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Complexity in valuation practice: an inquiry into valuers' perceptions of task complexity in the Dutch real estate market

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ABSTRACT

The aim of this paper is to examine valuer judgement behaviour, by exploring the manifestation of task complexity in Dutch commercial valuation practice. For this purpose, we adopted a grounded theory approach and undertook 18 in-depth interviews with senior valuation professionals across the Netherlands. Our findings indicate a strong presence of situational task complexity in commercial valuation practice, as professionals operating in large valuation teams perceive different elements of task complexity throughout commercial valuation practice in comparison to peers working in small valuation teams or self-employed valuers. Further, coping strategies used to deal with task complexity vary substantially by type of valuer as well. From our data, we deduced three types of task environment constructs in which valuers operate, which basically represent the various levels of professional standards required by clients as well as organisational settings composed to meet client standards. As such, we found that task environment settings strongly coincide with perceptions of task complexity. The presence of situational task complexity in commercial real estate valuation practice points to the need for customisation of professional valuer's development programs to facilitate valuers to deal with task complexity in different stages of valuation practice and hence contribute to advancing valuer judgement skills.

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1. Introduction

Real estate valuers produce value assessments that involve judgement and decision-making in an uncontrolled and complex environment while dealing with information ambiguity, an intransparent market place and commercial interests of clients. Due to its presumed effects on valuation accuracy, judgement bias has been a frequent topic in discussions about the quality of valuation services (Wyman, Seldin, & Worzala, 2011). Experimental research has made some important contributions towards development of the knowledge base on valuer judgement bias behaviour. We have learned that

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commercial real estate valuers may be susceptible to bias in their value assessments, for instance due to occasional receptiveness to stimuli as reference points or urgent client requests (see for instance Diaz & Wolverton, 1998; Hansz & Diaz, 2001).

Other experiments have been conducted through surveys to illustrate self-perceptive behaviour in 'what-if' scenarios (i.e. Gallimore, 1996; Iroham, Ogunba, & Oloyede, 2014). While experimental design has generated (statistical) insights into judgement quality, its results are mixed in terms of research robustness and research context (Klamer, Bakker, & Gruis, 2017). These mixed results may be partly explained by the complexity of valuation practice, which may not be fully captured by experimental design due to its narrow research focus (Diaz, 1997). Alternatively, participants may not be fully concerned with real-life (economic) implications within a controlled experimental environment (Hansz, 2004).

In explaining judgement behavioural patterns, relevant contributions can be divided into interpersonal judgement bias studies which relate to client influence and intrapersonal judgement bias research that involves information ambiguity challenges. On interpersonal judgement bias, Crosby, Devaney, Lizieri, and McAllister (2018), Levy and Schuck (2005) and Baum, Crosby, Gallimore, McAllister, and Gray (2000) point to the complicated nature of the valuer/client relationship, which serves mixed purposes (i.e. valuation instruction, property information and client consideration) at different points in valuation practice (beginning/end stage) depending on the type of instruction (i.e. periodic revaluation or acquisition). Furthermore, client influence may be exercised at different points in valuation process (Bretten & Wyatt, 2001; Chen & Yu, 2009), while the size of valuation practice may also be topical to bias (i.e. small valuers being vulnerable to large clients; Smolen & Hambleton, 1997).

On intrapersonal judgement bias relating to information ambiguity, Bellman and Öhman (2016) indicate that valuers may spend considerable time abstracting market-related information. Kucharska-Stasiak (2013) and Jin and Gallimore (2010) indicate that different perceptions of information quality may trigger different information-processing strategies. Gallimore (1994) adds that in evaluating and choosing comparables, valuers face complex circumstances when assessing considerable amounts of information. Finally, Tidwell and Gallimore (2014) point to the endorsement of decision support tools to reduce heuristics behaviour.

It seems as though the task environment of commercial valuers is rich of stimuli that provide numerous challenges to valuers during valuation practice. However, a (comprehensive) overview of relevant stimuli and how they affect valuer reasoning behaviour is absent. Our aim is therefore to contribute to the knowledge base on valuer behaviour by examining task complexity in valuation practice performance. In order to achieve this, we have adopted a grounded theory approach using in-depth interviews (Corbin & Strauss, 1990). Specifically, we aim to explore how individual valuers carry out their valuation processes to disclose complex tasks in valuation and find out how valuers deal with these matters. For instance, we are interested to learn if and how views on perceived task complexity matters may vary between valuers, or how they may vary along different valuation stages. Such an in-depth examination of complexities in valuation practice may enhance our understanding of valuer decision-making and so may contribute to improving the quality of valuation processes and reduce judgement bias risks (Diaz, 1990).

Our study is performed in the Netherlands, traditionally home to some of the largest real estate investors globally and generally considered a mature and transparent real estate market in Europe (JLL, 2016). Yet the literature on Dutch valuer behaviour is scarce and seems to concentrate on valuation accuracy effects, thereby providing a rationale for Dutch scoped valuer behaviour research (Niemeijer, 2014; Schekkerman, 2004; Smit & Vos, 2003; Van der Werf & Huibers, 2015).

This paper is structured as follows. As a background to our grounded theory approach, we provide some basic insights into the concept of task complexity and its relation to judgement and decision-making processes. Next, we outline our research methodology and present first-order findings (i.e. respondents' interpretations) and second-order findings (i.e. authors' interpretations). We finalise our paper with a discussion of results and theoretical implications and provide recommendations for future research on professional valuer development.

2. Literature review

'A task is a set of assigned a) goals to be achieved, b) instructions to be performed, or c) a mix of the two' (Gill & Hicks, 2006, p.3). While defining a task seems relatively straightforward; the topic of task complexity seems to lack a universally-accepted definition despite wide research attention (Liu & Li, 2012). The common element in task characteristics that makes a task complex to some extent, is its requirement for a certain level of cognitive effort in order for the task to be executed. Yet as cognitive effort is not directly tangible and observable, many definitions on task complexity focus on task components or classification schemes of contributing factors to task complexity (Bonner, 1994). Liu and Li (2012) pulled together existing views on task complexity from various fields (e.g. management, psychology, engineering et cetera) and composed an inventory of 24 groups of task definitions. The authors conclude with an overview of 10 complexity dimensions that contain specifiable elements of task complexity. Most dimensions involve the structure of a task and relate to complexity in output, required acts or information cues (i.e. quantity, variety or clarity of task components or conflicting interdependencies). Other dimensions refer to the task context in a wider sense and include elements of information reliability, novelty of tasks, cognitive effort and time pressure (Bonner, 2008).

