rivalry).
8) The *economy, politics, laws* and *society* influence auction prices indirectly through their impact on confidence and supply and demand in the art market.
9) The *record price of the 'Salvator Mundi'* is the result of a bidding war – for a rare masterpiece by an acknowledged artistic genius – between two exceptional bidders at a powerful auction house and surrounded by controversial marketing measures.
10) Auction house professionals are especially interested in *research* on customers, followed by auction dynamics, external effects, and art history.

Figure 13: *Study 2:* Ten Findings (Source: Own illustration).

The findings are of high theoretical and practical relevance: They are of high theoretical relevance because they provide access to the specialized knowledge and art expertise needed to develop a framework (Webster & Watson, 2002, p. xxi). They also uncover research gaps and practice-relevant avenues for future research. Most notably, these include studies on clients, auction dynamics, externalities, and art history. In light of practice, existing scholarly discourse can be reconsidered, and current or future research efforts can be reviewed.

The findings are of high practical relevance: They offer both a detailed discussion of auction prices and a concise overview in ten findings. The latter make the insider knowledge tangible for practitioners, art market participants and the general public. In particular, auction house professionals and other dealers, sellers, and buyers will benefit from the overview. Based on the findings, they can rethink their strategy (e.g., bidding, selling, marketing). Bidders, for example, benefit from a comprehensive overview of

possible price effects and biases that they can actively prevent. Additional practical implications for different stakeholders are presented in *Chapter 7*.

5.4.3 Limitations & Outlook

It is in the nature of qualitative research that it cannot conclusively verify whether and how certain factors influence prices at art auctions. In addition, there are several limitations.

The first limitation in *data collection* is the small *sample size*. Likewise, data richness (quantity) could be increased by increasing the number of interviews. Given the small size of the target population and the limited time available, data richness was ensured through theoretical saturation. In addition, data thickness (quality) was ensured by the author's experience in the research field, in-depth interviewing, and manual transcription.

The second limitation in *data analysis* is the creation of meaningful categories. This presents a particular challenge since the categories have a strong internal connection (e.g., artist and artwork). The question is how coherence and selectivity can be ensured at the same time: Where does one draw boundaries between categories that are closely related?[34] And how are codes assigned, if they relate to more than one category?[35] An alternative approach would have been to develop a category system based on the concepts identified in *Study 1,* and to use a deductive coding approach as suggested by *Qualitative Content Analysis* (*e.g.,* Mayring, 2010 & 2015). However, the author chose to apply a combination of descriptive and inductive coding in order not to be too influenced too much by the results of *Study 1*. This corresponds with the idea that "[a]dvances in knowledge that are too strongly rooted in what we already know delimit what we can know" (Gioia et al., 2013, p. 16).

The third limitation is subjective *data interpretation*.[36] To increase objectivity, codes and categories are reviewed and reorganized throughout the coding process.[37] In

[34] (e.g., 'The Artist' and 'The Artwork', or 'The Auction' and 'The Auction House')
[35] (e.g., code 'Catalog Presentation' to category 'The Artwork' or 'The Auction')
[36] The risk of distortion of information through translation is considered to be low.
[37] For example, the concept 'The Art Market' was finally dissolved and the codes were assigned to strongly related concepts (e.g., 'The Artist', 'The Auction', or The Auction House').

addition, *intra-coder reliability* is ensured so that the results can be reproduced at different points in time. Still, other codes and categories are possible.

Seven discrepancies are identified within practice (*Study 2*) or based on the comparison between theory (*Study 1*) and practice (*Study 2*). *Figure 14* summarizes the discrepancies. For each discrepancy, a controversial thesis is formulated and discussed in *Study 3*.

INTERVIEW STUDY
7 Discrepancies

DISCREPANCY 1-7
1) The interviewees disagree regarding the relation between the *value and price* of art.
2) The interviewees disagree regarding the importance of a *single factor* in the relationship network.
3) Literature and practice diverge regarding the *artist-related factors* they consider important for auction prices: While the literature analyses diverse factors, practice only points to the importance of art market recognition (name, fame, and trends).
4) The interviewees disagree regarding the relation between *artwork quality and price*.
5) The interviewees disagree regarding the potential *impact and marketing power of auction houses*.
6) The interviewees disagree regarding the *status of online bidding*.
7) In claiming that the *record price* is largely a function of marketing, respondents contradict their earlier assessment that the auction house has limited influence on prices.

Figure 14: *Study 2:* Seven Discrepancies (Source: Own illustration).

6 *Study 3:* Digital Focus Groups

Chapter 6 presents *Study 3*: two digital focus groups with ten professionals from the largest international auction houses in the GSA region. The study is exploratory in nature. It discusses seven controversial theses based on contradictory interview statements *(Study 2)* or on controversies between theory (*Study 1)* and practice *(Study 2)*. The aim is to further develop the conceptual framework and to formulate concluding implications for theory and practice. *Chapter 6* is divided into four subchapters: *6.1 Method* introduces the focus group methodology and implementation. *6.2 Results* presents the findings. *6.3 Discussion* reviews the findings. *6.4 Conclusion* critically reflects the study. It outlines the contribution, identifies limitations, and formulates theoretical and practical implications. It also leads to the conclusion of this thesis.

6.1 Method

Focus groups explore open questions and/or deepen the understanding of a certain topic (Marg, 2014, p. 108). Their goal is to collect rich and detailed data (Carey & Asbury, 2016, p. 15). The method is particularly suited to the applied and complex topic of this research (ibid., p. 17; Pelz, Schmitt & Meis, 2004, p. 1). It is advantageous since attitudes, experiences, and behaviors behind the processes need to be explained (Carey & Asbury, 2016, pp. 17). Connecting to *Study 2*, this study continues to explore *how* different factors influence prices at art auctions (RQ2) and assesses the power of marketing (RQ3). The research questions are:

Research Question 2 (RQ2): *How do these factors influence prices at art auctions?*

Research Question 3 (RQ3): *Which role does marketing play for prices at art auctions?*

6.1.1 Focus Groups

In its original sense, focus groups are moderated group discussions or interviews focused on a given topic (Pelz et al., 2004, p. 3; Sim & Waterfield, 2019, p. 3004). Each group is moderated by a facilitator (Marg, 2014, p. 108), and potentially a cofacilitator (Carey & Asbury, 2016, p. 15): (Co-)Facilitator(s) repeat and paraphrase statements to tease out personal experiences and attitudes (Marg, 2014, p. 108). They need expertise and empathy to facilitate independent discussion between participants. Participants

build a semi-structured, informal group. They usually share the same language and experience related to the topic in question (Carey & Asbury, 2016, pp. 15). They should be "knowledgeable, willing and capable of communicating" (ibid., p. 16).

The focus group methodology has three main advantages (Pelz et al., 2004, pp. 1): First, it allows a topic to be viewed from different angles. Second, it benefits from the greater knowledge of a group compared to individuals. Third, it generates new ideas through a *snowball effect*, that is, participants engage each other in conversation. In short, a focus group "provides an overview of the range and structure of opinions and attitudes on a particular topic with comparatively low personnel and time expenditure" (ibid., p. 3).

6.1.2 Sample

The focus group participants are part of the *sample universe* and *target population* defined in *Study 2* (Robinson, 2014, pp. 25)[38]. Prior to the study, the *sample size* is set at two focus groups, each with five to seven participants. This is consistent with Catterall & Maclaran (2007, p. 263), according to whom a focus group should include no more than eight participants who are homogenous in terms of their experiences and sociodemographic characteristics. The sample is *sourced* based on the acquisition list from *Study 2* (Miles & Huberman, 1994, p. 28; Miller & Brewer, 2003, p. 273). The *sample strategy* is a combination of purposive and convenience sampling (Robinson, 2014, p. 31). First, the author contacts the interviewees from *Study 2*, and an additional contact with expertise about online auctions (*convenience sampling*). Then, she contacts professionals from the acquisition list (*purposive sampling*) until the sample size is reached.

6.1.3 Guideline & Implementation

Both focus groups are arranged via email and scheduled as online video conferences. Following Catterall & Maclaran (2007, p. 263), the planned duration of a focus group is 1-1.5 hours. The guideline is based on the discrepancies identified in *Study 2*. Since all participants are German native-speakers, the interview language is German. Both focus groups are tape-recorded with the participant's consent. To analyze the content,

[38] (former) professionals at the largest international auction houses or subsidiaries in the top price *Level 3* (Throsby, 1994, p. 5) and at the largest national auction houses in the middle price *Level 2* in the GSA region

a transcript of each focus group is created manually in *f4transkript* (Sim & Waterfield, 2019, p. 3004; see *Appendix F* for all transcripts). Data analysis focuses on the content of the focus group, not on the group process (Carey & Asbury, 2016, p. 15). To structure and summarize the findings, first level descriptive codes are developed (Elliott, 2018). All descriptive codes are assigned to 14 categories: the relating (statement per) thesis or the poll. No higher order or inductive codes (ibid.; Gioia et al., 2013) are developed. Data is interpreted during the discussion.

6.2 Results

Study 3 discusses seven controversial theses. It clarifies remaining ambiguities and exposes the key findings of this thesis. The following section presents the results of the focus groups: First, it visualizes each thesis including supporting or controversial statements (a/b/c). Second, it summarizes the discussion of each statement. *Chapter 6.3* discusses and visualizes the results and reformulates the theses as findings.

6.2.1 Descriptive Analysis

This section describes the sample, the guideline, and the resulting categories and codes.

6.2.1.1 Sample

The sample consists of six females and four males in two groups with five participants each. The occupations include five managers, three art experts, and two marketeers. The geographical distribution includes five German, three Swiss, and two Austrian auction houses or subsidiaries. The sample includes six auction houses and one online auction platform with five participants from *KARL & FABER* and one each for *Christie's, Sotheby's, Kornfeld, Dorotheum, Lempertz,* and *invaluable*. Both focus groups are conducted on 1 December 2021 via the online conference tool ZOOM. The focus groups last 1:12:00 and 1:19:33 hours.[39]

[39] *Figure 34* in the Appendix shows the sample distribution across genders, occupations, and countries. *Figure 35* in the Appendix shows the distribution of auction houses.

6.2.1.2 Guideline & Transcription

The guideline is based on *Study 2 (see Figure 15)*. It consists of seven controversial theses and one poll. Theses 1-3 are based on contradictory interview statements (*Study 2*). Theses 4-6 reflect discrepancies between theory (*Study 1*) and practice (*Study 2*). Thesis 7 reflects one interview statement. The poll asks participants to prioritize the factors.

FOCUS GROUP GUIDELINE
7 Controversial Theses & Poll

THESES 1-7
1) The value and price of a work of art are definitely always the same.
2) The price is an indicator of the quality of a work of art.
3) The auction house exerts a significant influence on auction prices.
4) Online bidding is not yet fully established.
5) An artist who is not recognized on the art market cannot achieve a high auction price.
6) Record prices are the result of marketing.
7) All factors are interrelated: "Every single one must be right".

POLL
"What are the key factors influencing art auction prices?"

Figure 15: Focus Group Guideline (Source: Own illustration).

6.2.1.3 Categories and Codes

The author assigns first level descriptive codes to 135 citations (62-73 per focus group), relating to 14 categories: Theses 1-7(a/b/c) and the poll. No higher order codes are created. Each code is numbered in the format (X(*number of focus group*):Y(*number of code*)). The number of descriptive codes assigned to each higher order code is indicated in the result section. *Figure 16* shows the coding process and one example for Code 1:29.

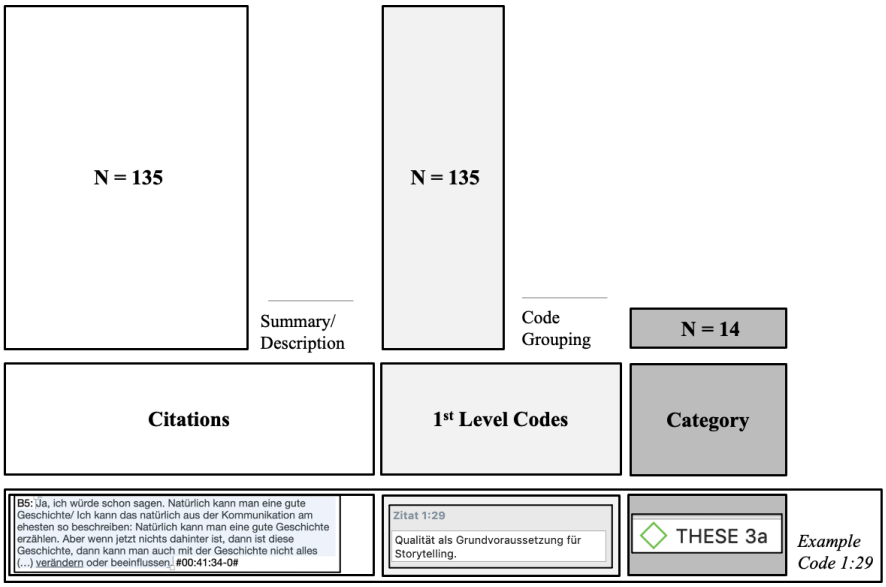

Figure 16: Coding Process including Example (Source: Own illustration based on Elliott, 2018, pp. 2852).

6.2.2 Content Analysis

6.2.2.1 Thesis 1

Thesis 1 is based on three opposing interview statements regarding the relation between the value and the price of a work of art.

THESIS 1: The value and price of a work of art are definitely always the same.
Focus Group Guideline

1a) The price on the secondary market is "definitely always (...) the same as the value" (8:16).
1b) The price may or may not correspond to the value of a work of art (2:20; 11:9).
1c) The value of art is something completely different from its price (2:15; 11:74).

a. Interview Statement 1a

1a) The price on the secondary market is "definitely always (...) the same as the value" (8:16).

