Investigating the UAE Residential Valuation System: A Framework for Analysis

Simon Huston, Ebraheim Lahbash, Ali Parsa

Abstract—The development of the United Arab Emirates (UAE) into a regional trade, tourism, finance and logistics hub has transformed its real estate markets. However, speculative activity and price volatility remain concerns. UAE residential market values (MV) are exposed to fluctuations in capital flows and migration which, in turn, are affected by geopolitical uncertainty, oil price volatility and global investment market sentiment. Internally, a complex interplay between administrative boundaries, land tenure, building quality and evolving location characteristics fragments UAE residential property markets. In short, the UAE Residential Valuation System (UAE-RVS) confronts multiple challenges to collect, filter and analyze relevant information in complex and dynamic spatial and capital markets. A robust (RVS) can mitigate the risk of unhelpful volatility, speculative excess or investment mistakes. The research outlines the institutional, ontological, dynamic and epistemological issues at play. We highlight the importance of system capabilities, valuation standard salience and stakeholders trust.

Keywords—Valuation, property rights, information, institutions, trust, salience.

I. INTRODUCTION

RESIDENTIAL Valuation Systems (RVS) facilitate property market functioning and include system boundaries, elements (stakeholders, institutions), processes (valuation practice and standards), outputs (registration, valuations, market reports) and feedback mechanisms (prices). The RVS records ownership, documents transactions, transfers title, evaluates risks and estimates various values. The RVS strengthens market transparency and facilitates appropriate private and public investment. It strengthens conurbation resilience to multiple pressures (strategic, hydrological, technological, demographic, financial, and climatic). The ultimate RVS output is trust, substantiated by registration clarity (property title, tenure, encumbrances, and boundaries), jurisdiction-dependent standards and credible valuations [1]. Local valuation practices engage with International Valuation Standards (IVS) produced by the International Valuation Standards Council (IVSC) but cultural and operational issues mean that valuations can diverge widely. In the UK, Market Value (MV) is distinct from Investment Value (IV) or mortgage valuation for banks [2] but all are opinions whose reliability is conditioned by the institutional setting and the

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evidence supporting values [3], [4]. To benchmark a valuation system involves the assessment of constituent institutional capabilities, the salience of professional valuation standards and the trust key stakeholders place in system valuation outputs.

II. FACTORS AFFECTING VALUATION RELIABILITY

Factors Affecting Valuation

- Institutional capacity
- Ontological complexity
- Market dynamics
- Information asymmetry

A. Institutions

Cities are a 'complex jumble of independent but inter-dependent activities' [5]. The RVS institutions are macro (legal framework) or micro (regulatory bodies, real estate companies, banks) but extend to processes, ethics and valuation standards [6]. Issues of formal and informal organizational and network architecture (structure) [7]; practices and cognitive social capital (values, beliefs, attitudes, behavior and norms) are involved [8]. Social capital refers to trust, solidarity and reciprocity that valuation stakeholders may or may not share [9]. To engender trust, RVS institutions should keep secure and appropriately detailed records of ownership, charges (easements) and transactions. Systems should measure and document areas and boundaries and note conditions. In terms of practice, RVS practitioners should be aware of valuation standards (salience). RVS institutional collaboration must not compromise practitioner valuation independence. System valuers should avoid conflicts of interest and objectively assess subject properties.

B. Inherent Ontological Uncertainty

Ontology refers to the physical constitution of fragmented markets where consumers attempt to process information and reconcile multiple geographical and building quality attributes. Any RVS confronts complex ontologies in terms of spatial sub-markets and dwelling characteristics. Each conurbation in the Emirates is distinct as are intra-urban locales. Locales appeal is influenced by multiple positive and negative factors (status, socio-economic profile, climate risk, waste dumps, access to jobs and facilities, air quality etc.). Dwellings are also unique in terms of (site, design, structure, energy-efficiency, area, views and cultural suitability to buyer segments). To determine MV, the RVS needs to evaluate locales and building/dwelling quality and assess its monetized appeal (demand) by various active market players. The task is

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rendered more challenging with unusual properties or when special purchasers are active.