Historically, a distinction in views on task complexity has been made between the structuralist approach and the interaction approach (Liu and Lu, 2012). The structuralist approach perceives task complexity as a function of task characteristics and assumes that all persons involved in a task would perceive its complexity equally beforehand, irrespective of idiosyncratic elements as skill or motivation (Bonner, 1994; Li et al., 2011). This approach is based on the view that task complexity is fully related to the structure of the task, that is, the level of specialisation that is required for its fulfilment (Simon, 1973). This approach is also referred to as 'objective' task complexity as it focuses solely on task characteristics related to either i) presence of multiple paths to arrive at an outcome; ii) conflicting or uncertain interdependency among paths; or iii) multiple outcomes to be attained (Campbell, 1988).

In the interaction viewpoint, task complexity is a relative (rather than an absolute) concept defined as a product of the interaction between task characteristics and task

performer characteristics, such as knowledge or experience. This type of task complexity is known as 'subjective' task complexity and has its roots in the decision-making theories (Tversky & Kahneman, 1974). It refers to the amount of attentional capacity or mental processes required to fulfil the task (Bonner, 1994). Byström and Järvelin (1995) argued that perceived tasks (rather than prescribed tasks) are fundamental to task complexity, as uncertainty over perceived tasks form the basis for interpretation of information needs and actions. Hence, these may differ from person to person depending on individual characteristics such as cognitive capabilities, motivation and prior experience. Referring to the structuralist-interactionist approach discussion, Funke (2010) denotes the concept of 'situational' complexity, where the complexity of a task can relate in a narrow sense to task components, yet in a broad sense may involve dealing with elements of the wider task environment. Trotman, Tan, and Ang (2011) point out that since the 2000s much of the audit literature¹ has incorporated environmental aspects, rather than task structure aspects, in examining task complexity in recognition of its effects on task complexity perceptions.

Complex tasks, contrary to routine tasks, are thus featured by some level of uncertainty which require cognitive effort to process relevant information. In case of multiple paths to choose from or conflicting outcome alternatives, it also requires decision making (Vakkari, 1999). In this respect, Einhorn and Hogarth (1981) differentiate two important processes in decision-making: judgement and choice. Both are closely related and are formed on the basis of information processing. When distinguished, judgement usually refers to estimation of the likelihood of outcomes and their consequences (e.g. estimate of future cash flows), while choice involves an evaluation of these consequences leading to a selection of the best alternative (e.g. invest/not invest). Additionally, judgement is required when conflicting interdependencies between paths or desired outcomes occur (Campbell, 1988). Judgements are hence an important input for decisions and serve to reduce uncertainty and conflict in choice, especially when faced with novel/unstructured tasks or complex problems. Yet, one can choose in spite of better judgement (Abdolmohammadi & Wright, 1987; Bonner, 1994).

Finally, task complexity may also affect judgement and decision quality, as individual differences in memory processing capabilities or motivation may impact one's (unconscious) choice of information processing strategy. In this respect, the use of various heuristics such as anchoring or dilution bias upon information processing has been illustrated before to reduce complex tasks of assessing likelihoods and predicting end values (Chapman & Johnson, 2002; Tversky & Kahneman, 1974). This seems to connote back to the current knowledge base on valuer judgement bias behaviour, implying that valuer judgement bias may occur when valuers may have to deal with task complexity in valuation practice.

For the purpose of our study, we coincide with recent views on task complexity of Funke (2010) and Trotman et al. (2011) and adopt the concept of situational complexity, in which task complexity reflects a combination of task components and environmental features. As such, we define task complexity as an information processing activity that requires one's cognitive effort to produce judgement and selection of a preferred line of action, given the task at hand and the environmental settings present.

3. Methodology

In order to develop a comprehensive view of the relevant parts of valuation practice that are perceived as complex in relation to the wider task environment, a qualitative research approach was adopted based on an interpretative paradigm (Gioia & Pitre, 1990). The interpretative research paradigm assumes individuals to actively construct and interpret their own social environment, in which situations evolve over time, based on which they formulate preferred behavioural activity. To gain an understanding of such behaviour, one needs to ‘examine situations through the eyes of participants rather than the researcher’ (Cohen, Manion, & Morrison, 2007, p.21). Accordingly, we have taken a grounded theory approach (Corbin & Strauss, 1990) to explore the valuation task environment and identify sensitive matters and reciprocal patterns of (inter-) actions between various types of actors (Verschuren & Doorewaard, 2015). Grounded theory is a qualitative research method aimed at generating theoretical constructs using in-depth interviews. By doing so, it combines both inductive (open and flexible research design and data sampling) and deductive elements (systematic coding analysis, verification by reiteration and theoretical implications) according to De Boer (2011). Using this grounded theory approach, we are especially interested in perceptions of task complexity of commercial valuers and have posed the following research question: ‘What are the perceived elements of task complexity in Dutch commercial valuation practice and how do experienced valuation professionals deal with these perceived elements of complexity?’ Different approaches to grounded theory exist. We undertook our study based on a number of scientific grounded theory ‘canons’ or systematic procedures as presented by Corbin and Strauss (1990), which is considered as one of the most acknowledged approaches to grounded theory research (De Boer, 2011). We will further outline this approach below.

3.1. Data sample

In line with the adopted research approach, in-depth interviews have been held with senior valuation professionals across various parts of the Netherlands. To ensure theoretical sampling, we employed a multiple respondent search strategy (i.e. direct contact, participation call through a newsletter and snowball sampling) targeting experienced commercial valuers willing to share their professional experiences. Subsequent contact with initial respondents took place to ensure relevant working experience of at least seven years in commercial valuation.

A broad interview protocol was set up based on sensitising concepts (Bowen, 2006), emerging from a review of international valuation standards from RICS (2017), TEGoVA (2016) and NRVT (2017) and literature review (see [appendix 1](#)). While the valuation standards provided us with a standard outline of valuation practice, the literature review added potential environmental topics that could complicate the work of valuation professionals, such as client expertise, information ambiguity, market competition, time pressure, etc.). Interview questions were formulated broadly and open-ended to facilitate participant responsiveness and to maximise elaboration on individual experiences. A test interview session was conducted beforehand to ensure that selected topics covered the entire valuation procedure and question formulation

was understood accordingly. In order to avoid leading questions and reduce respondent bias on sensitive issues, open-ended and neutral questions were posed with regard to valuation tasks that may require cognitive effort (i.e. information processing, reflection, judgement, peer consultation, decision making, etc.). All respondents were granted full anonymity with regard to interview processing and reporting. The initial question prompted at the start of each interview was the following: ‘Could you describe the various stages that you pass through when undertaking a commercial valuation assignment?’ Following this, each valuation stage was discussed thoroughly to identify elements of task complexity, while leaving the respondent with a sense of control to elaborate when deemed appropriate.