The statement is correct if the price is considered as a *snapshot*. This is because "[i]n the moment [of sale], the price represents the value" (1:5) of an artwork. If this were not the case, "one would have to discuss quite philosophically, what does value mean if it is not price?" (1:8). But in considering the relationship between value and price, the *temporal component* is crucial (1:7). At the time of sale, value and price are congruent, "[b]ut that can be wrong a second later" (1:5). Thesis 1a is incorrect if one considers a period of time (1:3), e.g., because object categories can go out of fashion (2:8). Then, Thesis 1b or 1c is correct (1:7).

b. Interview Statement 1b

1b) The price may or may not correspond to the value of a work of art (2:20; 11:9).

Statement 1b and 1c are not mutually exclusive (1:2). They are correct (1:4; 1:6) because value and price correspond only "if everything around is ideal" (2:2), and because the price depends on *situational factors* (e.g., bidders, information) (2:12). Hence, the price does not have to be equal to the value (2:12). It can be below value if there are *disruptive factors* (e.g., problems with the artwork, a snowstorm, a stock market crash) (2:1). It can be above value if the sale occurs on an ideal day (2:3), if there is a hype about an artist or artwork (2:5), or if there are a large number of bidders with the necessary money interested in a work (2:4; 2:5; 2:7). More important than hype, and often the result of it, is the presence of (at least two) *bidders* (2:6).

c. Interview Statement 1c

1c) The value of art is something completely different from its price (2:15; 11:74).

There are several *differences* between the value and price of art. However, the statement is not completely correct. Value is "not always different from price [and] [i]n the ideal case (...) congruent" (2:9). Their *common features* are that both the value and price of art are difficult to define. Both are *dynamic* and depend on various factors, such as psychological aspects and current or historical events (2:14).

- *Value* is more static than price (2:15). It reflects the *reception* of a work of art (2:15). It is subjective (1:12) and corresponds to each bidder's *individual bundle of motives* (1:1), e.g., art-historical, social, and monetary value (2:10; 2:15). Therefore, the value of art is difficult to generalize and quantify (2:13).

- The *price estimate* reflects a pre-defined *benchmark* (1:9). It is analytical and based on current market conditions (1:11). The *hammer price* is a tangible (1:13) monetary value (2:11). It reflects the commercial and public *realization of subjective value perceptions* at the time of the auction (1:1). At this point, the price corresponds to the subjective value of the winning bidder (1:9). Likewise, prices are a matter of perception. They depend on numerous factors (e.g., time of sale, market conditions, information) (2:16). The optimal information situation online is only theoretical (2:18). In reality,

the available information is not perceived by all bidders. The fact that prices can be a *random product* complicates their scientific analysis (2:17).

6.2.2.2 Thesis 2

Thesis 2 presents three opposing interview statements regarding the relation between the quality and the price of a work of art.

THESIS 2: The price is an indicator of the quality of a work of art.
Focus Group Guideline

2a) "A high price indexes artistic quality" (10:3) 90% of the time.
2b) A work of art "that has a high price is likely to be of high artistic quality. This is no more true of that which has no price or a very low price" (10:7).
2c) "The price (...) has (...) no significance about the quality of a work of art" (11:4).

a. Interview Statement 2a

2a) "A high price indexes artistic quality" (10:3) 90% of the time.

If this statement were correct, a majority of works by female artists, as well as the works of all artists not traded at auctions (1:18), would be of poor quality. In reality, however, quality depends on more (e.g., artistic ability) or less assessable factors (e.g., trends, social developments) (1:16). In addition, even the *perception of quality is dynamic*. It changes (1:16), e.g., depending on current discourse (1:17) and the process of canonization (1:21). Unless other influencing factors (e.g., bidders) can be ruled out, a higher price cannot be attributed to better quality (1:23). This also has an advantage: because price does not necessarily index artistic quality, high-quality art can also be bought for little money (2:21).

b. Interview Statement 2b

2b) A work of art "that has a high price is likely to be of high artistic quality. This is no more true of that which has no price or a very low price" (10:7).

The price depends on many factors (2:23) and often reflects quality (2:20). However, many artworks do *not* fetch a price that corresponds to their quality (2:22). In reality, there is high (low) quality art at a low (high) price (1:19; 2:23). For instance, even a "very bad Picasso (...) is still much more expensive than a lot of very great artists " (2:20).

c. Interview Statement 2c

2c) "The price (...) has (...) no significance about the quality of a work of art" (11:4).

The real question is: If two paintings by the same artist are sold at the same time, is the painting with the higher price necessarily of higher quality (1:22)? This is not the case, since the price is strongly dependent on *trends* and *situational circumstances* (1:14), such as changes in taste, media attention, and public perception (1:15). In addition, some artists simply do not achieve high prices because they are not *recognized on the international art market*. The price for works of art by internationally renowned artists, however, is an indicator of artistic quality. Without quality, high prices created by marketing cannot be sustained over a longer *period of time* (2:19). According to Magnus Resch, there is no such thing as quality: quality is marketing and only the price counts (1:20).

6.2.2.3 Thesis 3

Thesis 3 summarizes different interview statements regarding the influence of auction houses on prices.

THESIS 3: The auction house exerts a significant influence on auction prices.
Focus Group Guideline

3a) The auction house has a significant influence on auction prices, including through image, expertise, network, and reach (1:15; 2:126; 3:26; 8:42).
3b) The houses with the most knowledge about market participants 'make' the prices (9:27).
3c) In reality, there is a lack of staff (2:121), exchanges between experts and the marketing department (2:105), targeted data management, and "time to think" (7:64) to realize this potential (2:104; 2:117; 2:118; 2:119).

a. Interview Statement 3a

3a) The auction house has a significant influence on auction prices, including through image, expertise, network, and reach (1:15; 2:126; 3:26; 8:42).

Auction houses cannot influence the value of a work, but they can influence the price (2:30). For example, they can increase *interest* and the *number of bidders* through their network and outreach (2:29). The probability of a high price increases with the number of bidders (2:27). *But*: Auction prices depend on the specific reach, not the absolute reach. Likewise, smaller houses can target the right audience through *specialization* and close *customer relationships* (2:31; 2:33). Beyond the number of (relevant) bidders, it matters *who* bids through what *channel* (2:30). Online platforms increase international

reach (2:32). Finally, the *image* of the auction house can also affect the perceived value of an artwork (2:34).

More generally, the job of marketing is to create *perception* in the marketplace (2:46), for instance, through storytelling, which presupposes a certain quality and provenance of the artwork (1:29; 1:30). It is "the *battle for perception* that (...) leads to a certain price" (2:48, [Emphasis added]). The job of experts is to ensure that information reaches the customer through *direct marketing* (2:47). This is necessary because especially important collectors are overwhelmed with information (2:47). Additionally, the reduction of print materials reduces *awareness* among collectors (2:49). To counteract this fact, online platforms support direct marketing (2:50). However, online marketing creates "*echo chambers*" (2:49, [Emphasis added]) which means that customers perceive mainly what is already within their area of interest, and little beyond (2:49).

Auction houses focus their marketing activities on the most expensive works. This creates an *advantage for smaller houses* in the lower and middle price ranges (2:36; 2:37). Still, if the *timing* is not right, marketing is of little benefit (2:36). Outreach and marketing can only make a difference if the *external circumstances* (e.g., auction day, bidder interest) are right (2:26). Otherwise, even an excellent work can go unsold despite the best marketing efforts (2:26). Sometimes it is just *coincidences* that lead to a high price (2:35).

b. Interview Statement 3b

3b) The houses with the most knowledge about market participants 'make' the prices (9:27).

'Making' prices is hard (2:25) and only works "[t]o a certain extent" (2:38). Therefore, auction houses can *influence, support, promote*, or *optimize* prices rather than 'make' them (1:31; 2:24; 2:38; 2:39). There are certain basic *prerequisites*, including demand, provenance, references, and a certain foothold in the art world (1:31). If these are in place, the auction house can support prices, e.g., through marketing, targeted communication, customer knowledge, and customer management (1:31; 2:44). It can capture the *attention* of bidders through artwork placement, price attribution, and recent auction successes (1:27). It also exerts influence on prices by (not) *accepting works for auction* (including new artists) (1:25; 1:26).

Nevertheless, auction houses cannot "build artists from nothing" (1:31; 2:28). They *cannot 'make'* a record price out of an unknown artist "if the work is really a no-name, there is no demand, the work has never seen a good exhibition or has not appeared at all in this (...) art business, in this network" (1:31). More importantly, the auction house *cannot act alone* nor against fashions and tastes (2:40). Only together with the rest of the art market (collectors, gallery owners, dealers, etc.) (2:40) and "in interaction with buyers [auction houses] can also very specifically place works and create prices" (1:24). High prices for NFTs by unknown artists form an unlikely special case (1:32) but reflect desirability and demand (1:33).

c. Interview Statement 3c

3c) In reality, there is a lack of staff (2:121), exchanges between experts and the marketing department (2:105), targeted data management, and "time to think" (7:64) to realize this potential (2:104; 2:117; 2:118; 2:119).

Marketing is limited by *financial and human resources* (1:28). Likewise, auction houses focus on highlight works (2:41). They lack the resources to promote all works equally (2:45), even if that would likely have a positive impact on the market (2:43). Apparently, *exchange* between employees is possible in smaller houses (2:42). *Professional data management* is ensured at larger houses through client relationship management programs (1:34).

6.2.2.4 Thesis 4

Thesis 4 reflects a surprising consensus among the interviewees regarding the current state of online bidding.

THESIS 4: Online bidding is not yet fully established.
Focus Group Guideline

Unlike online-only auctions, online bidding is not yet fully established (4:52; 7:61; 8:47; 8:48; 8:49). It will "certainly take another ten, 20 years before online bidding (...) is in the same proportion as telephone bidding or hall bidding or written bidding" (8:49).

This thesis summarizes similar statements from the interviews conducted prior to the *Covid-19 pandemic* (1:35). Since then, online bidding increased significantly (2:54; 2:55; 2:56). During the pandemic, the 20 years were "fast-tracked" (1:36), and auction houses moved quickly to online (live) bidding and online only (1:36). Nevertheless, the participation of online bidders has been low so far, even at the big auctions in New York (2:53). This is a *generational problem* (2:52; 2:54). It is expected to decrease with

next generations, *new devices,* and *habituation* (1:38; 2:53; 2:57). In sum, less time is estimated today to fully establish online bidding (1:37; 2:52). Already, *online platforms* have become indispensable (1:37) and some houses no longer have an auction room at all (1:40).

The future of online bidding also depends on *dealers*: Many customers will bid by phone as long as it is possible because they prefer *personal contact* and *life experience* (1:39; 2:56). Yet, online platforms are often used by existing customers, which is not advantageous for auction houses who pay a commission to the platform (2:52). In addition, the importance of the hall depends on the intentions of the auction house, which in turn vary depending on different price segments, value categories and collecting areas (1:41): *fast sale* online versus *price maximization* offline (1:41). In addition, the room is relevant because of *legal frameworks* (1:42).

Finally, there are clear advantages and disadvantages to online and telephone bidding (2:58): *Online bidders* can place *spontaneous bids* on all objects. However, the *transaction costs* are higher for the buyer (3-5% of the hammer price) and the auction house (10-15% of the margin). There used to be a greater *technical risk*, which is why telephone bidding was considered more (technically) reliable. In addition, telephone bidders benefit from *personal contact* with a member of staff and gain an overview of the *competitive situation*. However, *telephone bidders* can only place bids for objects for which they have registered in advance. In addition, they can be *influenced* to a greater extent.

6.2.2.5 Thesis 5

Thesis 5 reflects a consensus among interviewees regarding the significance of the artist's recognition for prices. This thesis is interesting against the background of current prices for unknown NFT artists and compared to the – much more differentiated – literature.

THESIS 5: An artist who is not recognized on the art market cannot achieve a high auction price.
Focus Group Guideline

Regarding the influence of artists on auction prices, only the market-related factors name (1:5; 4:15; 5:4; 6:14), fame (1:6; 6:12; 6:36) and trends (5:90; 9:8; 10:2; 11:70) were mentioned.

This thesis tends to be correct (1:46; 2:59; 2:62). However, price differences exist between the *primary* and the *secondary art market*. Unlike galleries, auction houses cannot build up unknown artists and create name recognition that translates into high prices (1:44; 2:60). Instead, auction houses provide "a *platform* that reflects the day's interest worldwide" (2:61, [Emphasis added]). Likewise, art market *trends* are either produced by the art market (and supported by auction houses) or caused by societal changes (1:48). Auction houses can then *exploit* these trends, and potentially *shape* them (1:44; 1:48).

In the past, the international art market represented one global market which was dominated by Europe and America (2:64). Today, one must differentiate between different (e.g., national, or local) submarkets (1:47; 2:66). From our point of view, many of the artists on the American and Asian market are unknown and the local market mechanisms are intransparent (2:64; 2:55). The New York art market represents an example for a "bubble" (2:62; 2:63) of high-priced artists who are unknown and difficult to evaluate here (2:63; 2:64). The question arises whether these artists will last in the long term and how their prices will develop (2:65; 2:67).

6.2.2.6 Thesis 6

Thesis 6 exaggerates interview statements regarding the role of marketing for record prices.

THESIS 6: Record prices are the result of marketing.
Focus Group Guideline

Regarding the influence of artists on auction prices, only the market-related factors name (1:5; 4:15; 5:4; 6:14), fame (1:6; 6:12; 6:36) and trends (5:90; 9:8; 10:2; 11:70) were mentioned.

Record prices are primarily the result of *great bidder interest*. In this context, *marketing* plays an important role (1:50). It can "do a lot, but not everything" (2:68; see also 1:49). Otherwise, experts would be obsolete (1:49). Moreover, a question of *causality* arises (2:70): Does ‘giant marketing’ lead to a high price, or are marketing measures exhausted when the estimated price is high? The answer is: Marketing adapts to the expected price and can thus not only be an *antecedent* of a high hammer price, but also a *consequence* of a high price estimate (1:51; 1:52).

In the context of record prices, the *price estimate* is an important *marketing tool* (1:53). It is strategically used to attract a high number of bidders (1:55). The estimated price reflects traditional price bands (1:58). It indexes the presumed or *predicted value* of a work (1:54; 1:56; 1:57). The realized price, however, corresponds to the *correct price* (value) (1:57). In this context, the Salvator Mundi is an "excellent marketing example" (2:68). Nevertheless, the unused marketing potential should give pause for thought: After the sale, the work disappeared, is no longer advertised by the auction house, and the price was allegedly never paid (2:69).

