DECISIONS IN THE PROPERTY VALUATION PROCESS

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CONTENTS OF THE PAPER AND THE PRESENTATION

1 INTRODUCTION

- **Valuation accuracy** big research topic more more than 20 years ago, mainly in UK (seminal study by Havard 2001)
- Has led to some improvements, but not to fundamental changes of the practice of property valuation
- Currently more holistic approach to **valuation quality**, for example by Amidu et al. (2021) and Preveden (2015); integration of new findings from behavioral research (e.g., regarding human errors) and change of perspective may lead to new solutions to the old problem
- Our paper complements this new approach by bringing in insights from three related fields: 1) decision & information processing theory, 2) process management and 3) quality management. The unifying element is **process thinking**. By viewing a task as a (decision-making) process, it is easier to break it down into individual parts, analyse it and eventually optimise it.

Objectives: to identify and classify the most important decisions in the property valuation process and to propose an improved valuation process…

- as the basis for education and training,
- to increase efficiency and effectiveness of valuers, to avoid liability claims, and to create awareness of possible unconscious valuation errors.

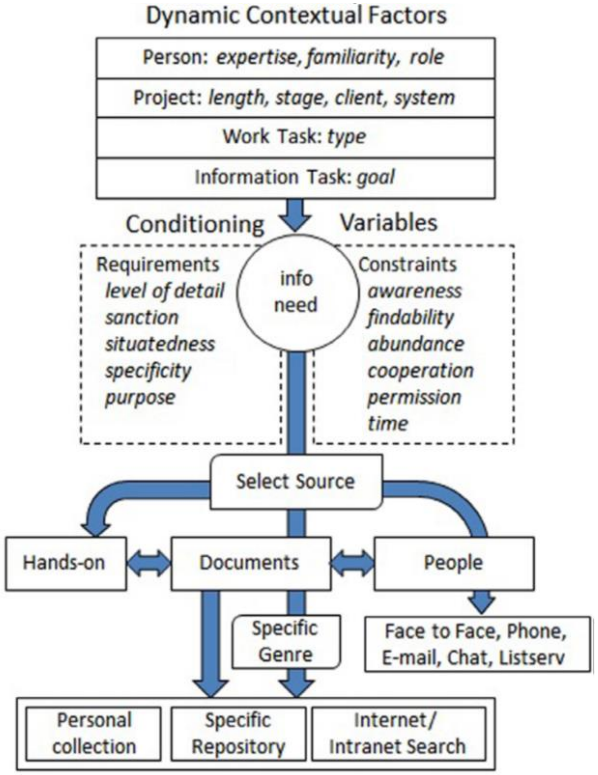
Main **research questions**:

1. What decisions are made?
2. How can the decisions be classified?
3. How can decision-making in the valuation process be improved in order to increase valuation quality?

Research design: literature research, expert interviews, prescriptive model

2.2.1 INSIGHTS FROM DECISION THEORY AND INFORMATION PROCESSING THEORY

- Division of decision process into a search phase and a choice phase—both are important to understand and improve decision quality
- Example: Model of source selection for software engineers
- As with property valuers, the person (e.g., their expertise), the project (e.g., the client's requirements), the task (e.g., determining market value) and the information task (e.g., finding comparables) determine the need for information (e.g., the necessary level of detail).
- This influences the choice of sources.
- **Model helps to analyse two well-known problems: 1) high client pressure lowers attention to detail, 2) valuations in an unknown region limit awareness of good sources of information**



Contextual model of source selection (Freund 2015, 1601)

2.2.2 INSIGHTS FROM PROCESS MANAGEMENT AND QUALITY MANAGEMENT

Business Process Management (BPM): management approach that aims to optimise operational processes to increase business performance.
Focus is on manual and machine routine activities as well as simple knowledge-based work.

Total Quality Management (TQM): management approach that focuses on quality planning, quality control and quality improvement.
Originally for manufacturing industry, today established almost everywhere (ISO 9000).

- Findings cannot easily be transferred to property valuation.
- What determines valuation quality?

  According to Amidu et al. (2021): Professionalism, people, effective communication, accuracy of reporting, compliance

Professionalism is "connected to a range of individual characteristics and values that can affect a valuation, such as professional judgement, attention to detail, honesty and integrity, experience, specialised knowledge, diligence, independence and objectivity" (Amidu et al. 2021, 220).

How can a valuation company reach and ensure professionalism?