Interviews were conducted in the period March through May 2017 and were performed face-to-face at the participant’s location of choice (often one’s own office locations). Interviews were undertaken one-on-one with an interviewer familiar with commercial valuation practice to facilitate an informal atmosphere. This would allow for an open bilateral conversation to encourage respondent’s elaboration on potentially sensitive matters (De Lange, Schuman, & Montesano Montessori, 2016). Interviews typically lasted between 60 and 120 minutes and were digitally recorded and transcribed.

By performing a constant comparison of new data with previously obtained information, interview questions were amended or added. Interviews continued until all interview data fit into patterns that emerged from previous data, indicating theoretical saturation (Rose, Mollenkopf, Autry, & Bell, 2016), thus contributing to the data’s transferability (Kaufmann & Denk, 2011). This resulted in a sampling base of 18 senior real estate commercial valuers with an average age of 49, an average working experience of 20 years and a diversified organisational and geographical background. Besides basic Dutch valuation requirements (labelled in the following table as ‘RT’), most respondents have gained international professional qualification(s) as illustrated by RICS membership/fellowship (MRICS/FRICS) or TEGoVA’s Recognised European Valuer (REV) certificate (see Table 1).

Table 1. Respondent profiles.

Respondent	Valuation team size	Qualifications	Age cohort	Education	Geographic scope
R1	Large	RT MRICS	31–40	Bsc/Msc	Nationwide
R2	Large	RT MRICS REV	41–50	Bsc/Msc	Nationwide
R3	Large	RT FRICS	41–50	Bsc/Msc	Nationwide
R4	Large	RT MRICS REV	41–50	Bsc/Msc	Nationwide
R5	Large	RT REV	31–40	Vocational	Nationwide
R6	SME	RT REV	> 60	Vocational	Regional
R7	SME	RT	41–50	Vocational	Regional
R8	SME	RT	41–50	Bsc/Msc	Regional
R9	SME	RT REV	41–50	Vocational	Regional
R10	SME	RT MRICS	41–50	Bsc/Msc	Regional
R11	SME	RT	> 60	Vocational	Regional
R12	SME	RT MRICS	41–50	Bsc/Msc	Regional
R13	SME	RT REV	51–60	Vocational	Regional
R14	Self-employed	RT MRICS	41–50	Bsc/Msc	Nationwide
R15	Self-employed	RT MRICS REV	41–50	Bsc/Msc	Nationwide
R16	Self-employed	RT MRICS	41–50	Bsc/Msc	Regional
R17	Self-employed	RT REV	> 60	Bsc/Msc	Nationwide
R18	Self-employed	RT MRICS	51–60	Bsc/Msc	Regional

We have visually sorted respondents by organisational context. Large firm respondents typically work at major valuation teams in excess of 20 valuation professionals that are usually part of large, (inter-)national operating property advisory firms. SME respondents usually work in smaller teams (up to 10–15 valuation professionals) at offices that often deploy a regional scope. Self-employed respondents have frequently developed a certain valuation expertise, such as a geographic niche or have specialised in the valuation of complicated properties such as industrial complexes or other non-core real estate types.

3.2. Data analysis

Interviews were analysed using MAXQDA Plus version 12 software. Data collection and analysis occurred consecutively, while the interview protocol was adjusted accordingly based on interview results. Strict data coding procedures were followed using open, axial and selective coding principles and inter-researcher labelling design was applied to limit research-induced bias (Corbin & Strauss, 2008).

First, we applied open coding labels with regard to various complexity-related valuation activities to structure interviews transcripts. Next, axial coding was performed to identify complexity patterns and relevant factors associated with task complexity (see [appendix 2](#) for coding scheme). Subsequently, to support and authenticate the coding process and offset potential coding bias, a focus group discussion took place in June 2017 for triangulation purposes. Involving 10 of the interviewed valuation professionals, the purpose of this discussion was to i) present and discuss initial outcomes on coding analyses; ii) allow for participant feedback to amend coding schemes; and iii) improve internal validity of obtained results (Bacharach, 1989). The focus group discussion, led by one researcher and two research assistants, was digitally recorded and fully transcribed for subsequent analysis purposes. The focus group session helped us to prioritise key issues of task complexity and relevant contextual aspects and was used as input for the final coding stage. This final stage, selective coding analysis, was aimed at specification of the core variables of task complexity and relevant influential factors related to the task or the task environment.

3.3. Data presentation

In order to avoid blurring between interpretation of respondents and interpretation by researchers, findings are presented as either first-order or second-order findings (Van Maanen, 1979). First-order findings represent interpretations of participants experiencing a phenomenon (i.e. overview of respondents' input) during interviews and the focus discussion group (Bacharach, 1989). Second-order findings represent authors' interpretation of interview data (i.e. interpretations of respondents' interpretations) and abstraction to contribute to a theorised overview on valuation task complexity (Jones & Alony, 2011).

4. First-order findings: perceptions of task complexity

In order to provide a systemised overview of data obtained from 18 in-depth interviews, we have structured and grouped valuation activities according to respondents' input. In

doing so, we drew on Bonner's (1994) input/process/output stage schedule to structure and present data on task complexity in order of real-life appearance. We start with input stage activities (i.e. valuation instruction, data collection), followed by the process stage (i.e. data analysis and value assessment) and conclude with output stage tasks (i.e. reporting and delivery). In addition, based on the varying organisational and contextual backgrounds of respondents, we have distinguished views of valuers employed by (inter-)national all-round valuation practices ('largeco valuers') from those working at regional small and medium-sized valuation practices ('SME valuers') and independent self-employed valuation professionals ('self-employed valuers') where appropriate.

The following section summarises interviewees' responses on six themes of task complexity that occur respectively in the input stage (one theme), process stage (three themes) and output stage (two themes) of commercial valuation practice and describes how valuers may behave when confronted with such complexity.

4.1. Input stage

Standard activities in the input stage usually involve valuation instruction, information collection and property inspection. Respondents indicate that task complexity in this stage may arise with regard to (upfront) client management.