6.2.2.7 Thesis 7

Thesis 7 reflects an interview statement that considers all factors in their entirety.

THESIS 7: All factors are interrelated: "Every single one must be right" (5:11).
Focus Group Guideline

"The more fits, the higher the price" (5:11). But if one factor is not right, "it can also go wrong. (…) There is no guarantee" (5:21).

There is doubt that a single factor can make everything impossible (2:73). Hence, this study formulates an alternative thesis: *When everything is right, it works* (2:72). These include market conditions, the mood of the bidders, the atmosphere of the auction, and the authenticity, rarity, and market-freshness of the artwork (2:71; 2:72). In the end, however, only the weights of motives in each bidder's "motive bundle" (1:59) matter. Likewise, different bidders perceive and weight different factors (differently) (1:59). Only the presence of two interested bidders is an essential requirement for a successful sale (1:60). On top of that, the auctioneer can make a price difference of up to 3-5% (1:61; 1:62).

6.2.2.8 Poll

POLL: What are the key factors influencing art auction prices?
Write 3-5 key factors each in the chat!

At the beginning and at the end of the focus group, the participants are asked to name the three to five most important factors influencing art prices. The following 12 factors are mentioned:

1. **The artist** – *notoriety, extent of oeuvre, market value, and relevance (7 mentions),*
2. **The artwork** – *ideally a good, early/late, typical work for the artist (5 mentions),*

3. **Provenance** – *ideally a 'super provenance' (5 mentions),*
4. **Quality** – *ideally 'special' or 'top' quality (3 mentions),*
5. **Mood** – *ideally a good mood of bidders and the market (3 mentions),*
6. **Condition** – *ideally a 'good condition' (2 mentions),*
7. **Rarity** – *(2 mentions),*
8. **Market freshness** – *ideally not (often) traded at auction yet (2 mentions),*
9. **The state of the economy** – *(1 mentions),*
10. **Trends** – *(1 mentions), and*
11. **At least two bidders** – *(1 mentions), with …*
12. **Deep Pockets** – *(1 mentions).*

6.3 Discussion

In the following section, the updated theses and findings per statement are discussed.

6.3.1 Thesis 1

THESIS 1: The value and price of a work of art are definitely always the same.

Statement 1a says that "*The price on the secondary market is 'definitely always (...) the same as the value' (8:16) in the moment of the sale*". This statement must be differentiated: The price is a snapshot. It reflects the value of the work in the moment of the sale, but can, and often does, differ from the value in the long term. This is, for instance, because tastes and demand change over time and (even valuable) works of art can go out of fashion. Summarizing, statement 1a is correct in the moment of the sale. It is incorrect if one considers a period of time. Finding 1a is:

Finding 1a) In the moment of the sale, [t]he price on the secondary market is "definitely always (…) the same as the value" (8:16).

Statement 1b says that *"The price may or may not correspond to the value of a work of art (2:20; 11:9)"*. This statement is correct. Since the price depends on various (situational) factors, it does not necessary reflect the value of a work of art. The price may be lower if there are confounding factors, or higher if conditions are ideal. Finding 1b is:

Finding 1b) In the long term, and due to diverse (e.g. situational) factors, [t]he price may or may not correspond to the value of a work of art (2:20; 11:9)".

Statement 1c says that *"The value of art is something completely different from its price (2:15; 11:74)"*. Price and value have commonalities and differences. The *price* is tangible. It represents the realization of bidders' subjective value perceptions at the time of the sale. It can be a random product and it can change over time. The *value* is more static. It reflects the (e.g., art-historical) reception of the work. Since it mirrors individual motives, it differs between bidders. To receive a congruent price, the value of an artwork must be recognized by bidders. Concluding, the value of art can, but must not, be different from its price. Finding 1c is:

Finding 1c) The value of art is not necessarily something completely different from its price (2:15; 11:74) "and in the ideal case (…) congruent" (2:9).

The discussion leads to the assumption, that the value and price of art *can* be the same. The updated Thesis 1 and the findings are summarized as follows:

THESIS 1: The value and price of a work of art *can* be the same.
Updated Thesis & Findings

1a) In the moment of the sale, the price is the same as the value.
1b) In the long term, and due to diverse (e.g., situational) factors, the price may not correspond to the value of a work of art.
1c) The value of art is not necessarily completely different from its price and in the ideal case congruent.

6.3.2 Thesis 2

THESIS 2: The price is an indicator of the quality of a work of art.

Statement 2a says that *"'A high price indexes artistic quality' (10:3) 90% of the time"*. However, the price of an artwork does not necessarily index artistic quality: In addition, even the perception of quality changes over time. There are both high-quality and low-quality works of art that do not fetch corresponding prices. Finding 2a is:

Finding 2a) "A high price does not necessarily index~~es~~ artistic quality" (10:3) ~~90% of the time.~~ and high-quality artworks can have a low – or no – price.

Statement 2b says that *"A work of art 'that has a high price is likely to be of high artistic quality. This is no more true of that which has no price or a very low price" (10:7).* This statement tends to be correct. Many high-quality works do not obtain a corresponding price. However, there are also low-quality works that fetch high prices. Finding 2b is:

Finding 2b) A work of art "that has a high price is likely to be of high artistic quality. This is no more true of that which has no price or a very low price" (10:7) and of that which has a very high price (1:19).

Statement 2c says that *"The price (...) has (...) no significance about the quality of a work of art (11:4)"*. This statement can overlap with statement 2b: Prices do not have to have a significance about the quality of a work. The price strongly depends on trends and situational circumstances, and on whether an artist is traded at auction. Yet, when prices remain at a high level over a longer period of time, this is a sign of quality. Finding 2c is:

Finding 2c) "~~The~~ A single price (...) ~~has~~ must not have any (...) ~~no~~ significance about the quality of a work of art" (11:4). However, if prices remain at a high level over time, this is a sign of quality.

The discussion leads to the assumption, that the price *can* be an indicator of the quality of an artwork. The updated Thesis 2 and the findings are summarized as follows:

THESIS 2: The price *can* be an indicator of the quality of a work of art.
Updated Thesis & Findings

2a) A high price does not necessarily index artistic quality.
2b) Low-quality artworks can have a high price. High-quality artworks can have a low – or no – price.
2c) While a single price must not have any significance about the quality of a work of art, it is a sign of quality, if prices remain at a high level over time.

6.3.3 Thesis 3

THESIS 3: The auction house exerts a significant influence on auction prices.

Statement 3a says that *"The auction house has a significant influence on auction prices, including through image, expertise, network, and reach (1:15; 2:126; 3:26; 8:42)"*. Indeed, if the timing and the circumstances are right, auction houses can influence the price of a work. They can generate interest by increasing the number of relevant bidders and the perceived value of a work through image, storytelling, network, and reach, and supported by art experts and online platforms. Success in this 'battle for perception' leads to high prices. It depends on the concrete (not the absolute) reach, so that smaller houses with the right specialization and target group have a competitive advantage over the leading houses, especially since they can take advantage of the untapped marketing potential in the lower and middle price segments. Still, coincidences and customers are more important than the auction house. Finding 3a is:

Finding 3a) The auction house ~~has~~ can have a significant influence on auction prices, including through image, expertise, network, and reach (1:15; 2:126; 3:26; 8:42), if the timing and external circumstances are right.

Statement 3b says that *"The houses with the most knowledge about market participants 'make' the prices (9:27)".* In reality, auction houses cannot completely 'make' prices, especially not on their own, against fashions and tastes, or for unknown artists. Nevertheless, provided certain basic artist and artwork characteristics are fulfilled, auction houses can – together with the rest of the art market and in interaction with buyers – influence, support, promote, and optimize prices: By selecting works for auction and increasing attention among bidders through, e.g., information, customer management, targeted communication, and marketing. Finding 3b is:

Finding 3b) The houses with the most knowledge about market participants ~~'make' the~~ can optimize prices (9:27) in interaction with the rest of the art market and the buyers.

Statement 3c says *"In reality, there is a lack of staff (2:121), exchange between experts and the marketing department (2:105), targeted data management, and 'time to think' (7:64) to realize this potential (2:104; 2:117; 2:118; 2:119)".* Lack of (financial and human) resources limits the marketing potential of some auction houses. Others report that they ensure internal exchange and professional data management. Presumably, the statement is correct, at least for some houses. The updated Thesis 3 and the findings are summarized as follows:

THESIS 3: The auction house can *optimize* auction prices.
Updated Thesis & Findings

3a) The auction house can have a significant influence on auction prices, if the timing and external circumstances are right.
3b) The houses with the most knowledge about market participants can influence, support, promote, and prices in interaction with the rest of the art market and the buyers.
3c) Financial and personal resources limit the potential influence of the auction house.

6.3.4 Thesis 4

THESIS 4: Online bidding is not yet fully established.

Before the Covid-19 pandemic, online bidding was little used, even among the largest international auction houses. During the pandemic, the transition from off- to online was fast-tracked. Today, online bidding and online platforms are indispensable.

However, the auction room is still relevant: due to legal framework conditions and for price maximization in sought-after collecting areas and price segments. Previous reluctance to bid online is a generational problem. It is expected to fade with habituation, next generations, and new devices. However, many bidders still prefer the live and personal experience of telephone bidding, and collaboration with online platforms is not only advantageous for auction houses. Finding 4 is:

Finding 4) Online bidding is ~~not yet fully~~ much more established since the Covid-19 pandemic, but it is not only advantageous for bidders and auction houses.

The updated Thesis 4 and the findings are summarized as follows:

THESIS 4: Online bidding is quite established since the Covid-19 pandemic, but it is not only advantageous for bidders and auction houses.
Updated Thesis & Findings

Many bidders still prefer the personal or live experience of hall or phone bidding. In addition, they save additional transaction costs payable to the online platform. Auction houses also pay a commission to online platforms, which is why it is disadvantageous when existing clients switch to online bidding. Pure online auctions are less suitable for price maximization and the legal advantages of hall auctions do not apply.

6.3.5 Thesis 5

THESIS 5: An artist who is not recognized on the art market cannot achieve a high auction price.

As part of the art market, auction houses reflect the existing demand and interest in art. They can exploit and shape trends, but they cannot 'make prices' for unknown artists. In this regard, one must differentiate between different (e.g., national, or local) submarkets: Artists that are unknown in the GSA region may fetch high prices on other markets. This is because some sub-markets are subject to different market mechanisms, probably due to differences in supply and demand. The question is how long these artists (and prices) will last. Finding 5 is:

Finding 5) An artist who is not recognized in the submarket where he/she is traded ~~on the art market cannot~~ can hardly achieve a high auction price.

The updated Thesis 5 and the findings are summarized as follows:

THESIS 5: Recognition in the (specific submarket of the) art market is required for artists to achieve a high auction price.
Updated Thesis & Findings

Since submarkets differ, artists that are unknown in one submarket can achieve high prices in another submarket. In exceptional cases, such as the art market bubble in New York, unknown artists can achieve high prices.

6.3.6 Thesis 6

THESIS 6: Record prices are the result of marketing.

Record prices are primarily the result of great bidder interest. In this context, marketing plays a key role. It can be the antecedent of a high hammer price, but also the consequence of a high estimated price. The main role of marketing is to attract a high number of bidders. Finding 6 is:

Finding 6) Record prices are primarily the result of great bidder interest, which can be created and supported through marketing.

The updated Thesis 6 and the findings are summarized as follows:

THESIS 6: Record prices are primarily the result of great bidder interest.
Updated Thesis & Findings

In turn, bidder interested can be created and supported through marketing.

6.3.7 Thesis 7

THESIS 7: All factors are interrelated: "Every single one must be right" (5:11).

Which factors have how much weight depends on the individual motives of bidders. The sale is successful when everything is right, but one factor need not make everything impossible. The only mandatory requirement for a high price is the existence of (at least) two bidders at the time of the sale. Finding 7 is:

Finding 7) All factors are interrelated: ~~"Every single one must be right".~~ When everything is right, it works (2:72).

The updated Thesis 7 and the findings are summarized as follows:

THESIS 7: All factors are interrelated: When everything is right, it works.
Updated Thesis & Findings

One factor need not make everything impossible. The only mandatory condition is the existence of (at least) two bidders at the time of sale.

6.3.8 Poll

POLL: What are the key factors influencing art auction prices?

Considering that provenance, quality, condition, rarity, and market freshness are properties of the artwork, and that deep pockets relate to the bidders, the key factors can be summarized: (1) The artwork, (2) the artist, (3) the mood of bidders and the art

market, (4) the economy, (5) art market trends, and a minimum of (6) two (wealthy) bidders are considered most relevant by the interviewees. *Figure 17* highlights the six key factors compared to the eight concepts identified in the literature:

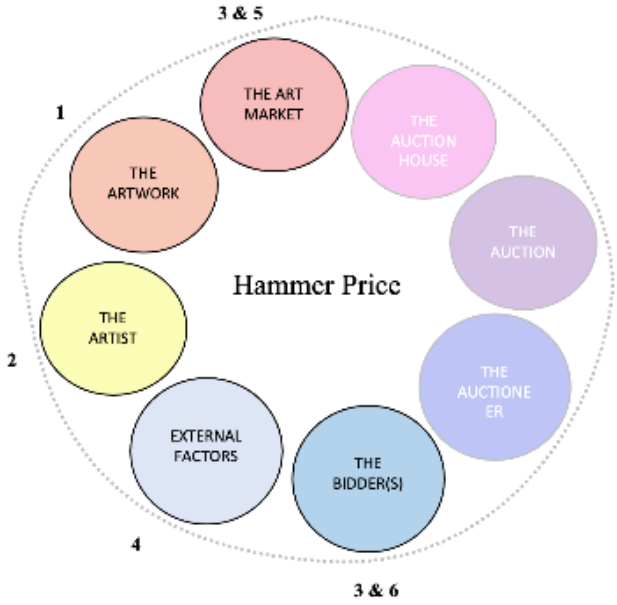

Figure 17: Prioritization of Key Factors in Comparison to the Literature (Source: Own illustration).