- Obvious answer: good training that teaches valuers standards and commits them to these → Example RICS
- But BPM and TQM have more answers to this, especially how to get stakeholders to deliver good quality → Example: Incentives

Compliance: „Interviewees also acknowledge the need to have robust internal quality and risk management processes from the time that an instruction is received, through to when the completed report is sent out to the client.“ (Amidu et al. 2021)

How can compliance be ensured in property valuation?

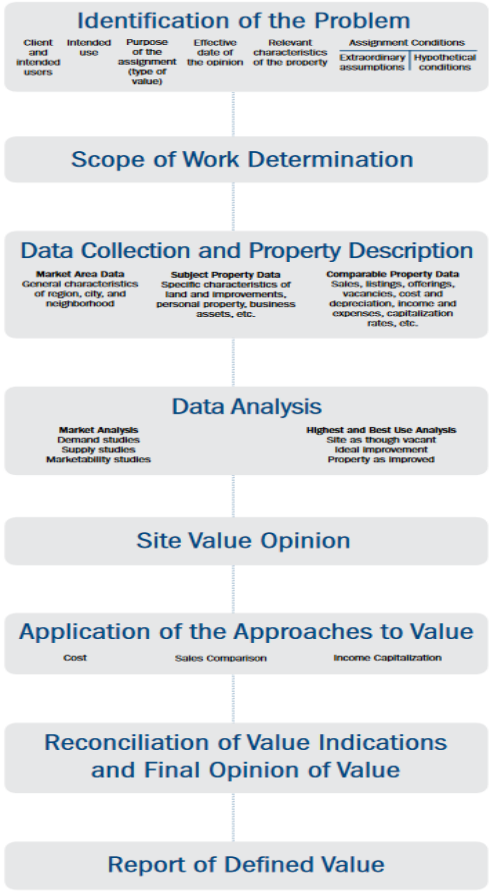
- **Quality initiatives** in property valuation → e.g., in New Zealand and USA
- An important tool of BPM is the visualisation of processes by means of **process maps**; this can significantly increase effectiveness, but can also reduce it if it is poorly designed. Frequent mistakes:
  - The process representation is not detailed enough.
  - The presentation is overloaded with unimportant details or too complex.
  - The diagram is not self-explanatory
  - It is not clear at which points in the process decisions have to be made, who makes them, which preconditions have to be met for the decision and according to which criteria decisions are made.

3.2 PROPERTY VALUATION PROCESS

1) Normative processes = provide guidelines for the valuers; can be found in laws/regulations/standards and textbooks

Findings:

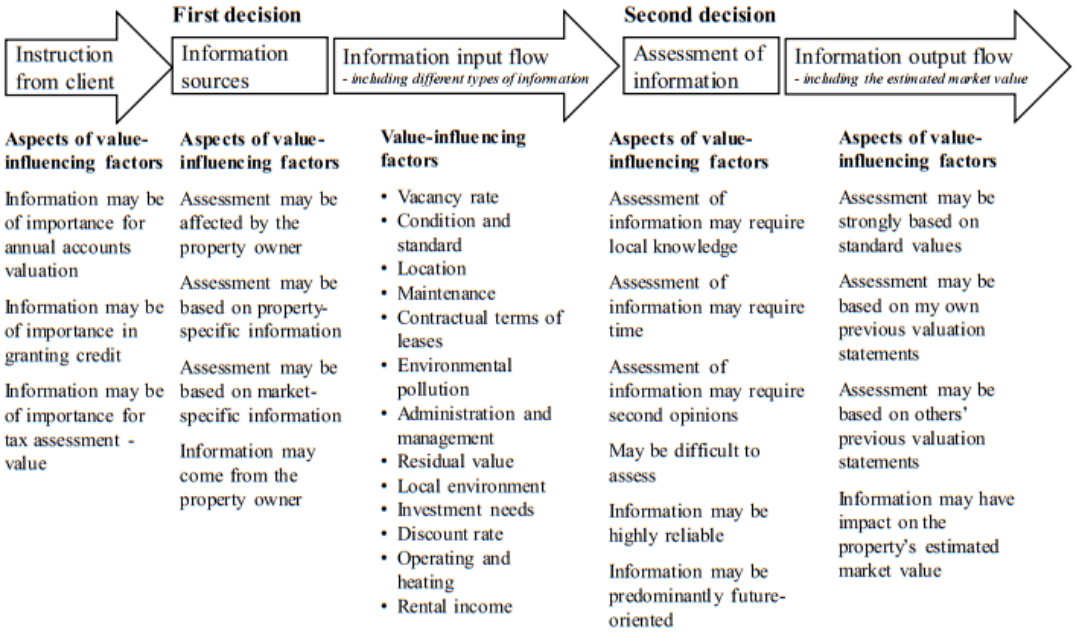
- Process maps as known from BPM are very rare
- The few that can be found are more concept maps than process maps
- No mentioning of decisions
- Mostly vague and superficial (e.g., International Valuation Standards (IVSC 2021) use the term "process" 50 times, but not once is the process *described* in any detail