1) Upfront client management. On average, relatively simple and straightforward office valuation instructions take between 8 and 12 hours according to respondents, a time budget on which fee levels are based accordingly. Such a narrow timeframe puts strict demands on each phase of valuation. In the input stage, respondents are dependent on the client for delivering relevant property information or returning a signed instruction letter. A delay in the input stage may cause concerns over forthcoming valuation stages on account of tight time budgets and hence may raise deadline concerns according to respondents (R4: 'Clients may sometimes not be appreciative of valuation instructions, for instance in case of accounting purposes'). Such delays may relate to time spent on i) explanation of valuation reporting requirements and related fee levels; ii) ensuring timely retrieval of accurate, complete and authenticated property-related information; or iii) downsizing optimistic value outcome expectations by clients. Respondents claim these input stage complications may appear predominantly when working with clients that have limited or no in-house valuation practice expertise, such as SME companies, owner-occupiers or retail banks. Respondents indicated that clients lacking valuation expertise may be overwhelmed by 'sudden' property checklists or commented on owners that may be unwilling to share what is considered confidential information (R5: 'It's sometimes quicker to go down there and sort out relevant information myself, rather than wait here while the clock is ticking'). The fact that since the outbreak of the financial crisis in 2008, Dutch banks seized the role of formal counterparty in instructions may have stimulated this less cooperative sentiment amongst property owners, according to respondents.

In pursuing time-efficient client management strategies, respondents highlighted they may choose different lines of action. Some SME respondents indicate they would refrain from client contact as much as possible to avoid lengthy discussions and attempt to retain procedural power by simply referring to their general

conditions (R10: 'The work shall start upon timely receipt of information'). Others expressed a preference to invest in the client relationship to speed up the input stage. Thirdly, some SME respondents attempt to speed up the input stage by meeting their client at the subject property's site and combine a property inspection with information retrieval. Largeco respondents did occasionally mention such client matters during interviews, as they benefit from in-house sales teams that handle client contact or from online access to data rooms containing relevant information. Their client base contains to a large extent institutional investors or finance banks for which they process portfolio instructions. Their main concern is therefore related to efficient process management and timely delivery of valuation packages to avoid any client indemnity claims. Self-employed respondents may work with similar non-real estate clients and experience similar complications as SME respondents. Yet, they seem more uniform in their approach when working on niche or specialist valuation instructions, as most self-employed respondents claimed a preference for upfront meetings with their client (or their advisors) to gain as much property information (background, history, plans) as possible (R14: 'The client sits on a pile of relevant information he is often not aware of'). However, these specialist respondents indicated a wider time span available for input stage activities and higher associated fees due to the complexity of their assignments.

4.2. Process stage

Typical activities in the process stage of valuation practice include comparable transaction analysis, market sentiment analysis and modelling considerations. All three steps may provide task complexity challenges according to respondents.

2) Comparable transactions analysis. An important and sometimes time-consuming activity in the process stage is research and analysis of comparable rent and price transactions, which serves as guidance to the subject property's value assessment. The acceptance of a specific recent transaction in relation to the subject property requires careful judgement, according to respondents, not only with regard to the comparability of a conceived transaction, yet also in relation to the quality of information provided on the specifics of that transaction (R6: 'You need information on the property's transactional context to determine the relevance of a comparable'). Where largeco respondents often use an in-house transaction database that is fuelled and verified by research and brokerage departments, SME and self-employed respondents indicated they frequently sourced subscribed industry-wide transaction databases for comparable transaction evidence. Unfortunately, the information quality of subscribed databases is perceived as average, as they do not always offer full transaction information for confidentiality reasons. This implies the need for verification. Both SME and self-employed respondents indicated they would contact brokers in the market involved in the specific transaction for this purpose, consult in-house agents to discuss the soundness of registered database information, or visually inspect relevant comparables to verify comparable property information and understand the finesses of a recent transaction (R11: 'It may prove to be very difficult to ascertain the authenticity of registered features of comparable transactions'). Some self-employed respondents constructed their own

database by recording and analysing potential interesting transactions within their niche area.

3) Market sentiment analysis. Obtaining an accurate and up-to-date view on current market sentiment relevant for the subject property requires the valuer to judge and select sources of market information, most notably in relation to consultation of peers, brokers and other market participants. This is a relatively unstructured yet important task for most respondents, arguing that current market sentiment insights are essential as information on comparable evidence may fall behind on current market developments, especially in dynamic markets (R3: 'Buying information is buying history'). Most respondents indicate they often consult in-house broker departments to get a sense of market sentiment whenever a transaction closed. Such transactional details are usually not provided outside the organisation, and hence in-house brokers are generally perceived as the main link to the market place for both largeco as SME valuation respondents (R7: 'I need to talk to in-house colleagues from letting or brokerage departments to feed me with the latest information on market sentiment'). Some respondents highlighted they benefitted from personal broker experience in understanding the current market sentiment (R4: 'Valuers need to understand real estate transactions, which is something they can learn from transaction brokerage experience'). Self-employed valuers who do not have the luxury of in-house brokerage colleagues, indicated that they spend significant time on market sentiment analysis, by consulting relevant market parties or analysing research reports and newsletters (R16: 'I spend most time on research, contacting brokers and so on to find out investors preferences and risk appetite').

4) Modelling considerations. Respondents make use of different valuation models to support their value estimates, including DCF, income capitalisation, and specific software models such as TMI (a Dutch valuation software tool). The use of valuation models requires valuers to judge the validity and reliability of input parameters and chose appropriate modelling support. Largeco respondents indicated they were often fuelled by research departments who undertake market analysis to support various modelling input assumptions (such as DCF discount rates and exit yield determination) or even have in-house researchers attending expert client meetings to explain and discuss market visions (R2: 'Selling your product requires rationale and substantiation'). Many SME and self-employed respondents did not benefit from such in-house support to underpin valuation models. They indicated (substantial) effort was required to find and analyse relevant parameters through consultation of market participants and brokers or examination of research reports. In coping with this time-consuming process stage activity, some SME respondents claimed a preference for the income capitalisation method, as DCF models were perceived as too complex due to a variety of forward-looking input variables (R9: 'I often reject the use of DCF. What does the average client know about exit yields or discount rates?' and R7: 'I don't feel comfortable enough to use a DCF model for this property, due to the number of input variables to consider'). Others expressed a preference for the use of two models to allow for a comparison (R8: 'I always employ several models to check on modelling errors and support a property's value'). Thirdly, some SME respondents stated they prefer TMI software to ensure model profoundness, yet felt sometimes uncertain in explaining presented outcomes,

due to the 'black box'-nature of automated software. Self-employed respondents working on non-core valuation assignments observed various modelling issues. Appropriate modelling choices seemed to be based on judgement of the specifics of the valuation instruction, as well as likelihood of retrieval of relevant input parameters within due time and reasonable effort (R18: 'I sometimes have to contact local governmental institutions to obtain relevant property information').