6.4 Conclusion

The focus groups discuss seven controversial theses to clarify remaining ambiguities and expose the key findings of this thesis. First, this subchapter critically reflects the study. Second, it outlines the theoretical and practical contribution. Finally, it presents the limitations and implications for future research and practice.

6.4.1 Critical Reflection

The quality of data collection is ensured by transparent selection and rigorous implementation of the methodology. The findings are valid and reliable: Validity is reinforced by the expertise and empathy of the (co-)facilitators. Quality of data analysis is ensured by complete transcripts and guided coding. Reliability is guaranteed by intra-coder reliability (Elliott, 2018, p. 2858). Reliability and validity are increased through the strict assignment of codes to the corresponding theses (ibid., p. 2859). The entire

methodological procedure is transparently documented: from sampling to the creation of the guideline to transcription and coding.

Focus groups were chosen due to three main reasons: First, experts are assessed as suitable source of information due to their knowledge and experience once again. Second, focus groups allow for the required interaction and discussion between experts necessary to clarify ambiguities and develop consensus. Third, focus groups further deepen the qualitative understanding of auction prices, thereby completing the qualitative research design. The result is a strong theoretical and practical contribution.

6.4.2 Contribution

The aim of the focus groups is to gain a better understanding of the research object, and to resolve ambiguities from the previous studies. Certain discrepancies are settled, others are specified or classified. While the theoretical and practical contribution is especially strong in conjunction with *Study 1* and *Study 2*, the study also provides a good overview of the research project on its own. *Figure 18* summarizes the key findings*:*

THESES 1-7
Updated Thesis & Key Findings

1) The value and price of a work of art *can* be the same.
2) The price *can* be an indicator of the quality of a work of art.
3) The auction house can *optimize* auction prices.
4) Online bidding is quite established since the Covid-19 pandemic.
5) Recognition in the (specific submarket of the) art market is required for artists to achieve a high price.
6) Record prices are primarily the result of great bidder interest.
7) All factors are interrelated: When everything is right, it works.

Figure 18: Updated Theses and Key Findings (Source: Own illustration).

The focus groups are of high theoretical relevance: While they explore an otherwise complex research object, they once again emphasize precisely this complexity. For instance, relating to Thesis 1 and Thesis 2, they demonstrate that the quality, value, and price of art are dynamic, hard to define, and difficult to relate in one sentence. The fact, that value and price (Thesis 1), as well as quality and price (Thesis 2), *can* – but must not – correspond, points to one of the key characteristics of this research: The research of art markets requires not only economic knowledge and quantitative analysis, but an

in-depth understanding of art. Only those who have this knowledge are able to describe, let alone explain or predict, auction prices.

The focus groups are of high practical relevance: First, the identification of disagreements and consensus among professionals is of particular interest to auction houses. It stimulates critical discourse and strategy improvement, e.g., regarding the use of marketing, data management, and customer relationship management. Second, it provides a good overview for anyone new to the art market, and for veteran dealers, sellers, and buyers. Third, the otherwise hidden insider knowledge is of interest to the public interested in media coverage of art and record prices.

6.4.3Limitations & Outlook

The focus groups only address previously defined aspects of the auction price mechanism. They only allow for the investigation of a limited number of aspects. Hence, it is possible that important aspects are neglected, irrelevant aspects are focused on, or the interview partners are steered in a certain direction. Consequently, a first limitation of the study is the prior limitation of the content. To fully understand the findings, they must be considered against the background of the preceding studies.
Another limitation of focus groups is that they are not suitable to conclusively verify or falsify the theses. Yet, they do provide initial clues and point to practice-relevant avenues for future research: Overall, a larger sample size could increase the validity of the results. Alternatively, a quantitative analysis could be conducted to verify the results of *Study 2* and *Study 3*. Such mixed-methods approaches are promising in terms of their generalizability. However, quantitative methods are inappropriate for the purpose of this research: They do not provide access to the depth of data presented here, e.g., detailed classification and specification of interview statements. Furthermore, they do not allow experts to interact and potentially reach an agreement – a key advantage of focus groups. Nevertheless, future (quantitative) research is encouraged, especially quantitative analyses of individual price-determining factors, such as the role of the artist's race and gender on auction prices, as well as exploratory studies, e.g., on the untapped potential of online bidding and customer data management.

7 Conclusion

Chapter 7 concludes the thesis. It presents the key findings and discusses them against the background of existing theory and current practice. On this basis, it outlines the theoretical and practical contribution. It identifies limitations and next steps. More precisely, it calls for action by highlighting practical implications for different stakeholders as well as promising avenues for future research. *Chapter 7* is divided into three subchapters: *7.1 Key Findings* summarizes the findings. *7.2 Theoretical & Practical Contribution* explains their relevance for research and practice. *7.3 Limitations & Outlook* reviews the thesis and presents possible next steps.

7.1 Key Findings

Study 1 provides the theoretical background of this thesis. It presents a systematic literature review of 100 high-impact journal articles. On this basis, the author demonstrates that research interest in auction prices has increased and diversified along with the capitalization of the art market. The resulting literature body is broad but interdisciplinary and fragmented. It largely consists of quantitative studies of individual price-determining factors. To reduce complexity, these factors are synthesized in eight concepts: *The Artist, The Artwork, The Art Market, The Auction House, The Auction, The Auctioneer, The Bidder(s),* and *External Factors*. Summarizing, *Study 1* answers the research question w*hich* factors influence hammer prices at art auctions (RQ1). It provides an overview of (quantifiable) price determinants studied to date and identifies contradictory findings and research gaps. It also formulates a research agenda.

Study 2 complements the theoretical perspective. It presents eleven expert interviews with auction house professionals to improve the understanding of auction prices. Most importantly, it adds explanations and examples regarding the mode of action and the interaction between individual price-determining factors. It also uncovers underlying art market dynamics. To reduce complexity, relevant knowledge is coded into ten categories: Six categories group relevant price-determining factors: *The Artist, The Artwork, The Auction House, The Auction, The Bidder(s),* and *External Factors.* Two categories clarify the relation between *The Value of Art* and *The Price of Art*. One category summarizes practice-relevant *Research Topics*. One category exemplifies the

findings in a *Case Study*. *Study 2* provides an answer to the research questions *which* (RQ1) and *how* (RQ2) different factors influence hammer prices at art auctions. On the one hand, it adds a deeper understanding to the (quantitative) evidence on price determinants. On the other hand, it illustrates that auction prices cannot be conclusively quantified: Instead, art prices are influenced by a variety of predictable and unpredictable, influenceable and uninfluenceable determinants. They may simply be a product of chance.

Study 3 combines the findings of *Study 1* and *Study 2*. It resolves remaining ambiguities between and within theory and practice. More precisely, the focus groups discuss seven controversial theses that are based on contradictory interview statements or discrepancies between theory (*Study 1)* and practice (*Study 2)*. They illustrate the relation between the *Value* and *Price of Art* and the influence of *Artwork Quality, Artist Recognition,* and the *Auction House* on auction prices. They also clarify the status of *Online Bidding,* the meaning of *Record Prices*, and the interplay of all factors in a *Relationship Network*. *Study 3* answers the research questions *how* (RQ2) different factors influence hammer prices at art auctions and what role *marketing* plays (RQ3). It demonstrates how complex and multifaceted the auction price mechanism is.

Summarizing, *Study 1* synthesizes the fragmented and interdisciplinary literature about price determinants at art auctions. It integrates the largely quantitative research into eight overarching concepts. *Study 2* adds an in-depth qualitative understanding of auction prices and uncovers the underlying art market dynamics. Based on ten categories, it illustrates the process of price formation, including the people, objects, institutions, and interactions involved. *Study 3* resolves remaining ambiguities between theory and practice and clarify the role of marketing. All studies together provide a conceptual framework for the auction price mechanism.

A broad perspective was deliberately chosen to illustrate how the previous study of auction prices contradicts the practice of valuation. For each study, the identified price-determining factors are described in detail. To handle the complexity, the factors are charted, and visualized as concepts or categories. In each chapter, the key findings are presented in checkboxes. Based on a combined list of potential price-determining factors identified in theory (*Study 1*) and practice (*Study 2* & *Study 3*), *Figure 19*

visualizes the six key categories and 17 sub-categories. *Table 21 & 22* in the Appendix show the list including the factors in each subcategory.[40]

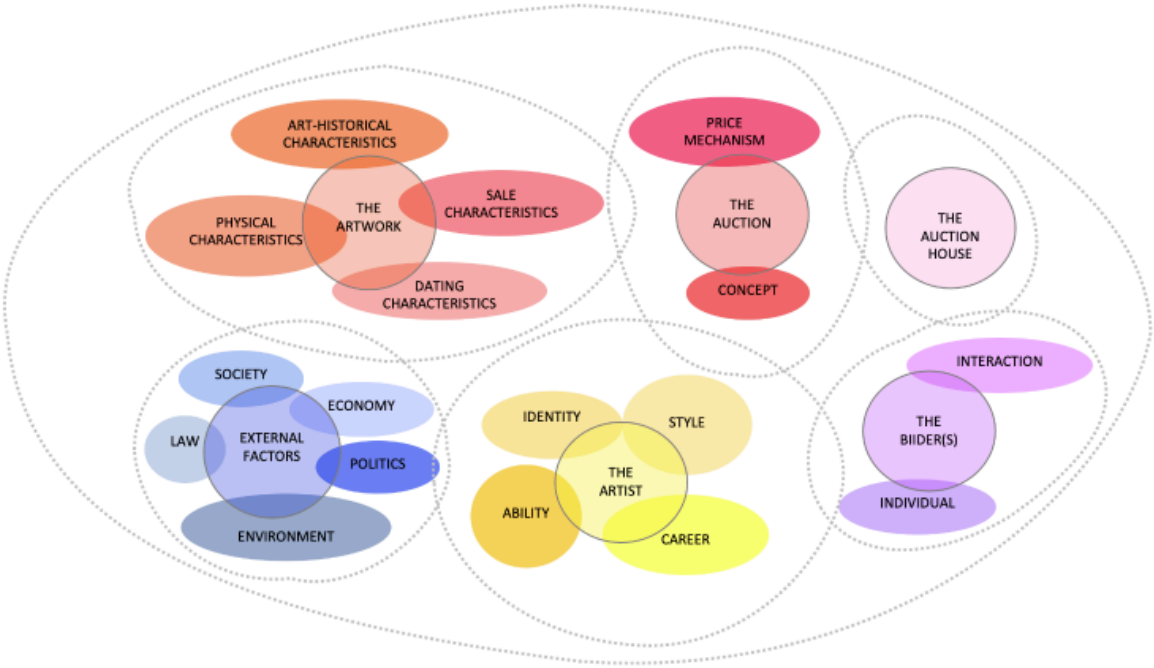

Figure 19: Visualization of Conceptual Framework (Source: Own illustration).

7.2 Theoretical & Practical Contribution

This thesis is of strong theoretical and practical relevance, and of interest to the wider public. It combines the valuable quantitative evidence on auction prices with the necessary qualitative perspective (e.g., Coslor, 2016; Geismar, 2001). It thereby provides the comprehensive understanding of the auction price mechanism that has been lacking in previous research (Flynn, 2017, pp. xxiii; Pénasse, Renneboog & Spaenjers, 2014, p. 432).

By providing better information, this thesis improves price transparency, reduces valuation uncertainty, and benefits different stakeholders (Bandle, 2014, p. 30; Louargand & McDaniel, 1991, pp. 54). More precisely, it shows that mere quantitative price data is unsuitable for the explanation and estimation of art prices, and that any quantification must be considered against the background of the complex and particular

[40] Factors addressed in both theory and practice are indicated in '**bold font'**, factors only mentioned in theory are indicated in '*italic font'*, factors only mentioned in practice are written in 'normal font'.

dynamics of the art market. This is the core message of this work: Understanding auction prices requires quantitative *and* qualitative knowledge, and an interdisciplinary perspective. As segmented as the art market is, as diverse as its artworks and artists, as sophisticated is the valuation and explanation of auction prices.

7.2.1 Theoretical Contribution

Considering the increasing interest in art market research across disciplines, the study of auction prices is of high academic relevance. The theoretical contribution is two-fold: On the one hand, this research increases the understanding of auction prices by synthesizing and extending the scientific evidence about individual price-determining factors. It overcomes interdisciplinary boundaries and fragmentation. Based on contradictory findings and research gaps, it identifies promising avenues for future research. On the other hand, it improves the understanding of auction prices by adding a qualitative perspective: It *deepens* the understanding of auction prices by providing explanations and examples of the underlying market dynamics. It *broadens* the understanding by pointing out price-determining factors overlooked in previous research.

This thesis identifies several avenues for future research: It promotes quantitative research into the individual factors that determine prices based on the literature review. It also identifies previously overlooked price determinants and practice-relevant research topics based on the qualitative studies. Most importantly, the author hopes to initiate a change in perspective on research methods: By demonstrating the complexity and multidimensionality of auction prices, she aims to encourage future qualitative, conceptual, or mixed-method analysis: to contribute to a more holistic understanding of auction prices and to do justice to the special status of art.

7.2.2 Practical Contribution

Considering the sales value of the international art market and the leverage of price, the study of auction prices is of high economic relevance. The practical contribution is two-fold: On the one hand, this thesis synthesizes theoretical discourse about (quantifiable) price determinants to uncover overlooked evidence and initiate a review of valuation and auction practice. On the other hand, it hopes to stimulate new practices in marketing and pricing. The increased price transparency is beneficial for diverse stakeholders

(Bandle, 2014, p. 30): Primarily, it is of high practical relevance for auction houses and other art market participants. For auction houses, it reduces valuation uncertainty, increases revenue, and supports targeted marketing and active price management. As was shown, auction houses can increase revenue by defining more accurate (unbiased) price estimates (Milgrom & Weber, 1982). In addition, it enables sellers to evaluate selling options and buyers (investors) to review bidding (investment) strategy. The findings also inform the wider public interested in art and record prices.
Secondarily, the findings are relevant for other (symbolic) industries beyond the art market, e.g., luxury or fashion. They provide inspiration for marketing and active (or innovative) price management. For instance, the thesis suggests customized marketing measures to increase buyers' willingness-to-pay. This is relevant, e.g., for other private value auctions, and for other marketing areas such as customer relationship management and experiential marketing.