C. Dynamics

Property markets, at different stages of maturity, evolve endogenously (internally) subject to infrastructure disjunctures. In fast-changing cities like Dubai new malls sprout or roads are built quickly. Planning permission or infrastructure announcements alter the risk landscape and signal development opportunities or danger. Markets like Dubai are also exposed to exogenous (externally) disturbances. Exogenous influences include unforeseen financial, macro-economic or geo-political events (e.g. the Syrian war) and natural or man-made disasters (e.g. Tsunamis or oil spills). The RVS should include mechanisms to monitor and distribute information about internal and external market conditions, liquidity fluctuations or sudden changes in capital market sentiment that can alter MV. In the aftermath of shocks, valuations confront empirical data constraints or inconsistencies which can be compensated, but only up to a degree, by common sense and professional judgment. In short, markets are dynamic and can become volatile.

D. Information

Knowing the dynamic context, RVS players need to analyze the forces of change shaping values [10]. Information restrictions undermine valuation reliability. In any event, the nature and source of information relied on should clearly be stated and attention drawn to any limitations. Ironically, when markets become illiquid and demand for quality RVS intelligence is acute, transaction data dries up, undermining empirical valuation support. Hence, RVS data quality (relevant, valid and timely) is critical. RVS assessment needs to vet the environmental scanning (ES), decision support systems (DSS) and data integration architecture (human and IT). Market players seek data quality assurance, indicted by the dissemination of robust empirical property data on underlying contractual legalities, spatial and building characteristics and market dynamics.

III. INVESTIGATING THE UAE RVS

A robust assessment of UAE residential valuation system (UAE-RVS) begins with a market determination to establish the level of market maturity and identify the key players in the main Emirates. With the market landscape clear, the research investigates RVS institutional capacity. Institutional analysis (IA) documents departmental interactions and administrative processes involved in property registration and valuation. IA then collects evidence on valuation standards and valuation protocols in use. One site observation, player survey and interviews establish whether the UAE-RVS collects useful ontological and dynamic intelligence. The research looks for indicators of exemplary practices such as environmental scanning (ES).

In terms of determining RVS intelligence capability to render ontological complexity, property pathology and gauge market dynamics as illustrated by Fig. 1. ES involves

collecting, registering, categorizing and synthesizing [*ibid*. 10] diverse literary and oral sources of RVS institutional capacity and intelligence. The research identifies relevant operational indicators of praxis such as, for example, the application of spatial decision technologies such as GIS mapping for property registration, taxation, utilities charging and boundary dispute resolution. A modern RVS should harness remote technologies to conduct desktop research for registration, due diligence, mass appraisals or locales quality criteria for planning. Remote information should also be supported by systematic site visits by qualified professionals (surveyors) to measure subject properties, ascertain condition and record key features or encumbrances. For MV determination, grounded evidence supports the selection of appropriate comparable properties (similar recently sold or leased premises). Practical indicators of RVS institutional capacity could involve:

- Documenting the technologies utilized
- Recording surveyor qualifications
- Observing or querying practice

Indicators of RVS intelligence capabilities re market dynamics could include use of advanced modeling techniques to inform cyclical determination such as univariate (ARIMA) or multivariate econometric modeling [11]. Fig. 1 summarizes the constituent higher-order RVS domains for which key performance indicators (KPI) are required.
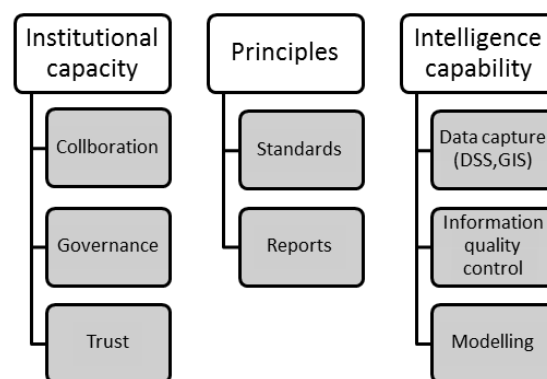

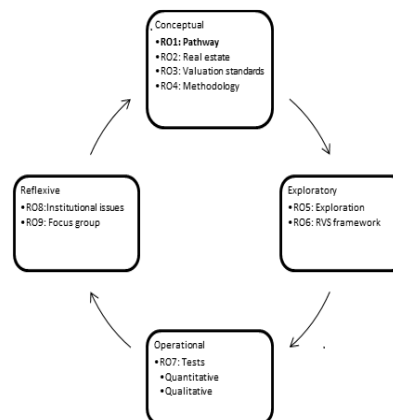Fig. 1 RVS constituents

IV. FRAMEWORK

Fig. 2 Overview of the research phases for a systematic investigation of the UAE RVS

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Having determined the main RVS constituents Fig. 2 illustrates the four phases for a systematic investigation of the UAE RVS. The first phase is a conceptual one which includes a systematic review of relevant academic and professional literature on real estate and its valuation. The conceptual phase is broken down into four constituent stages:

- Introduction to the research
- Literature reviews of property, property markets and valuations standards
- Research methodology

During its Exploratory Phase, the research documents the current institutions, standards and valuation practices in the three target Emirates (Abu Dhabi, Dubai and Fujairah). The stakeholder diagrams and land-use maps contextualize the RVS situation in each Emirate. The Operational Phase gathers indicator data on RVS entity capabilities, valuation standard salience and institutional trust. As required, indicative data for capabilities, salience and trust is gathered using an online survey instrument (questionnaire) or face-to-face interviews with UAE banking, realtor and government practitioner's and experts. Commercial and government sources provide price dispersion data for modeling. We use Lisrel to build structural equation models to investigate whether RVS robustness scores is linked to ex-post price dispersal between system generated valuations and subsequently realized prices.

TABLE I
OVERVIEW OF UAE-RVS RESEARCH PHASES

Stage	Title	Research objective
CONCEPTUAL PHASE		
1	Introduction	RO1: Identify the UAE-RVS problem and outline a pathway for a complete answer to it.
2	Real estate and real estate markets	RO2: Consider pertinent aspects of real estate markets which could impinge on the design of a valuation system for the UAE.
3	Global residential valuation systems	RO3: Review global residential valuation best practices
4	Research methodology	RO4: Determine methodology to investigate UEA-RVS.
EXPLORATORY PHASE		
5	Exploring valuation systems in the UAE	RO5: Document UAE valuation environments and practices.
6	Towards a UAE-RVS	RO6: Apply the exploratory findings to hone preliminary RVS.
OPERATIONAL PHASE		
7	Research evidence: testing the UAE-RVS	RO7: Operationally test the refined RVS using quantitative and qualitative research evidence.
REFLEXIVE PHASE		
8	Focus group meeting	RO8: Consider institutional issues which moderate UAE valuation systems.
9	Discussion, conclusion and recommendations	RO9: Conduct a focus group dialogue with valuation experts to corroborate key policy recommendations.

Table I above illustrates a structured research pathway, spanning market analysis and institutional evaluation (players, architecture, values and collaboration) with an assessment of intelligence (knowledge) capability (technologies, professionalism and modeling). Institutional capacity involves macro and micro considerations with structural and cognitive aspects, valuation standards and decision support technologies. A complete answer to the UAE-RVS question involves nine objectives (see Table I) and requires answers to corresponding subsidiary research questions. The nine project milestones mark progress towards a complete answer for the UAE-RVS question. Exploratory Phase research taps secondary sources (academic literature and professional valuation standards). The operational phase observes and documents UAE valuation standards, organizational structures, collaboration and spatial technologies (mass appraisals, DSS, GIS). We identify key RVS stakeholders and assess valuation standards salience and institutional trust via online survey or interview. The survey instruments collect details on valuation procedures, professional praxis, ICT networks and statistical forecasting modeling capability. The research will corroborate initial survey findings via stakeholder focus groups.

V. CONCLUSION

This paper first noted the UAEs rapid development but exposure to geo-political turbulence, migratory pressures and capital fluctuations. Property plays a significant economic role in the Emirati economy and in the rapid transformation of cities like Abu Dhabi and Dubai. Despite impressive urban growth, concerns have emerged about its sustainability. Leaving aside environmental issues, here we investigate residential property market sustainability. A robust residential valuation system (RVS) can help stabilize property markets or at least attenuate cyclical extremes. A developed market facilitates resource allocation, and helps attract and retain overseas investment funding for greener buildings and precincts. Reliable valuation, guides plans for urban resilience and balances short-term commercial impulses against the long-term sustainability imperative and community dwelling. In short, a fine-tuned RVS could help to tame speculative excess, wasteful or low-quality construction and aesthetically questionable architecture. In a stable and mature RVS, capable organizations employ advanced DSS technologies. In it, professionals are aware of valuation standards and stakeholders trust the system outputs. We intend to use structural equation modeling to test whether the latent concepts of 'capability', valuation standards 'salience' and stakeholder 'trust' are linked to price dispersal. Preliminary exploratory investigations suggest that cultural and operational issues likely complicate the engagement of local valuation practices with international standards (IVS). Practitioners voiced concerns about RVS institutional capabilities. In some quarters, valuation standards were not salient. Some stakeholders mistrust the system and revert to *ad hoc* practices to get reliable market data.

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