4.3. Output stage

The output stage is characterised by the submittal of draft reports, potential client feedback to drafts and finalisation of reporting prior to delivery. In the output stage, discussion and modification of draft valuation reports are two complexity-related activities identified during interviews.

5) Discussion of draft valuation report. Respondents indicated that client discussion in the output stage can become problematic depending on the draft figures presented and the commercial interests of the client. While respondents indicate they may opt to present draft reports for reasons of fact checking or explanation of the valuation rationale, clients may choose to express their disappointment in presented figures or attempt to motivate valuers to alter draft figures (R7: 'More than half [of clients] indicate their preferred value outcome'). Respondents had different views towards draft reporting discussions. Some argued they intentionally organise client meetings for fact checking purposes before final clearance (R12: 'I may have been sloppy on account of work pressure') or to avoid client friction (R5: 'It is important that the client understands what I have written down to avoid friction. The more questions I get, the better'). Some largeco respondents indicated expert clients usually expect a meeting to discuss value assumptions (R1: 'A good valuer will look forward to discuss market views yet needs to uphold one's own value margin'). Others expressed that a client meeting also presented the opportunity to talk to active market participants and sharpen their own market views. Finally, a number of largeco respondents highlighted that such meetings would also encounter process management issues, especially with large portfolio assignments. Some SME respondents indicated that they choose to avoid client meetings on account of the type of client they serve, or only attend upon client request (R9: 'Non-real estate clients will typically pose unwarranted questions'). Yet others preferred actively seeking face-to-face contact in light of client relationship management. Self-employed respondents stated they may need to sit down and explain their valuation outcomes to unknowledgeable clients. Furthermore, during such meetings clients may generate new yet relevant information on a complicated property valuation that self-employed valuers need to consider before final clearance of their report.

6) Modification of draft valuation report. Draft reports may be subject to alteration in case of identified errors or last-minute market information becoming available. While the former should take limited effort, respondents indicate that in case of updated information, for instance on recent comparable transactions, valuers put effort in judgement of both source and information verification. Serving institutional investors, largeco respondents stated that verification of fresh, confidential or client friendly market information may be time consuming yet serves little impact (R3: 'Quite frankly, in 90% of instances we see no

reason for modification'). Other respondents indicated that, depending on the valuation purpose and commercial interests, they may consider reaching a certain threshold number in case they 'come sufficiently close to consider' (i.e. rounding) as long as value estimates are still sufficiently substantiated in the report (R12: 'As long as I can defend amendments by available market data, I am willing to reconsider my views on the subject property'). Both SME and largeco respondents stressed that they focused on retaining their decisional power over modifications in case of client feedback, to emphasise their independence and expertise. This is because both real estate and non-real estate clients may exert unsophisticated pressure on respondents to alter values, such as non-payment or future business retention. Working on complicated valuation assignments, some self-employed respondents claimed their clients may present updated or new property-related information, leaving the valuer with last-minute verification issues and judgement calls on its relevance in relation to final value assessment (R14: 'When a client sees the draft figures, they may try and alter these by presenting updated property information').

In summary, respondents state that different stages of valuation contain different elements of task complexity, relating to both task components and task environmental settings. As such, tasks in all three stages required valuers to weigh and select alternative lines of action to manage task complexity. Whereas the input stage mostly involves cognitive effort related to client communication, the process stage of valuation characterises itself by cognitive effort related to analytical and data quality activities. Output stage activities require both communicative and analytical effort to arrive at a final value assessment and submission of a valuation report.

Furthermore, we find that experiences of task complexity differ by type of valuer. For example, in the input stage largeco respondents may to some extent experience client management complexity, yet less than other types of valuers as they work more often with professional real estate clients. Likewise, self-employed valuers exhibit more effort on modelling complexity in case of complicated valuation assignments compared to mainstream valuers.

In addition, we note that when dealing with elements of task complexity, valuers may employ different coping strategies to reduce or offset its complexity effects. Where SME respondents may either refrain from client contact in the output stage as much as possible, or proactively seek client contact to sustain long-term client relationships, self-employed respondents explained they predominantly arrange for client contact whenever needed to keep progress on their valuation instructions. Dealing with similar task complexity triggers different kinds of behaviour between the three types of valuers, yet SME respondents seem to exhibit greatest diversity in their reasoning strategies compared to other respondents.

In [Figure 1](#), we have illustrated the six aspects of perceived task complexity identified in the different stages in the valuation process. Next, in order to provide more contextual information and to endorse a better understanding of the occurrence of task complexity, we turn to our second-order findings.

5. Second-order findings and theoretical implications

We started our paper by introducing the need for a closer examination of valuation task complexity in order to be able to obtain a comprehensive understanding of valuer

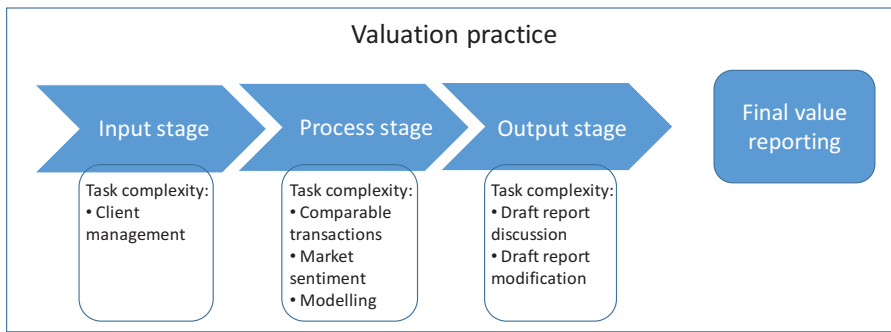


Figure 1. Perceived aspects of task complexity in Dutch valuation practice according to valuation stage.

judgement behaviour. Hence, the outcome of our grounded theory approach study should offer a theory of the ‘middle-range’, connecting general theories (i.e. on valuer judgement behaviour) to a more specific context of, in our case, types of commercial valuers (Corbin & Strauss, 2008; Rose et al., 2016). During interviews, respondents were encouraged to explain their perceptions of task complexity. As such, they elaborated on the task environment in which they operate and discussed features of their organisational setting, market positioning and client base. This input provided valuable contextual information with regard to gaining an understanding of their perceptions of task complexity. More importantly, we discovered that the contours of the task environment vary according to type of valuer (i.e. largeco/SME/self-employed valuer). As such, contextual information on work settings of respondents enabled us to construct different task environments for each type of respondent. These constructs of respondents’ interpretations are labelled second-order findings and are generated as an intermediate link connecting valuer perceptions to theoretical implications on valuer task complexity.