7.3 Limitations & Outlook

Despite its strong contribution, this research has limitations. While it provides a comprehensive understanding of art auctions, the accurateness of the framework is not tested. In its current form, it is also not measurable. This is why the conceptual framework should be developed further in future research: It could be specified through additional qualitative analysis with larger samples or different methods, for instance, observation. It could also be tested in mixed-method studies, for example, by assessing the impact and influenceability of factors using a survey. Ideally, the questionnaire would combine a quantitative assessment (e.g., Likert Skala) with open questions. In this way, the relationships between factors and their weights could be elucidated. Finally, due to contradictory research and research gaps, future quantitative analysis of individual price-determining factors is recommended (see research agenda in *Study 1*). Overall, the thesis offers various starting points for future research.

Other limitations include the exclusion of the art investment literature from the SLR, and the fact that a meta-analysis could have provided more precise quantitative insights. Also, the interviews could have benefited from a larger sample. Furthermore, a structured deductive content analysis according to Mayring (2010 & 2015) or a visualization of the framework as a process model following Gioia Method (2013) would have been valuable for data analysis. The latter would have provided a good

basis for future quantification. Likewise, correlations and causalities could be measured, and complexity could be reduced. While the main advantage of this framework is its scope, a narrowing of the research topic is suggested for future research.

7.3.1 Six Promising Areas for Future Research

Based on the research agenda (*Study 1*) and the research topics considered practice-relevant by the interviewees (*Study 2*), the author formulates six promising avenues for future research for each of the identified categories of relevant price determinants:

1. The Artist: Research relating to the identity of the artist is scarce and marked by contradictory findings. To address this research gap, an analysis of the influence of the artist's identity (race, gender etc.) on prices is recommended. If price differences are identified, the impact of networks and institutional barriers (e.g., for race; the role of the national art market in the global art market) or art market players (e.g., for gender: psychological bias or marketing strategy?) could be studied.

2. The Artwork: The influence of the society on art demand, supply, and prices provides an interesting research gap. For instance, the (increasing?) influence of the society on trends regarding artwork subject (e.g., reflection of current issues like environment, gender, race etc.) or medium (e.g., traditional media vs. NFT) could be analyzed. Alternatively, the impact of the society (e.g., new generations) on prices (e.g., through diverging taste, wealth, motives etc.) could be studied.

3. The Art Market: Traditionally, the art market influences the demand and supply of art by recognizing artists and works of art as valuable. Given the increasing importance of marketing, and against the background of new technology and novel groups of collectors, it would be interesting to study *if* and *how* the role of canonization and recognition within the art market for prices changes. In addition, it is of high relevance for the market to understand how new generations, new groups of collectors, and new technology are changing the marketplace.

4. The Auction House: The impact of the auction house business model on prices is an interesting research gap. To fill this gap, the impact of auction house image, expertise,

network, outreach, and employees on auction prices could be examined. Also, the power and limits of marketing could be investigated further. For instance, general market research, professional data management and online auctions provide promising avenues for future research. In addition, the marketing strategy behind valuation could be studied and tested for biasing of pre-sale estimates. Finally, the impact of marketing on customers could be analyzed: How do customers perceive prices at art auctions? What are economic consequences and ethical concerns?

5. The Auction: It is surprising that to date there has been little research on online bidding and online auctions. Given its topicality, the advantages, and disadvantages of online bidding, of collaborating with online platforms, and of conducting *Online Only* auctions could be investigated: Under which circumstances are *Online Only* auctions and collaborations with online platforms really useful? Also, the effects of online bidding and online platforms on prices and overall price levels could be studied, e.g.: (How) Do online auctions change the (inapplicability of the) law of one price? Finally, additional research regarding the role of the auctioneer could be interesting.

6. External Factors: It seems topical to examine the impact of the economy on emerging art markets. For instance, the growth of the South African market could be analyzed, and prerequisites for a flourishing market could be identified. Overall, the impact of the diversification of the global art market on market structures, mechanisms and prices could be studied.

Inspired by the research agenda in *Study 1*, the author is currently investigating a research gap related to the role of the artist's gender in valuation: Together with Prof. Dr. Trine Bille from *Copenhagen Business School* and a Master Student from *HSG*, she is conducting a quantitative research project to investigate a possible 'gender bias' in the valuation of auction houses.

7.3.2 Managerial Implications for Five Stakeholders

Based on *Study 1, Study 2* and *Study 3*, the author formulates key managerial implications for five key stakeholders:

1. *Auction Houses:* Marketing is a battle for perception. To succeed in this battle, auction houses – together with the rest of the art market and in interaction with buyers – can influence, support, promote and optimize prices: By acquiring attractive consignments and increasing the attention and perceived value of the artwork among bidders, e.g. through information, customer management, targeted communication and marketing. Seven specific recommendations are: First, compensate for the lack of resources by investing in staff to increase marketing potential. Second, promote internal exchange between art experts and the marketing department. Third, devote additional (preparation) time to storytelling and content multiplication. Fourth, take advantage of the immense potential of Big Data and professional data management. This will enable you to acquire attractive consignments, identify the right bidders and implement a targeted customer approach. Fifth, review the suitability of *Online Only* auctions and weigh the pros and cons of your collaboration with online platforms. In this regard, remember that specific reach is more important than absolute reach. Sixth, while you are leveraging the power of marketing, do not underestimate the (negative) effects on customers and consider ethical boundaries. Seventh, establish pricing competence in the company. To excel in the above measures, set up a department for pricing and R&D.

2. *Bidders:* Gather as much information as possible before the auction: not only about the artwork, but also about the potential impact of the auction house, the auction concept, the economy, etc. Once you have determined your willingness to pay, and depending on your motives, consciously choose the right bidding channel. Be aware of the 'biological mixture' that you and your fellow bidders represent. Also pay attention to the influence of the auctioneer. Keep your intentions in mind during the auction and do not underestimate the influence of competition, (time) pressure and rivalry. Familiarize yourself with potential price effects and biases. If you are on a budget, take your time to find one of the many high-quality artworks (outside the traditional market) at a low price.

3. *Sellers:* Be clear about what you can demand from the auction house. If you have an attractive consignment, use your negotiating position. For example, negotiate for a lower commission and demand effective marketing strategies. Strong marketing is also beneficial for the auction house. This could include a prominent catalogue presentation, public exhibitions, exclusive events, and targeted customer approach. Compare the

offers of different houses and do not overestimate the power of the big houses: for certain works, smaller houses have the right customers. In addition, they can exploit untapped marketing potential in the middle and lower price segments. In any case, make sure you agree with the image of the auction house and trust its employees.

4. Other Auctions: Do you use auctions as a pricing mechanism? Are you amplifying the potential of the auction through targeted marketing? Remember that a successful sale depends on bidders. Pay attention to your absolute reach to increase the number of bidders but focus on your target customers to reach the right bidders. Then, increase willingness to pay by creating subjective value for your customers, e.g., by providing information and networks, engaging in storytelling, and signaling image and status. Create a harmonious and dynamic atmosphere during the auction. Even if you're not selling artwork for millions, consider making a difference with spatial arrangement or a professional auctioneer.

5. Other Industries: Is your industry all about the experience? Are you selling a special edition? Do you serve affluent customers but lack information about their willingness to pay? Consider the auction as a pricing mechanism. Make it a charity event to generate awareness, attract additional bidders and increase willingness to pay. Capitalize on the pricing and marketing potential of auctions, but do not underestimate the risk of a bad sale.

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Appendix

A. Tables

Table 1.1 | The Global Art Market: Value and Volume of Transactions

Year	Value ($m)	Volume (m)
2009	$39,511	31.0
2010	$57,025	35.1
2011	$64,550	36.8
2012	$56,698	35.5
2013	$63,287	36.5
2014	$68,237	38.8
2015	$63,751	38.1
2016	$56,948	36.1
2017	$63,683	39.0
2018	$67,653	39.8
2019	$64,350	40.5
2020	$50,065	31.4
Growth 2019–2020	-22%	-23%
Growth 2011–2019	-22%	-15%
Growth 2009–2019	24%	1%

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Table 3: The Global Art Market: Value and Volume of Transactions (Source: McAndrew, 2021, p. 31).

1 PROCESS	Sequential	Iterative	
2 SOURCES	Citation Indexing Services	Bibliographic Databases	Publications
3 COVERAGE	Comprehensive	Representative	Seminal Works
4 TECHNIQUES	Keyword Search	Backward Search	Hand Search

Table 4: Review Scope Framework (Source: Own presentation based on vom Brocke et al., 2015, p. 214).

CHARACTERISTIC	CATEGORIES
FOCUS	**Research Outcomes** Research Methods **Theories** **Practices or Applications**
GOAL	**Integration** a) Generalization b) Conflict Resolution **c) Linguistic Bridge-building** Criticism **Identification of Central Issues**
PERSPECTIVE	**Neutral Representation** Espousal of Position
COVERAGE	**Exhaustive** Exhaustive with Selective Citation Representative Central or Pivotal
ORGANIZATION	Historical **Conceptual** Methodological
AUDIENCE	**Specialized Scholars** **General Scholars** **Practicioners or Policy Makers** **General Public**

Table 5: Literature Review Taxonomy (Source: Own presentation based on Cooper, 1988, p. 109).

CRITERIA FOR A HIGH-QUALITY SLR (Webster & Watson, 2002, p. xxi)	Noll, 2021
Motivates the research topic and explains the review's contributions.	√
Describes the key concepts.	√
Delineates the boundaries of the research.	√
Reviews relevant prior literature (…) and related areas.	√
Develops a model to guide future research.	*Study 2&3*
Justifies propositions by presenting theoretical explanations, past empirical findings, and practical examples.	*Study 2&3*
Presents concluding implications for researchers and managers.	√

Table 6: Checklist High-Quality SLR (Source: Own presentation based on Webster & Watson, 2002, p. xxi).

Table 1
The four-point approach to qualitative sampling

	Name	Definition	Key decisional issues
Point 1	Define a sample universe	Establish a sample universe, specifically by way of a set of inclusion and/or exclusion criteria.	Homogeneity vs. heterogeneity, inclusion and exclusion criteria
Point 2	Decide on a sample size	Choose a sample size or sample size range, by taking into account what is ideal *and* what is practical.	Idiographic (small) vs. nomothetic (large)
Point 3	Devise a sample strategy	Select a purposive sampling strategy to specify categories of person to be included in the sample.	Stratified, cell, quota, theoretical strategies
Point 4	Source the sample	Recruit participants from the target population.	Incentives vs. no incentives, snowball sampling varieties, advertising

Table 7: The Four-Point Approach to Qualitative Sampling (Source: Robinson, 2014, p. 26).

Transcription Rules	
Complete Transcript in Standard Orthography (DE), meaning a literal transcription of the whole interview. In favor of readability, dialects and colloquial language were corrected and trivial repetitions, filler words and interrupted words were cancelled.	
Formatting	
Font: Times New Roman, Font Size 12	
Single Line Spacing	
Line Numbering	
Time Codes after each Paragraph (*)	
Text Markings	
Grammalogues I = Interviewer, B = Interview Partner (DE: B=Befragter)	
No Quotation Marks for Questions and Answers	
Quotation Marks for Oral Citations of Direct Speech (*)	
Punctuation for Improved Readability (*)	
New Row after Turn-Taking	
Repetitions Only if Relevant for Meaning (e.g., “very, very important”) (*)	
Transcript	**Meaning**
[Kommentar]	Comment by Transcriber
<u>definitely</u>	Intonation
(laughs)	Non-Verbal Expressions and Certain Types of Speaking, e.g. ironic
(unv.) (*)	Incomprehensible (DE: Unverständlich), e.g., “She was (unv.) in …”; Reason Provided in Case of Long Interruption, e.g., “(unv., whispers)”; Assumptions in Brackets followed by a Question Mark, e.g., “(ja?)”
(…)	Break
/ (*)	Interrupted Words and Sentences
// (*)	Overlaps in Speech

Table 8: Transcription Rules (Source: Own presentation based on Misoch, 2019, p. 252, modified and extended (*) based on Dresing and Pehl, 2015, pp. 21)

Interview Partner (B)		
Interview No.	Grammalogue	Name
Ix	Bx	Anonymous
Interview Data		
Atmosphere		
Situation		
Special Events		
Recording Data		
Recording by	Laura Noll	
Transcript by	Laura Noll	
Recording Mode		
Date/Time		
Country		
Duration		
Computer System	f4 transcript	
Audio File		
General Remarks		
Bx		
I		
Other		
Key Learnings		

Table 9: Transcription Head Template (Source: Own presentation based on Misoch, 2019, pp. 260, modified and extended (*) based on Dresing and Pehl, 2015, pp. 21).

Table 10-20: Transcription Head Interviews 1-10 not included due to reasons of anonymity

Table 10: Transcription Head Interview 1 (Source: Own presentation).

Table 11: Transcription Head Interview 2 (Source: Own presentation).

Table 12: Transcription Head Interview 3 (Source: Own presentation).

Table 13: Transcription Head Interview 4 (Source: Own presentation).

Table 14: Transcription Head Interview 5 (Source: Own presentation).

Table 15: Transcription Head Interview 6 (Source: Own presentation).

Table 16: Transcription Head Interview 7 (Source: Own presentation).

Table 17: Transcription Head Interview 8 (Source: Own presentation).

Table 18: Transcription Head Interview 9 (Source: Own presentation).

Table 19: Transcription Head Interview 10 (Source: Own presentation).

Table 20: Transcription Head Interview 11 (Source: Own presentation).