Valuation process recommended by Appraisal Insittute (2020)

2) Descriptive processes = reflect the actual processes in practice; can be found in empirical/behavioural research

Findings: Basically same as above (few, concept instead of process, no explicit decisions, …)

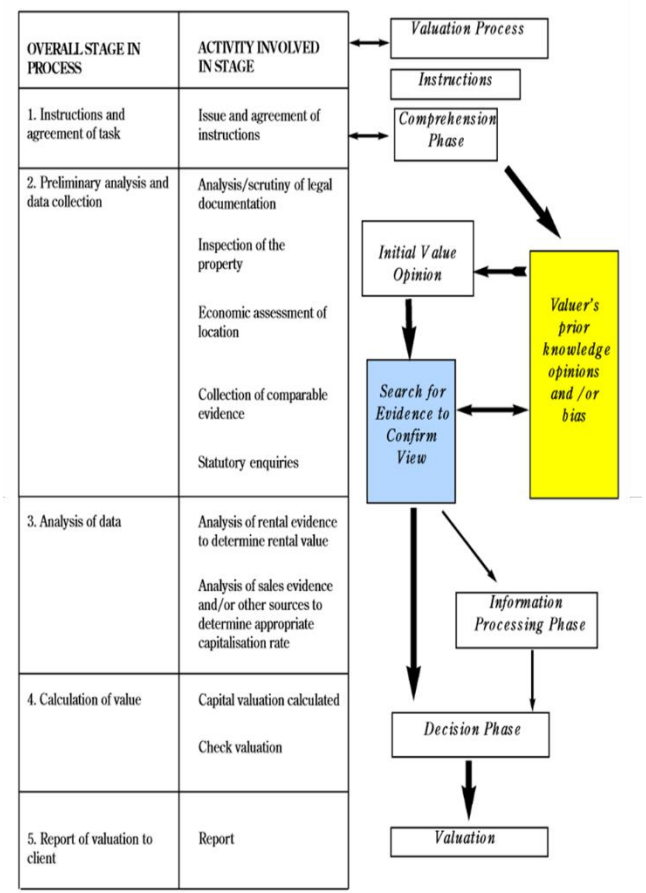


Valuation process as an information process (Bellman 2022)

3) Prescriptive processes = normative approach, but taking the human factor into account; can be found in the academic literature and in some leading valuation companies