Next, we describe our second-order findings by means of task environment constructs of largeco respondents, SME respondents and self-employed respondents, respectively, and illustrate how these environmental settings may impact respondents’ perceptions of task complexity. We conclude this chapter with an overview of theoretical implications on valuation task complexity in relation to the current knowledge base on valuer behaviour and judgement bias.

5.1. Second-order findings: constructs of task environments

Largeco respondents predominantly work for larger clients due to their ability to process large-scale (portfolio) valuations in a time-efficient manner. Such clients often represent professional real estate companies such as institutional investors or finance banks that either manage or finance real estate and require periodic valuation updates. With real estate being their primary business activity, key contact persons within these client organisations often possess (significant) valuation expertise themselves. Furthermore, the significant trading volumes motivate these clients to focus on timely

processing of their valuation requests, and to work with several valuation firms that are rotating periodically for quality control purposes. Hence, market competition is mainly encountered from other large (inter-)national valuation offices. Working with such clients, largeco valuers are concerned with optimisation of valuation lead times and avoidance of process delays. Process management is considered a main priority (R4: 'Whenever things are delayed for reasons beyond our control, the client is informed immediately to avoid any misperceptions over our process management skills. That would raise serious concerns with our clients'). In addition, most largeco respondents claimed they work with pre-negotiated valuation instructions to facilitate a rapid valuation start and enjoy (fully) automated and digitalised valuation processes to ensure maximum efficiency. On the other hand, largeco valuers have to match high client expertise, for instance during draft reporting meetings, which is why they often work in specialised industry-specific teams serving a particular type of client (i.e. bank clients team, care industry team, et cetera). Furthermore, they often maintain close contact with other departments within the organisation such as investment brokers, letting agents, consultants and research & development teams to support and validate their value assessments. Hence, they frequently benefit from premier information quality facilitated in-house to service client discussions, and (fully) automated workflow schedules to enlighten routine tasks. As such, largeco valuers attempt to meet high client standards on process execution as well as market expertise, while working on tight deadlines.

SME respondents often work at real estate organisations with a regional presence in which different business lines are offered besides valuation, such as brokerage and property management. Although they may work for finance banks and professional real estate clients as well, requiring in-depth market knowledge, they usually do not process large portfolio valuations. A significant number of their clients involve local owner-occupiers, retail banks, local public institutions and private investors; clients with modest levels of in-house valuation expertise that quite often do not sufficiently match the valuation expertise of SME valuers (R13: 'Quite regularly, clients may ask for a valuation for finance purposes while they are actually in need of a valuation report for another purpose such as fiscal transfer' and R11: 'I often have to talk in layman's terms to explain the process and obtain relevant information'). SME valuers may sometimes work with standardised valuation instruction forms in case of recurring clients. Additionally, valuation processes of SME respondents are to some extent automated and digitalised, yet not as sophisticated as compared to some of the largeco valuers due to lack of scale. They frequently cope with fee competition from both other SME valuers as well as small-scale or self-employed valuers working from home offices, who bring down valuation fee levels. Hence, available time budgets are felt to be under pressure (R11: 'I feel obliged to work nights or weekends to complete valuation reports'). As their team sizes usually do not allow specialisation, SME respondents tend to perform all-round valuation services. To facilitate market input, SME valuers usually have an in-house brokerage department, yet they often lack a (sizeable) research department to assist in data verification and information analysis. In summary, clients of SME valuers often lack (detailed) valuation expertise and may have less concern with process execution as they usually do not request portfolio valuations. Nonetheless, SME valuers experience to a certain extent comparable tightness in deadlines as do largeco

respondents, while they seem to lack the level of in-house support or process automation that the latter enjoy.

Self-employed respondents are often specialised in performing valuation services. They have typically developed valuation expertise in certain geographic areas or have specialised in certain niche types of valuation which they perform nationwide, such as industrial complexes or leisure properties. Their specialism offers them to some extent a privileged position in terms of fee negotiations due to limited competition (R15: 'In our market, we deliver tailor-made reports that constitute 35–50 pages depending on the number of buildings erected on-site'). Alternatively, when competing with SME valuers on standard property value assignments within their region, they may offer competitive fee levels working from their home offices. They tend to work for a variety of clients depending on their expertise, however most of their clients are non-professional real estate parties such as owner-occupiers. Furthermore, they may be contracted by other valuers who seek niche expertise in case of specialist valuation requests. Similar to SME valuers, self-employed respondents may use standardised instruction forms, however on many occasions they need to guide unfamiliar clients through the input (and other) stages of valuation (R17: 'I always perform a final client check to ensure all relevant information is incorporated in the value assessment'). Although they often work on complicated or specialist assignments, they lack in-house R&D or brokerage support. This is why self-employed valuers spend significant time on research and market analysis themselves, for instance by networking and database management. Finally, they only enjoy basic standards of work flow automation, as their organisational setting lacks scale or resources for considerable IT investments. Yet, this presumed lack of process optimisation is to some extent offset by lengthier valuation lead times to accomplish their specialist work. In conclusion, self-employed valuers work predominantly for clients with limited valuation expertise and limited process execution concerns when working on specialist valuation instructions. However, working independently they lack support in value assessment while usually benefiting from limited process automation due to cost or scale issues. This is offset by less strict timeframes to accomplish their instructions.

For clarification, we have summarised key variables of task environment constructs in [Table 2](#) below.

5.2. Theoretical implications

Previous research has highlighted the complicated valuer-client relationship and the implications of information ambiguity for the quality of valuation assessment. Valuers may experience judgemental dilemmas when coping with information ambiguity or client influence, which may lead to inter-/intrapersonal judgement bias (Klamer et al., 2017). By relating our findings to the current knowledge base on intrapersonal and interpersonal judgement bias, specifically with regard to the valuation context in which judgement bias may occur, we are able to progress our understanding of valuer judgment behaviour.