Part 1. COMBINED LIST OF POTENTIAL PRICE-DETERMINING FACTORS								
THE ARTIST				THE ARTWORK				THE AUCTION HOUSE
Identity	**Ability**	**Style**	**Career**	**Dating Characteristics**	**Physical Characteristics**	**Art-Historical Characteristics**	**Sale Characteristics**	[No Specification]
Name	*Ability*	*Sector*	Fame	**Dating**	**Size**	**Publ. & Exhib.**	**Reference Prices**	**Location**
Race		*Movement*	Trends		**Medium**	**Provenance**	*Time of Sale*	**Name/Image**
Gender			*Work Loc.*		Condition	Quality	*Place of Sale*	**Expertise/Experience**
Age			*Reputation*		*Material*	Rarity	*Price Segment*	Premises
Death					*Color*	Attribution	*Previous Prices*	Network & Outreach
Life Circ.					*Signature*	Authenticity	*Sale Conditions*	Employees
					Genre	Canonization		Markteting
					Subject	*Expert Opinion*		Customer Management
					Quality	*Hist. Importance*		Consignors
					Originality	*Art Market*		*Promotional Material*

Table 21: Combined List of Price-Determining Factors (Part 1) (Source: Own presentation).

Part 2. COMBINED LIST OF POTENTIAL PRICE-DETERMINING FACTORS								
THE AUCTION		THE BIDDER(S)		EXTERNAL FACTORS				
Price Mechanism	**Concept**	**Individual**	**Interaction**	**Economy**	**Law**	**Politics**	**Environment**	*New:* Society
Price Mechanism	**Timing/Time of Sale**	**Mood**	**Number of Bidders**	**Overall Ec.**	**Law**	**Politics**	**Environment**	Society
Auctioneer	**Concept/Context**	**Personality/Type**	**Competition**	Fin. Markets				
Digitalization	Price Level	Wealth						
Valuation	Spatial Arrangement	Willingness-to-Pay						
Value (Co-)Creation	Preparation Time	Expertise						
Price Effects & Biases	Atmosphere	Intention						
	Order of Sale	Behavior						
	Type of Sale	*Taste*						
		Private Value						

Table 22: Combined List of Price-Determining Factors (Part 2) (Source: Own presentation).

B. Figures

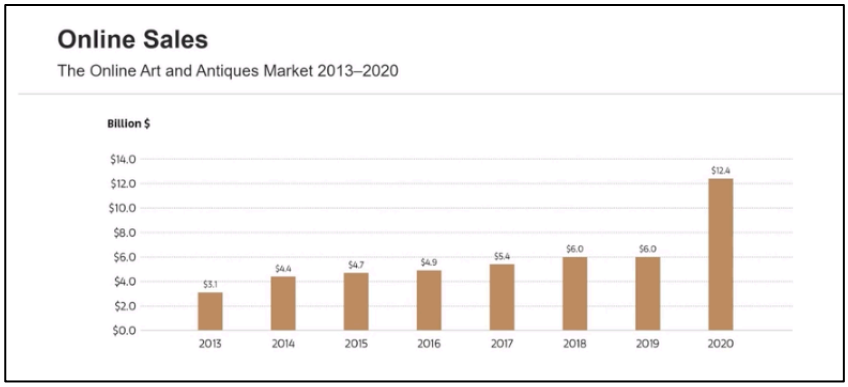

Figure 20: Online Sales 2013-2020 (Source: McAndrew, 2021, p. 213).

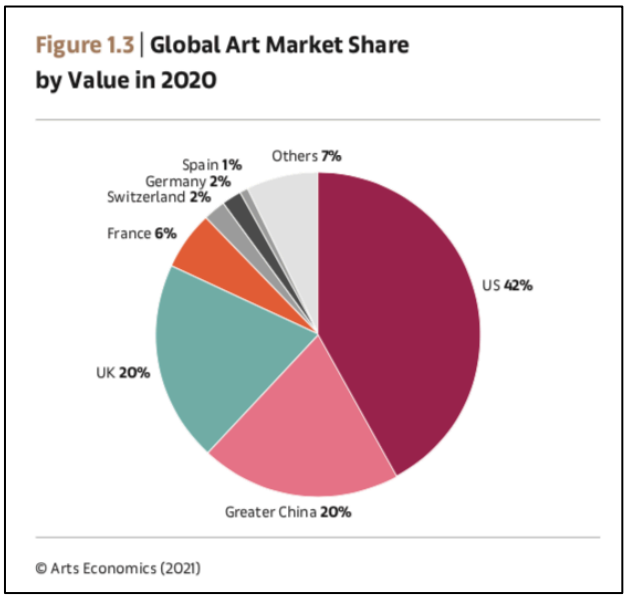

Figure 21: Global Art Market Share by Value in 2020 (Source: McAndrew, 2021, p. 34).

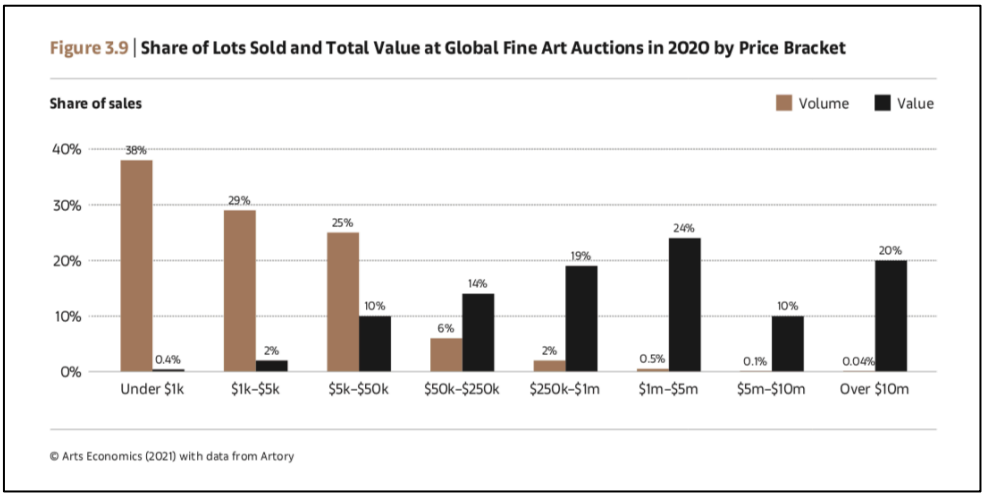

Figure 22: The Global Art Market: Share of Lots Sold and Total Value (Source: McAndrew, 2021, p. 121).

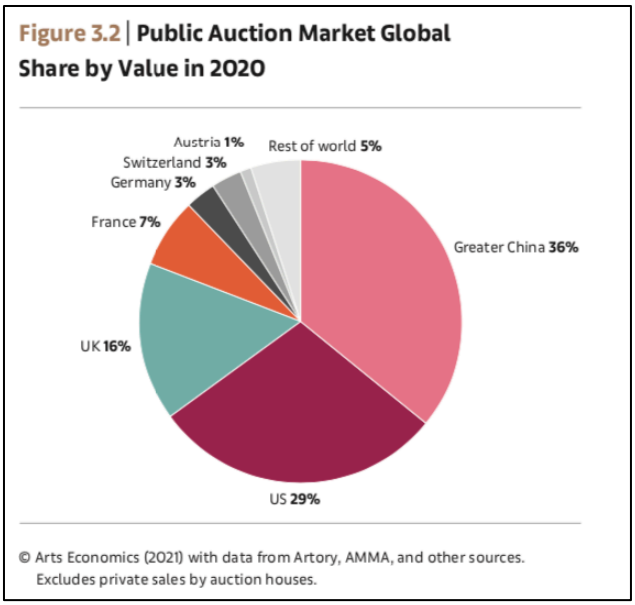

Figure 23: Public Auction Market Share by Value in 2020 (Source: McAndrew, 2021, p. 107).

Table 1
A Taxonomy of Literature Reviews

Characteristic	Categories
Focus	Research Outcomes Research Methods Theories Practices or Applications
Goal	Integration a) Generalization b) Conflict Resolution c) Linguistic Bridge-building Criticism Identification of Central Issues
Perspective	Neutral Representation Espousal of Position
Coverage	Exhaustive Exhaustive with Selective Citation Representative Central or Pivotal
Organization	Historical Conceptual Methodological
Audience	Specialized Scholars General Scholars Practitioners or Policy Makers General Public

Figure 24: A Taxonomy of Literature Reviews (Source: Cooper, 1988, p. 109).

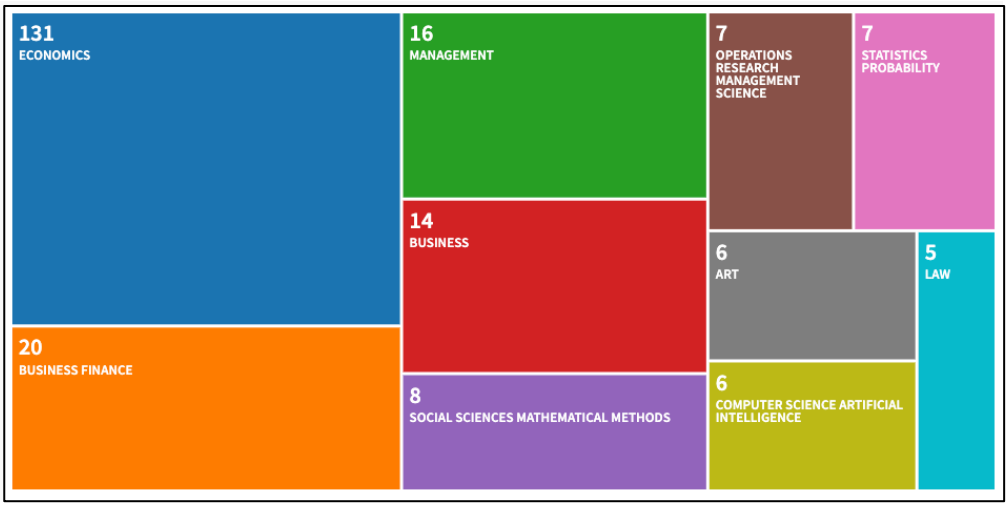

Figure 25: Categories in “Analyze Results” (Source: Web of Science).

Select	Field: Web of Science Categories	Record Count	% of 201	Bar Chart
☐	ECONOMICS	131	65.174 %	
☐	BUSINESS FINANCE	20	9.950 %	
☐	MANAGEMENT	16	7.960 %	
☐	BUSINESS	14	6.965 %	
☐	SOCIAL SCIENCES MATHEMATICAL METHODS	8	3.980 %	
☐	OPERATIONS RESEARCH MANAGEMENT SCIENCE	7	3.483 %	
☐	STATISTICS PROBABILITY	7	3.483 %	
☐	ART	6	2.985 %	
☐	COMPUTER SCIENCE ARTIFICIAL INTELLIGENCE	6	2.985 %	
☐	LAW	5	2.488 %	

Figure 26: Record Counts in “Analyze Results” (Source: Web of Science).

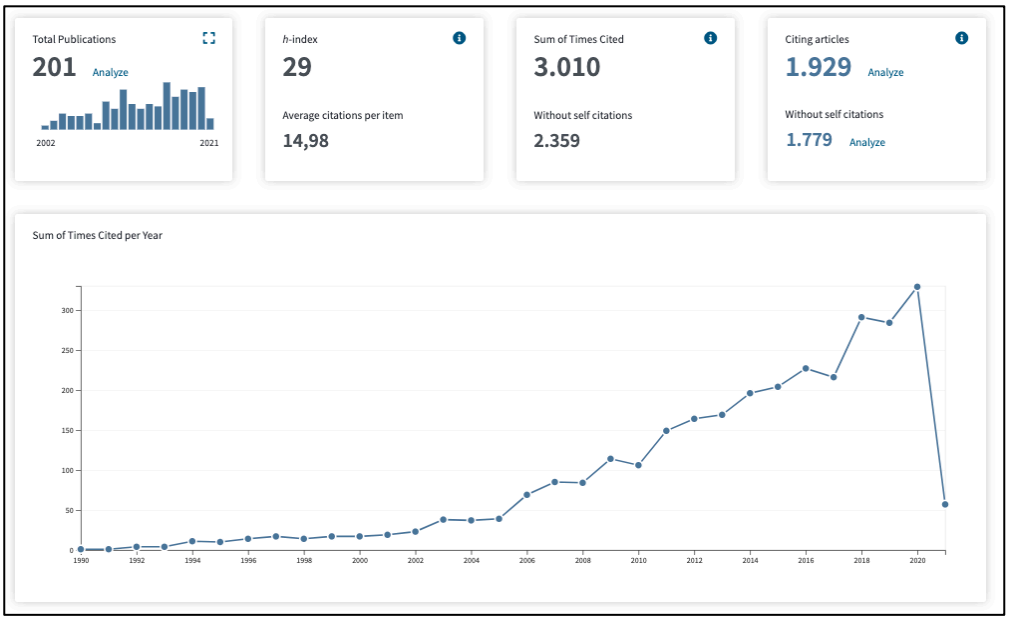

Figure 27: Citation Report (Source: Web of Science).

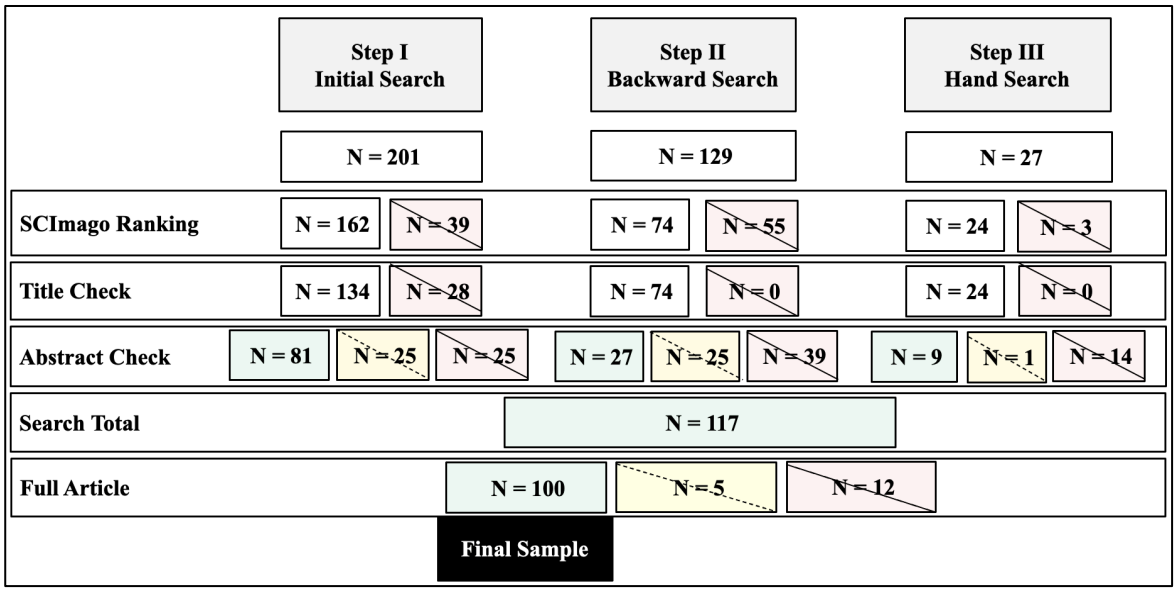

Figure 28: Full Search Process (Source: Own illustration).