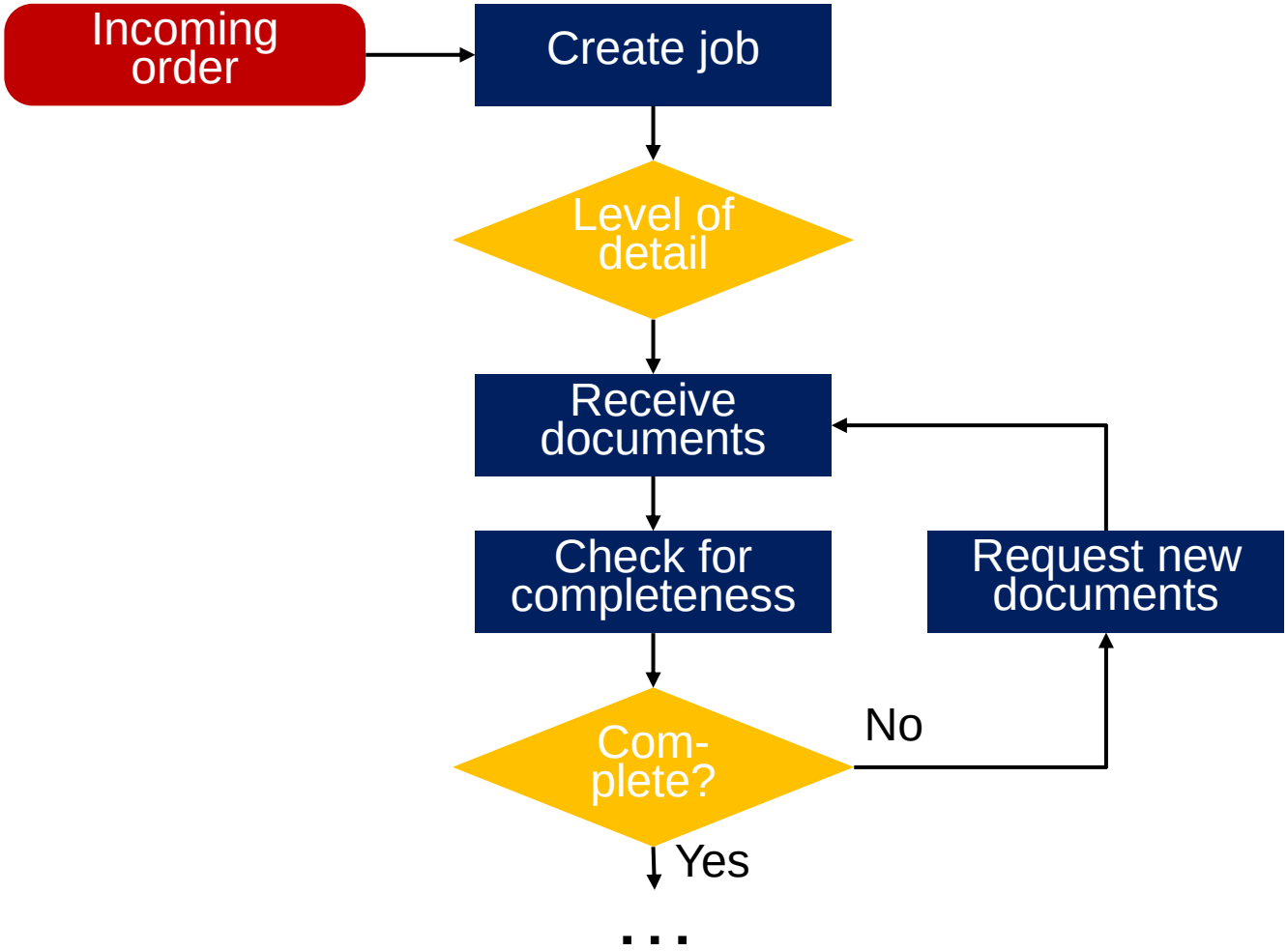
Findings: Basically same as above

OVERALL STAGE IN PROCESS	ACTIVITY INVOLVED IN STAGE
1. Instructions and agreement of task	Issue and agreement of instructions
2. Preliminary analysis and data collection	Analysis/scrutiny of legal documentation Inspection of the property Economic assessment of location Collection of comparable evidence Statutory enquiries
3. Analysis of data	Analysis of rental evidence to determine rental value Analysis of sales evidence and/or other sources to determine appropriate capitalisation rate
4. Calculation of value	Capital valuation calculated Check valuation
5. Report of valuation to client	Report



Valuation process as suggested by Havard 2001, 27

3.3 OVERVIEW OF DECISIONS



3.4 CLASSIFICATION OF DECISIONS IN THE PROPERTY VALUATION PROCESS

Decisions can be classified in countless ways. For the purpose of increasing decision quality, those classifications are most important, which include hints to possible errors and remedies. Example:

Type*	**cognitive effort**	**possible sources for bad decision**	**possible protection**
Routinised	low, mainly matching	lack of attention	check box in software
Stereotyped	middle	new situation does not fit to prior experience	regular check for timeliness
Reflective	high	not enough effort due to routine	checklist with blanks for free text
Constructive	very high	time pressure	sensitivity through TQM

*Source: Pfister/Jungermann/Fischer (2017)

Results:

1) **Process chart**

2) Detailed **list of decisions**, their influence factors, guiding questions for the valuers, classification, etc.