Table 2. Constructs of task environments.

Existence of:	Largeco valuer	SME valuer	Self-employed valuer
Client process standards	Medium to high frequency	Low to medium frequency	Low frequency
Client expertise standards	Medium to high frequency	Low to medium frequency	Low frequency
In-house support	High (R&D, brokerage, letting input) frequency	Medium (brokerage, letting input) frequency	Low frequency
Process automation	Medium to high automation	Medium automation	Low to medium automation
Time budgets	Tight	Medium to tight	Medium

5.2.1. *Intrapersonal judgement bias*

The process stage of valuation requires cognitive effort to perform information-rich tasks such as comparable transaction and market analysis. Previous research points to the presence of heuristics such as anchoring bias or recency bias in comparable transaction selection (Diaz & Hansz, 1997; Gallimore, 1994, 1996; Tidwell & Gallimore, 2014). Our findings confirm the complexity of analytical activities in the process stage, especially for SME valuers and self-employed valuers. While information ambiguity requires judgement and selection from all types of valuers, smaller-sized valuation teams usually lack in-house support to assist in data verification. Given current limited time budgets in valuation nowadays, a lack of such support may provide an environmental setting in which heuristic bias is more likely to occur. It is not said, however, that largeco valuers are less prone to intrapersonal bias *because* they enjoy substantial in-house support. Processing entire portfolio valuation instructions requires significant cognitive effort, which may elicit associated bias risks as well.

Likewise, our findings point out that SME valuers and self-employed valuers enjoy less advanced levels of automated work flows than largeco valuers do. We learned that assignments of stand-alone commercial properties take on average 8–12 hours to complete. Working on tight time budgets, process automation may assist in expediting time-consuming routine tasks such as drafting of reports, filing or information retrieval. Consequently, a lack of IT-support may create a setting in which intrapersonal bias is more likely to occur, although respondents seem to find different ways to deal with strict deadlines (i.e. junior employee involvement or back-office assistance).

Both in-house data expertise and process automation may therefore support valuers to spend sufficient time on cognitive tasks and hence reduce the likelihood of intrapersonal judgement bias in value assessment.

5.2.2. *Interpersonal judgement bias*

Previous research has indicated that professional real estate clients may use ‘expert power’ to influence valuer’s final assessment. This predominantly occurs in the final valuation stage when draft figures are presented during client meetings (Baum et al., 2000; Levy & Schuck, 1999, 2005). Our findings confirm the ‘environmental’ presence of clients throughout valuation practice but may nuance its effects to some extent. Expert clients may relieve some of the input task complexity, as this type of client is generally aware of valuation instruction procedures and may anticipate property information

verification. However, anticipated draft meetings with knowledgeable clients may motivate valuers to put additional effort in process and output stage activities to prepare for expert questions. Likewise, non-expert clients may complicate input stage activities as our findings have illustrated, yet may generate less complications in the process stage. In case of complicated assignments however, (additional) meetings with non-expert clients may take place throughout valuation practice to ensure collection of all property information deemed relevant or explanation of valuation steps performed.

Furthermore, we know that valuers may be susceptible to last-minute value adjustment pressure by clients, while lacking sufficient time for data verification and analysis (Kinnard, Lenk, & Worzala, 1997; Nwuba, Egwuatu, & Salawu, 2015). Non-expert clients may use unsophisticated means to pressure valuers (i.e. non-payment), as they lack expertise to change valuers' market perceptions (Levy & Schuck, 1999). Our findings confirm that all types of clients may exert value adjustment pressure, yet not all types of clients seem to have equal means to do so. We recall that client expertise (besides client retention) is an important consideration for respondents to attend a client meeting in the output stage, as expert client meetings may provide an opportunity to obtain up-to-date market intelligence and update one's own market views (R9: 'Why bother organising a client meeting if the client only focuses on the bottom line figures?'). Alternatively, valuers may choose to attend non-expert clients for client relationship purposes to ensure subsequent instructions, which may trigger bias opportunities as well. Hence, interpersonal judgement bias risks may be activated in both expert and non-expert client settings depending on environmental settings.

6. Discussion

We have aimed to illustrate how perceptions of task complexity may differ between valuers by interviewing a group of experienced Dutch commercial real estate valuers. The structured process of grounded theory, saturation of data by means of in-depth interviews and focus group discussion contribute to the validity of results (Corbin & Strauss, 2008). However, our research approach yields some important limitations that we will address below.

First, we point to the phased outline of our first-order results by means of three valuation stages that appear in chronological order, which may be considered common practice in similar descriptive research of task complexity (Bonner, 1994). While this has helped to identify how perceptions among respondents may vary, respondents have indicated that some activities may be performed simultaneously rather than sequentially (e.g. reporting) or may have reiterative patterns (e.g. modelling). For clarification purposes we have ignored the concept of 'dynamic' task complexity, which involves the (in)stability of task relationships over time (Wood, 1986). Inclusion of such an element of task complexity would probably add to the overall perceptions of task complexity yet would require a form of longitudinal research.

Second, we point to our data sample. The use of grounded theory protocols (e.g. theoretical sampling, constant comparison of data and coding schedules) led us to compile a field sample of 18 senior commercial valuers with various professional backgrounds, facilitating a broad range of perceptions on task complexity. However, our data do not provide a full overview of coping strategies when faced with such task

complexity. Using an interpretative approach, we aimed to point out the diversity in valuer behaviour, rather than providing a comprehensive overview of occurring behavioural patterns.

Finally, our results should be regarded as descriptive for the Dutch valuation industry. Although we recognise that regulation from professional institutions RICS and TEGoVA has significantly contributed to the creation of uniform international valuation standards over the years (and likewise, harmonisation of international valuation practice), domestic market settings may have their own specifics in terms of legislation or market transparency that prevents cross-border generalisation. The Dutch valuation industry is considered mature, as pointed out before, yet faced a noteworthy development recently: the launch of the new Dutch valuation authority 'NRVT' in 2016 which implied advanced regulation for the industry (NRVT, 2016). This required a period of familiarisation with adjusted game rules for both valuers and clients, indicating temporary additional task complexity in the input stage of valuation (i.e. instruction letter amendments).

Besides industry specifics, we also point to the dynamics in the real estate market itself that may affect perceptions of task complexity. At the time of interviews in spring 2017, the Dutch real estate market was featured by positive market sentiment on account of economic growth and low interest rates, fuelling demand for valuation services across the industry (JLL, 2017; NVM, 2017). Virtually all respondents indicated they anticipated 'plenty of work' and none expressed concerns about the pipeline of new business, which may affect perceptions of valuer-client relationships, and related task complexity aspects.