Table 2. Concept Matrix

Articles	Concepts				
	A	B	C	D	...
1		✖	✖		✖
2	✖	✖			
...			✖	✖	

Figure 29: Concept Matrix (Source: Webster & Watson, 2002, p. xvii).

Table 3. Concept Matrix Augmented with Units of Analysis

Articles	Concepts														
	A			B			C			D			...		
Unit of analysis	O	G	I	O	G	I	O	G	I	O	G	I	O	G	I
1					✖				✖						✖
2	✖				✖	✖		✖							
...								✖	✖			✖			

Figure 30: Augmented Concept Matrix (Source: Webster & Watson, 2002, p. xvii).

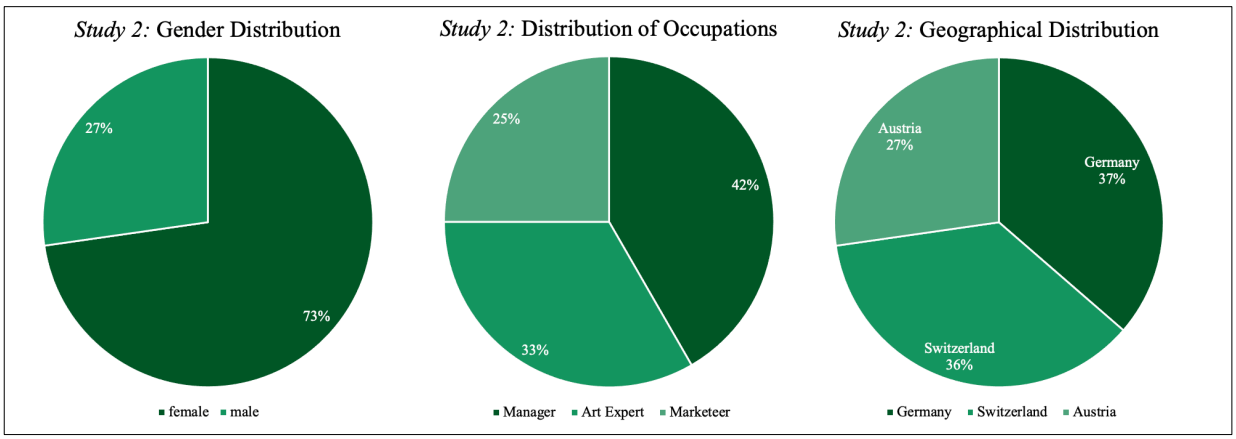

Figure 31: *Study 2:* Sample Distribution across Genders, Occupations, and Countries (Source: Own illustration).

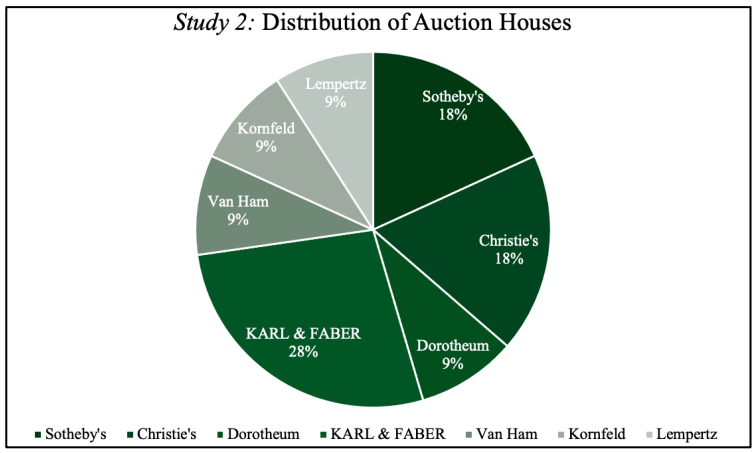

Figure 32: *Study 2:* Distribution of Auction Houses (Source: Own illustration).

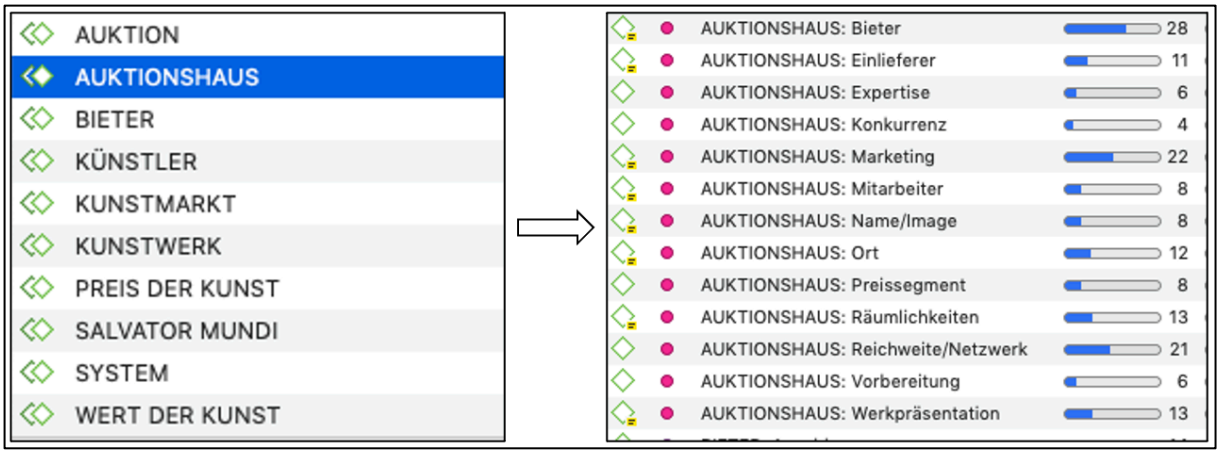

Figure 33: Example Category and Codes for “The Auction House” (Source: Atlas.ti).

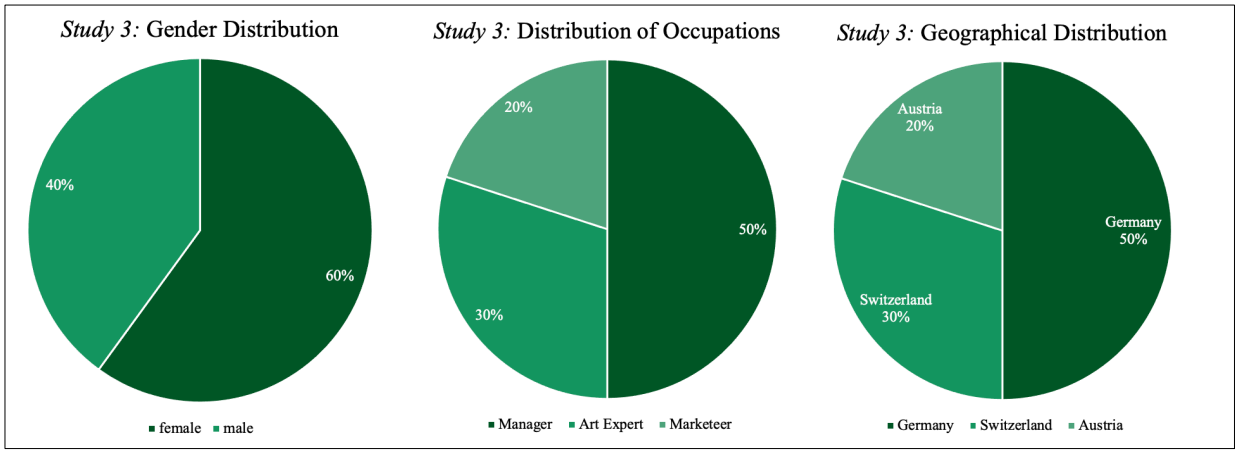

Figure 34: *Study 3:* Sample Distribution across Genders, Occupations, and Countries (Source: Own illustration).

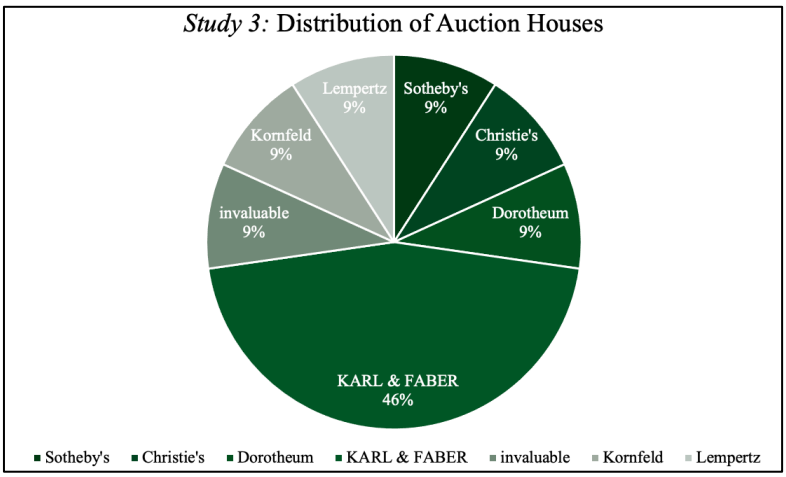

Figure 35: *Study 3:* Distribution of Auction Houses (Source: Own illustration).

C. Interview Guideline

Original Guideline (German)

Nummer	Hauptfrage	Details / Anschlussfragen	Ziel / Theorie
0	Bitte stellen Sie sich vor und gehen u.a. auf Ihre aktuelle Tätigkeit, ihre bisherigen Erfahrungen im Kunstmarkt sowie Ihre bisherige Auseinandersetzung mit Auktionspreisen ein.	z.B. aktuelle Tätigkeit, Erfahrung im Kunstmarkt, bisherige Auseinandersetzung mit Auktionspreisen	Persönliche Vorstellung Interviewee
1	Was fällt Ihnen ein, wenn Sie an Kunstpreise denken?	z.B. Charakteristika, Eigenheiten, Besonderheiten im Vergleich zu anderen Preisen, Preisentstehung	Einstieg Kunstpreise
2	Was fällt Ihnen ein, wenn Sie an Preise bei Kunstauktionen denken?	Follow-Up: z.B. Vergleich Primär- und Sekundärmarkt (fixe versus variable Preise, unterschiedliche Preisarten bei Auktionen: Limit, Schätzpreis, Hammerpreis)	Einstieg Auktionspreise
3	In der Kunstwelt wird das Verhältnis zwischen Wert und Preis oft diskutiert. Warum? Was können Sie hierzu sagen?	z.B. versus wirtschaftliche Sicht, (Warum) Ist das in der Kunst anders?	Wert vs. Preis
4	Welche Faktoren beeinflussen Ihrer Meinung nach den Wert eines Kunstwerks?	z.B. werkbezogen, kunsthistorisch, u.a. Provenienz, Grösse, Qualität, Künstlername	Wert
5	Welche Faktoren beeinflussen Ihrer Meinung nach den Preis eines Kunstwerks?	z.B. marktbezogen, umweltbezogen, u.a. Marketing, Nachfrage, Zahlungsbereitschaft	Preis
6	Die Untersuchung welches/r Faktors/en wäre aus Ihrer Sicht für die Praxis relevant?	Welchen Einfluss würden Sie gerne untersucht wissen? Worüber würden Sie gerne mehr wissen?	Praktische Relevanz, Forschungsinteresse
7	Wie erklären Sie sich Auktionsrekorde, wie das bei *Christie's* für 450 Million US-Dollar versteigerte Gemälde 'Salvator Mundi'?	Worin begründet sich dieser/ein derartiger Rekordpreis? Was reflektiert er?	Rekordpreise

8	Wie beeinflusst aus Ihrer Sicht das Auktionshaus die Preisentstehung? Wie und durch welche Faktoren?	z.B. Name, Abteilungen, Akquise, ExpertInnen, Schätzpreise, Auktionator/in, Marketing	Auktionshaus
9	Wie beeinflusst aus Ihrer Sicht der/die Auktionator/in die Preisentstehung? Durch welche Faktoren?	z.B. Sympathie, Tempo, Atmosphäre, Sprache	Auktionator/in
10	Wie beeinflusst aus Ihrer Sicht das Auktionskonzept die Preisentstehung? Durch welche Faktoren?	z.B. Anzahl der Werke, Art der Werke, Zusammensetzung der Epochen, Reihenfolge	Auktionskonzept
11	Wie beeinflusst aus Ihrer Sicht das Auktionssetting die Preisentstehung? Durch welche Faktoren?	z.B. Auktionsort, Lage, Architektur, Saal, Teilnehmer, Mitarbeiter, Atmosphäre	Auktionssetting
12	Wie beeinflusst aus Ihrer Sicht das individuelle Bieterverhalten die Preisentstehung? Durch welche Faktoren?	z.B. Geschmack, Preisbereitschaft, Verfügbarkeit, Art des Gebotes (Saal/Online/Offline/Vorgebot)	Individuelles Bieterverhalten
13	Wie beeinflusst aus Ihrer Sicht die Interaktion zwischen Bietern die Preisentstehung? Durch welche Faktoren?	z.B. Anzahl Bieter, Bietergefecht, Tempo, Netzwerk, Art des Gebotes (Saal/On-/Offline/Vorgebot)	Interaktion zwischen Bietern
14	Wie beeinflusst der Kunstmarkt aus Ihrer Sicht die Preisentstehung bei Auktionen? Durch welche Faktoren?	z.B. inhaltlicher Markt (Ausstellungen, Auszeichnungen), Primärmarkt, Trends, Investment	Kunstmarkt
15	Wie beeinflussen andere Märkte aus Ihrer Sicht die Preisentstehung bei Auktionen? Durch welche Faktoren?	z.B. Luxusmarkt, Konsumgütermärkte, Immobilienmarkt, Finanzmarkt	Sonstige Märkte
16	Wie beeinflussen politische Faktoren die Preisentstehung bei Auktionen? Welche Faktoren?	z.B. Sicherheit, politisches System, Währung, Zinslage	Politik
17	Wie beeinflussen Umweltfaktoren die Preisentstehung bei Auktionen? Welche Faktoren?	z.B. Wetter, Tages-, Jahreszeit	Umwelt
18	Wie beeinflussen aktuelle Trends die Preisentstehung bei Auktionen? Wie könnte sich der Markt in Zukunft verändern?	z.B. Technologie, AI, neue Märkte, neue Marktteilnehmer (Millenials)	Trends & Prognose