Based on interviews and partly enhanced by researchers to incorporate findings from the literature (e.g., client pressure)

Decision no.	Decision	Influencing factors	Alternatives	Guiding questions a) to understand the decision b) to reflect on the influencing factors c) to focus on decision quality	Decision object	Type of decision (rules)	Type of decision (behaviour)	Type of decision (complexity)	Influence on decision no.
Preparation phase									
1	**Level of detail**	Purpose of the valuation, budget, time, available data, client, prior valuations, minimum requirements, appropriateness	1) high 2) low	What level of detail is required? Which of the influence factors are most relevant for the valuation? *How are the influence factors linked to the accuracy of the valuation? How will a wrong decision affect the valuation accuracy?*	Basic	Free	Routinised	low	3, 4, 10,11,12,13,14, 15
2	**Division of labour**	Number and qualification of colleagues, communication, experience with colleagues, time	1) One valuer 2) One valuer + support 3) Two or more valuers 4) Two or more valuers + support	Which tasks can be divided and which cannot? Which tasks are taken over by whom? What are the costs and benefits for dividing the tasks? *How are the influence factors linked to the accuracy of the valuation? How will a wrong decision affect the valuation accuracy?*	Basic	Rule-based	Stereotyped	Very low	-
3	**Data procurement**	Aspired level of detail (no. 1)	1) by the valuer 2) by the client 3) by none (only if data is not necessary)	Who will procure the data? Are the minimum requirements for a valuation met? Is there any further data that could be obtained in this case? *How is the influence factor linked to the accuracy of the valuation? How will a wrong decision affect the valuation accuracy?*	Basic	Free	Routinised	Medium	7, 10, 11, 12, 13, 14, 15
4	**Data selection**	Objective (timeliness, completeness, correctness, representativeness), subjective (previous experience, suspicion/intuition)	1) usable 2) perhaps usable (later or after verification) 3) not usable	Which data can be used? How is the data quality? Are there any doubts about the data? *How are the influence factors linked to the accuracy of the valuation? How will a wrong decision affect the valuation accuracy?*	Data	Rule-based	Stereotyped	Medium	8,10, 11,12,13,14,15
5	**Selection of the valuation method**	Nature of the property, purpose of the valuation	1) Income approach 2) Discounted cash flow 3) …	What is the most appropriate valuation method? Which factors rule out the other methods? *How are the influence factors linked to the accuracy of the valuation? How will a wrong decision affect the valuation accuracy?*	Basic	Rule-based	Routinised	Very low	9,10,11,12, 13,14
Valuation phase									
6	**Criteria for comparables**	Availability of data, comparability to the valuation object	Extension / reduction of the radius, the year of construction range, range of comparison areas, equipment	What criteria must the comparative data fulfil in order to be comparable to the valuation object?	Data	Rule-based	Reflective	Medium	6
7	**Selection of comparables**	Data availability	Data can be used for the valuation; data are not usable	Which data are comparable with the valuation object? Which data fit previously selected criteria?	Data	Rule-based	Stereotyped	Low	5
8	**Selection of land valuation method**	Availability of data, calculation method varies depending on submarket	Comparative value method, standard land values, residual value method	Do I have a sufficient amount of comparative data for the chosen procedure?	Basic	Rule-based	Routinised	Very low	9
9	**Adjustment of land value**	Comparative data of past valuations, experience of the valuer	Value increase/decrease due to age, due to deviating GFZ, deviating type of use	Is the determined land value at a market level?	Plausibility	Free	Reflective	Low	
10	**Usual market rent**	Market rent (from market reports and comparable properties), asking rents (from market reports and listing services), current tenants and lease terms, rent regulation	Market price	What is the actual rent at market level for this type of property in this type of location? What is the average? How high is the range? Are there many outliers? How reliable are the sources? E9How are building, location and tenant quality? *How are the influence factors linked to the accuracy of the valuation? How will a wrong decision affect the valuation accuracy?*	Value parameter	Free	Constructive	High	13,14
11	**Management, administrative and maintenance costs**	ImmoWertV, client data, benchmarks from administrators	Valuation of the model, deviating valuation due to market plausibility	Are the management costs from the annex of the ImmoWertV at market level or do different costs have to be applied?	Value parameter	Off rule	Reflective	High	
12	**Rental income loss**	ImmoWertV, property-specific deviations (type of use, complexity of the property and age of the building)	Valuation of the model, deviating valuation due to market plausibility	Is the valuation object a special case or can the usual valuation costs be applied?	Value parameter	Off rule	Stereotyped	Low	
13	**Remaining useful life**	ImmoWertV, evidence of modernisations	Valuation of the model, deviating valuation due to market plausibility	Can the RND be determined via the model or does a different determination make sense?	Value parameter	Off rule	Stereotyped	Medium	10,14
14	**Yield**	GAA model, market data	Valuation of the model, deviating valuation due to market plausibility	Can the LGZ be determined using the ImmoWertV model? Does the LGZ used lead to a valuation in line with the market?	Value parameter	Off rule	Constructive	Very high	10,13
15	**Building-specific characteristics**	Empirical values of the expert	Valuation	How high is a market-conform premium or discount for special property-specific building features?	Value parameter	Free	Reflective	Medium	-
Quality control									
16	**Plausibility**	Market level	Values correspond to market level, values do not correspond to market level	Are improvements necessary?	Plausibility	Free	Reflective	Medium	10,11,12,13,14,17
17	**Completion**	Corrections, new data	Completion of the evaluation procedure, subsequent corrections	Can the valuation be completed or are improvements necessary? Has any new value-influencing data come to light?	Basic	Free	Reflective	Medium	