The above findings point out that our results on task complexity should hence be regarded as 'situational knowledge' within the Dutch valuation practice (De Boer, 2011). Future research may address the importance of local market and industry settings in understanding local valuer behaviour.

7. Conclusions and recommendations

The aim of our study has been to explore the manifestation of valuation complexity in a relatively mature real estate market as the Netherlands. Using a grounded theory approach, we interviewed senior Dutch commercial valuation professionals to elaborate in close dialogue on their professional experiences. Specifically, we addressed the following research question: 'What are the perceived elements of task complexity in Dutch commercial valuation practice and how do experienced valuation professionals deal with these perceived elements of complexity?' Our findings yield three important conclusions.

First, we point out the existence of situational task complexity in commercial valuation, as valuers need to put cognitive effort in aligning various task components with environmental factors in six complex task modules throughout valuation practice. Input stage complexity is generally related to (non-expert) client management issues to ensure an appropriate valuation start, while process stage complexity requires analytical effort to assess (ambiguous) market information and comparable evidence. Output stage complexity corresponds to dense client discussions and last-minute report modification choices and so involves both analytical and communicative cognitive effort from valuers. Such perceptions of task complexity differ by type of valuers, as valuers working at large valuation firms more often work for expert clients such as institutional

investors or finance banks than those employed by small and medium-sized valuation firms. Likewise, self-employed specialist valuers spend relatively more effort on analytical and modelling activities due to the nature of their often complicated valuation assignments.

Second, when dealing with these elements of task complexity, we found that different types of valuers exhibit different coping strategies. Although individual valuers demonstrated a broad range of reasoning behaviour, we found that the task environment is a key variable in explaining such divergence between types of valuers. These task environment constructs essentially represent elements of client standards, market competition and the valuation organisation. As such, we found that environment features strongly coincide with the perception of task complexity throughout valuation practice.

Third, we conclude that environmental features impact the extent of both intrapersonal and interpersonal judgement bias in commercial valuation practice. Intrapersonal judgement bias such as heuristic behaviour is more likely to be triggered in valuation settings that lack substantial in-house expert support and process automation to deal with information ambiguity. Interpersonal judgement bias as client pressure may prevail among all valuation types for client retention purposes yet is also related to (receptiveness to) client expertise exercised in draft reporting meetings.

Our findings also point out a number of recommendations.

First, while our descriptive research contributes to our understanding of the occurrence of judgement bias within the context of daily commercial valuation practice, further research is required to investigate the extent and magnitude of relationships between perceived task complexity, final value judgement and judgement bias.

Second, although environmental settings and task complexity strategies may coincide to an important extent, it does not explain why behavioural patterns may also differ *within* types of valuers. This indicates the need for examination of other factors besides the task environment that may influence value judgements or trigger bias-related behaviour. Most notably we point to idiosyncratic elements, such as motivation, cognitive and communicative abilities. In comparison with the audit industry, investigation of the impact of such elements on judgement behaviour remains considerably underexposed in the valuation knowledge base.

Finally, the perceived differences in task complexity among commercial valuers may yield important educational implications. Both analytical and communicative competences seem essential skills in dealing with task complexity (i.e. interpretation, assessment and judgement skills) and hence require advanced professional development in our view. However, such professional development should not be structured as a one-size-fits-all educational program, as the valuation profession, at least in the Netherlands, is a heterogenic population that deals with task complexity issues at different levels and in different settings.

Note

1. The audit industry is perceived to exhibit similarities in working processes and task setting compared to the valuation industry, which is why we drew on audit literature here. Please see also Kinnard et al. (1997); Worzala, Lenk, and Kinnard (1998); Baum et al. (2000); and Amidu and Aluko (2007).

Disclosure statement

No potential conflict of interest was reported by the authors.

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Appendix 1 Interview protocol

General respondent profile

- Age
- Years of experience
- Educational background
- Time spent on valuation
- Size of organisation
- Size of valuation team

Introductory question

- (1) Description of various stages when undertaking commercial valuation assignment

Instruction

- (2) Steps to perform from introduction to signing
- (3) Practical issues instruction letter
- (4) Conflict of interest and previous professional involvement
- (5) Valuation expertise in relation to assignment
- (6) Peer cooperation in relation to assignment

Information collection

- (7) Information retrieval in relation to property or market information
- (8) Information sources and research activities
- (9) Property site inspection and irregularities
- (10) Lack of information/poor quality data
- (11) Price knowledge or previous valuation knowledge
- (12) Client review

Information analysis

- (13) Fact checking and assumption verification
- (14) (Un)certainly over information quality/quantity
- (15) Risk analysis in relation to value assessment
- (16) Choice of valuation model in relation to value assessment
- (17) Tenant risk and property risk analysis
- (18) Assessment of value adding factors and related risks

Reporting and finalisation

- (19) Draft version submittal decision
- (20) Draft report discussion and modification
- (21) Client interests and client pressure

- (22) Value range and final value estimate
- (23) Quality measures

Client

- (24) Independency issues and client relationship management
- (25) Client satisfaction and conflict management
- (26) Client requests and value assessment
- (27) Conflict and instruction management
- (28) Transaction context relevance
- (29) Quality control versus client deadlines

Other

- (30) Other complications in valuation practice
- (32) Complicated property valuation
- (32) Impact of regulation on valuation practice

Appendix 2 – Axial coding scheme

INPUT
<ul style="list-style-type: none">• Client contact• Instruction letter• Information retrieval (market, client, database)• Property inspection
PROCESS
<ul style="list-style-type: none">• Model (choice, input parameters)• Market sentiment• Comparable transaction analysis (reliability)• Value assessment• Accountability
OUTPUT
<ul style="list-style-type: none">• Reporting• Draft report (submittal, explanation, adjustment)• Client feedback• Final delivery

TASK CONTEXT
<ul style="list-style-type: none">• Organisational support (research department, broker department)• Type of client (bank, investor)• Client valuation expertise• Motivation valuation request (transaction, annual account)• Business process (workload, efficiency, assistance, time budget, quality management, filing)• Industry regulation (NRVT, RICS)• Market setting (fee levels, competition)
TYPE OF PROPERTY
<ul style="list-style-type: none">• Nature of property (simple/complex)• Research effort• Substantiation and explanation• Timing• Modelling