19	Wie beeinflussen sonstige Faktoren die Preisentstehung bei Kunstauktionen? Welche Faktoren? Möchten Sie noch etwas ergänzen, was Ihnen wichtig ist?	…	Sonstige Einflussfaktoren
20	Nachdem wir nun über zahlreiche Faktoren gesprochen haben: Die Untersuchung welches/r Faktors/en wäre aus Ihrer Sicht für die Praxis relevant?	Welchen Einfluss würden Sie gerne untersucht wissen? Worüber würden Sie gerne mehr wissen?	Praktische Relevanz, Forschungs-interesse

English Translation

Number	Main Question	Details / Follow-Up Questions	Goal / Theory
0	Please introduce yourself and say something about your current occupation, your previous experiences in the art market as well as your previous confrontation with auction prices.	E.g., current occupation, art market experience, previous confrontation with auction prices	Personal introduction interviewee
1	What comes into mind when you think about art prices?	E.g., characteristics, particularities compared to other prices, price formation	Introduction art prices
2	What comes into mind when you think about auction prices?	Follow-Up: E.g., comparison primary and secondary market (fixed vs. variable prices, price types: limit, estimate, hammer price)	Introduction auction prices
3	In the art market, the relation between value and price is often discussed. Why is that? What can you say about this topic?	E.g., versus economic perspective, (Why) Is this different in art?	Value vs. price
4	According to your experience, which factors influence the value of an artwork?	E.g., artwork-related, art-historical, quality, provenance, size, artist, etc.	Value
5	According to your experience, which factors influence the price of an artwork?	E.g., market-related, environmental, e.g., marketing, demand, willingness-to-pay	Price

6	How do you explain auction records like the $450 million 'Salvator Mundi' auctioned at *Christie's*?	What justifies such a price? What does such a price reflect?	Record prices
7	From the auction house perspective, which factor(s) would be interesting for further investigation? What would be relevant for art auction practice?	Which influencing factor would you like to have analyzed? What do you like to know more about?	Practical relevance, research interest
8	How does the auction house influence the price formation?	E.g., name, departments, acquisition, experts, valuation, price estimation, auctioneer, marketing	Auction house
9	How does the auctioneer influence the price formation?	E.g., sympathy, pace, atmosphere, language	Auctioneer
10	How does the auction concept influence the price formation?	E.g., number of artworks, type of artworks, composition of epochs, order of sale	Auction concept
11	How does the auction setting influence the price formation?	E.g., place, location, architecture, auction room, participants, employees, atmosphere	Auction setting
12	How does the individual bidding behavior influence the price formation?	E.g., taste, willingness-to-pay, type of bid (room/online/written), availability	Individual bidding behavior
13	How does the interaction between bidders influence the price formation?	E.g., number of bidders, bidding war, pace, network, type of bid (room/online/written)	Interaction between bidders
14	How does the art market influence the price formation?	E.g., non-commercial market (prices, exhibitions etc.), primary market, trends, investment	Art market
15	How do other markets influence the price formation?	Financial market, consumption goods, real estate, luxury, etc.	Other markets
16	How do political factors influence the price formation?	E.g., security, political system, currency, interest rate	Politics
17	How do environmental factors influence the price formation?	E.g., weather, daytime, season	Environment

18	How do current trends influence the price formation? How do you think the market will develop in the following years?	E.g., technology, AI, new markets, new market players (e.g., Millenials) and participants	Trends & forecast
19	How do other factors influence the price formation at art auctions? Do you want to add something, that is important to you?	…	Other factors
20	After talking about diverse factors: From the auction house perspective, which factor(s) do you consider interesting for further investigation? What would be relevant for art auction practice?	Which influencing factor would you like to have analyzed? (Where) Do you expect unidentified influencing factors?	Practical relevance, research interest

D. Transcripts (Interviews)

Transcripts not included due to reasons of anonymity.

E. Transcripts (Focus Groups)

Transcripts not included due to reasons of anonymity.

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AUSBILDUNG

06/2022 – **Universität St.Gallen, Sankt Gallen | CH**
Post-Doktorandin am Institut für Marketing & Customer Insight (IMC-HSG), Leiterin des *Competence Center for Art+*

07/2018 – 05/2022 **Universität St.Gallen, Sankt Gallen | CH**
Ph.D. in Management, Track: Marketing
Dissertation: «*Understanding Prices at International Art Auctions: A Conceptual Framework for the Auction Price Mechanism*» | Magna cum laude

01/2017 – 07/2018 **Universität St.Gallen, Sankt Gallen | CH**
Ph.D. in Organisation & Kultur (externe Doktorandin)

09/2014 – 09/2016 **Zeppelin Universität, Friedrichshafen | DE**
MA in General Management | 1.4
Masterarbeit: «*Art & Capital: An Investigation of the Economic Rewards in Art Investment*»

08/2015 – 12/2015 **Fairleigh Dickinson University, Teaneck (NJ) | USA**
Auslandssemester (Kunst & BWL) | 1.0
DAAD-Stipendium (Deu. Akad. Austauschdienst)

01/2011 – 09/2014 **Zeppelin Universität, Friedrichshafen | DE**
BA in Kommunikation & Kulturmanagement | 1.7
Bacherlorarbeit: «*Kunsthandel Online: Eine Analyse aus Sicht der Künstler*innen*»

ARBEITSERFAHRUNG

06/2022 – **Universität St.Gallen, Sankt Gallen | CH**
Leiterin *Competence Center for Art+* & Projektleiterin Custom Executive Programs | IMC-HSG
Gründung & Aufbau des Kompetenzzentrums für Kunstmarkt-forschung inkl. Strategieentwicklung, Brand Management, Partner-akquise & Finanzierung; Entwicklung massgeschneiderter Marketingtrainings (Custom Executive Programs) für Unternehmen

07/2018 – 05/2022 **Universität St.Gallen, Sankt Gallen | CH**
Wissenschaftliche Mitarbeiterin | IMC-HSG
Leiterin Angewandte Forschungsprojekte mit *Art Basel* & *Christie's* (Sonderlehrgenehmigung) inkl. Partnerakquise & Führung von 12 Masterstudierenden; Gastreferentin auf Masterebene; Studienleiterin Marketing Executive (DAS) & Marketing Management (CAS) (ca. 30 TN p.a.): Programmorganisation & -entwicklung; Betreuung von Studierenden & Referierenden; Beurteilung Einzel-, Projekt- & Diplomarbeiten; Leiterin Fokusgruppen i. Exzellenzprogramm «Best Practice in Marketing» (7 Workshops à 30 (Top) Manager*innen; Referentin; Moderatorin; Unterrichtsassistentin

02/2017 – 06/2018 **KARL & FABER Kunstauktionen GmbH, München | DE**
Referentin Kommunikation & Development
Leiterin Katalogproduktion, Onlineauktionen, Online Marketing & Social Media; Mediaplanung; Betreuerin der Repräsentanzen GB/CH/DE; Printmedien; Versand; CRM

12/2014 – 12/2016 **Auktionshaus Königstein GmbH, Königstein i.Ts. | DE**
Assistentin des Geschäftsführers (Teilzeit)
Kundenbetreuung; Werkannahme; Katalogisierung; Mitarbeit bei Auktionen & Nachverkauf; Entwurf Kommissionsverträge & Schätzpreise; Zahlungsabwicklung; Transport; Recherche

07/2015 – 07/2016 **Zeppelin Universität, Friedrichshafen | DE**
Stud. Hilfskraft | Lehrstuhl für Mobilität, Handel & Logistik
Datenauswertung; Unterstützung bei Publikationen & Lehrmaterial; wissenschaftliche Recherche

11/2013 – 08/2014 **PABLO & PAUL GmbH, München | DE**
Kuratorin (11–12/2013 als Praktikantin)
Künstler*innenakquise & -betreuung; Werkauswahl; Konzeption Messeauftritte & Ausstellungen; Leiterin Kooperation BoConcept; Online Marketing & Social Media; Kommunikationsstrategie

PRAKTIKA

09/2016 – 11/2016 **MINI, BMW AG, München | DE**
Praktikantin | Brand Mgmt. & Kooperationen
Leiterin Kooperationen (u.a. Spotify & Salone del Mobile); Marketingplanung; Steuerung der Marketing- & Kommunikationsmassnahmen; CI; Reporting; Daten- & Marktanalysen

08/2013 – 09/2013 **Galerie Nordenhake, Stockholm | SE**
Praktikantin | Assistentin d. Galeriedirektors
Organisation von Openings, Ausstellungen & Messen mit Künstler*innen & Kurator*innen; Werkpräsentation im Showroom; Entwurf von Künstler*innenportfolios; CMS; Recherche

06/2013 – 08/2013 **Sotheby‘s Deutschland GmbH, Hamburg | DE**
Praktikantin | Kundenbetreuung
Kundenbetreuung; Bearbeitung von Schätzanfragen; Werkannahme & Katalogisierung; Korrespondenz mit internationalen Expert*innen; Condition Reports; Pressearbeit; Recherche

06/2011 – 07/2011 **Bayerische Staatsgemäldesammlungen, München | DE**
Praktikantin | Referat Kulturveranstaltungen
Planung & Umsetzung von Pressekonferenzen, Ausstellungen, Eröffnungen, Lesungen & Konzerten; Kuratorische Assistenz; Entwurf Print & Digitale Medien; Pressearbeit

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09/2020 – **Hochschuldidaktisches Zentrum, St. Gallen | CH**
Teilnehmerin | «CAS Hochschuldidaktik» (HSG)

06/2020 – 10/2020 **CHRISTIE’S Education | Onlinekurse**
Teilnehmerin | «Art Market Economics»
Teilnehmerin | «Contemporary Art»

EHRENAMTLICHE TÄTIGKEITEN

06/2019 – **Universität St.Gallen, Sankt Gallen | CH**
05/2021 – Mitglied | Berufungskommissionen
06/2019 – 06/2021 Vorstandsmitglied | proArte (Kunstverein)

10/2015 **Harvard Universität, Cambridge | US**
Teilnehmerin | «German American Conference»

2009 – 2015 **Kunstmesse «Art in Action», Waterperry | GB**
Volontärin | Bildende & Darstellende Künste

SPRACHEN

Deutsch (Muttersprache)
Englisch (fliessend in Wort & Schrift)
Französisch (fliessend in Wort & Schrift)

IT-SKILLS

MS Office & Apple iWork
Datenanalysesoftware (SPSS, R, ATLAS.ti)
CMS & CRM (artbutler, A2, Topix, Dynamics)

INTERESSEN

Bildende & Darstellende Kunst, Musik, Kochen, Schreiben, Tanzen, Tennis, Segeln

WISSENSCHAFTLICHE PUBLIKATIONEN & KONFERENZBEITRÄGE

Noll, L., Bille, T. & Meier, C. (2022). An investigation of gender effects in the secondary art market: a biased auction market? 6th North American Workshop on Cultural Economics (ACEI), Fort Lauderdale, Florida. – *Paper*

Noll, L. (2021). Understanding Prices at International Art Auctions: An Inductive Theory for Valuation*, ACEI2020+1,* Online. – *Young Researchers Workshop*

Meier, C. & **Noll, L.** (2021). Gender Diversity: a Biased Auction Market? *21st Conference on Cultural Economics, ACEI2020+1,* Online. – *Paper*

Noll, L. (2020). Price Determinants on the Secondary Art Market: A Mixed-Method Approach to Improved Estimation at International Fine Art Auctions, *EMAC European Marketing Academy Annual Conference 2020*, Budapest, Hungary. – *Doktorandenkolloquium*

Noll, L. (2020). The Art Market & New Tech: Marketing Unique Goods by Means of AI?, *VHB German Academic Association of Business Research Annual Conference 2020*, Frankfurt, Germany. – *Poster*

Noll, L. (2020). Kunstmarkt: Hypes, Trends, Geschmackskonzentra-tionen. *Marketing Review St.Gallen*, "After The Hype", 06/2020. – *Artikel*

Noll, L. & Meier, C. (2020). Gender Diversity: A Biased Auction Market? *HSG Focus*, «Diversity», 03/2020. – *Artikel*

Noll, L. (2019). Predicting Price Estimates at Art Auction: A Valuation Framework For "Pricing the Priceless", *Research Conference Marketing 2019*, Berlin, Germany. – *Forschungspräsentation*

Noll, L. (2019). The Effects of Physical Experiences on Perceived Value and Price Acceptance, *AMA American Marketing Association Winter Conference 2019*, Austin (TX), USA. – *Poster Session*

Noll, L. (2019). «Art-Flipper» und Kunst als Investment. *alma 01/2019.*

Noll, L. (2018). Added-Value Creation in Experience-Based Retail Marketing, *Oxford Retail Futures Conference 2018*, Saïd Business School, Oxford, United Kingdom. – *Forschungspräsentation*