No.	Decision	Influencing factors	Alternatives	Guiding questions	Decision object	Type of decision (rules)	(behaviour)	(complexity)
1	**Level of detail**	Purpose of the valuation, budget, time, available data, client, prior valuations, minimum requirements, appropriateness	1) high 2) low	What level of detail is required? Which of the influence factors are most relevant for the valuation? *How are the influence factors linked to the accuracy of the valuation? How will a wrong decision affect the valuation accuracy?*	Basic	Free	Routinised	Low
10	**Usual market rent**	Market rent (from market reports and comparable properties), asking rents (from market reports and listing services), current tenants and lease terms, rent regulation	Market price	What is the actual rent at market level for this type of property in this type of location? What is the average? How high is the range? Are there many outliers? How reliable are the sources? How are building, location and tenant quality? *How are the influence factors linked to the accuracy of the valuation? How will a wrong decision affect the valuation accuracy?*	Value parameter	Free	Constructive	High

4 SUMMARY AND OUTLOOK

Research questions answered and most objectives achieved.

1. What decisions are made? ✓
2. How can the decisions be classified? ✓
3. How can decision-making in the valuation process be improved in order to increase valuation quality? (✓)

Serious limitations: German valuation method, not validated yet

Further tasks:

- Integrate the first (hermeneutic, normative) part of the paper into the (empirical, descriptive) part, to derive a truly prescriptive process
- Internationalise and validate process
- Develop suitable decision support tools for every decision and add them to the table, e.g. checklists or scorings
- Empirically test whether process contributes to higher decision quality

Example of a simple decision support tool in property valuation

Quality of market data

For the next step please have a look at the market data provided in the text. You will then be asked to evaluate the different sources regarding three criteria:
- Objectivity = Is the source of information an estate agent or a neutral observer?
- Up-to-dateness = Is the data up to date or outdated?
- Relevance = Does the market data match the valuation property?

Source	Description	from R/m²	up to R/m²	avg R/m²
Own research	asking rents (B+ grade; in the vicinity; Aug. 2015)	40	160	
SAPOA	asking rents (A/B grades; whole CBD; July 2015)	80	150	108
property24.com	asking rents (all grades; whole CBD; Aug. 2015)	50	250	102
JLL/Baker Street	actual rents (grade B, whole CBD; Q1/2015)			101
Rode	actual rents (grade B, whole CBD; Q2/2015)			98
Overall average		57	187	**102**

Source	Objectivity	Currentness	Relevance	Score
Own research	☺ ☹	☺ ☹	☺ ☹	0
SAPOA	☺ ☹	☺ ☹	☺ ☹	0
property24.com	☺ ☹	☺ ☹	☺ ☹	0
JLL/Baker Street	☺ ☹	☺ ☹	☺ ☹	0
Rode	☺ ☹	☺ ☹	☺ ☹	0

Screenshot from experimental valuation software (Evans/Lausberg/Sui Sang How 2019)

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2008-today	Full professor of real estate, esp. real estate banking, Nürtingen-Geislingen University, Geislingen
1998-2005	Management consultant, Oliver Wyman, Munich
1994-1998	Teaching and research assistant, Chair of banking, Hohenheim University, Stuttgart; doctoral dissertation on "The Real Estate Market Risk of German Banks"
1989-1993	Studies in business administration and economics (Hohenheim University) and Finance (Texas A&M University)
1986-1989	Trainee, Westdeutsche Landesbank, Dortmund and Tokyo

OTHER ACTIVITIES

Honorary professor, University of Cape Town, Department of Construction Economics & Management

Lectureships at several institutions of higher education

Society of Property Researchers (gif), co-chair competence group on real estate risk management,

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