PROPERTY DEVELOPMENT: A BUSINESS PROCESS MODEL

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ABSTRACT

Property development constitutes one of the largest business enterprises and gross domestic product contributors of the world. The business of property development however incurred substantial losses over the centuries as a result of non-compliance to good governance in terms of considering all factors influencing perceived success of property development projects. The primary objective of this study was to develop a business process model for perceived success of property development projects, enterprises and role players. This model should guide role players, enterprises and actors within the property development business towards pro-active, effective and relevant decision making in achieving success in property development. To address the primary objective, a number of secondary objectives were raised whereby a conceptual model constituting identified variables was developed based on a comprehensive survey of the related literature. Appropriate hypotheses were formulated constructing a path diagram between the dependant variable and subsequent anteceding and intervening variables. Data was gathered using an electronic survey measuring primary data sourced from the identified international population of property development practitioners. This data was empirically analysed by means of structural equation modelling. The factors were namely financial risk forecast, consumer confidence and ability, procurement, urban planning, financial feasibility and practical viability considerations and professional feasibility and viability reporting, identified in the business process model affecting success of property development projects. This research broke new ground relative to the profession of property development in introducing the business process model for perceived success of property development.

1. INTRODUCTION

Property development is an exciting and occasionally frustrating, increasingly complex activity involving the use of scarce resources.

It is a high-risk business that often involves large sums of money tied up in the production process, providing a product that is relatively indivisible and illiquid (Wilkinson et al., 2008). Furthermore, the performance of an economy at national and at local levels directly influences the process. As the development process is frequently lengthy, the assumptions made at the outset may have changed dramatically by completion. Success very often depends upon attention to the detail of the process and the quality of the judgment that guides it. Success or the lack thereof however cannot be judged purely by the size of the profit or loss in financial terms although the profitability factor is a key indicator towards the perceived success of property development projects (Abbink and van Dokkum, 2008).

The production of the urban built environment and its influence on urban economic and property development is a complex, widely debated subject (Guy and Henneberry, 2000). Historical analyses have tended to fall into two broad groupings based on either mainstream economics or on Marxist theoretical assumptions, with both approaches addressing similar issues, although in different 'languages' (Needham, 1994; Guy and Henneberry, 2000). For different reasons, some researchers report that the strong focus on economic processes contained in these perspectives is not an adequate basis alone for considering property development as part of a business process and should therefor involve all factors effectively perceived success. (Guy, 2000; Cohen and Levinthal, 1990).

2.   THE RESEARCH OBJECTIVES

As a significant component of the global economy, it is expected that there would be extensive debate, analysis and attention centred on property development processes. The incongruous reality is that this sector has been largely overlooked and ignored by academics and economic commentators (Enemark, et al., 2010). Rarely have property development businesses been singled out as the focus of attention in its own right. This is unfortunate, especially if one considers the economic value of property development in general and the economic importance of the built environment as part of the macro economy.

The postulated problem statement states that property development projects do not achieve anticipated results as a result of the lack of defined business process models. Against this background, the main research problem investigated in the research, intends:

To identify the organisational and social variables that will ensure the sustainability and promotion of successful property development projects and businesses.

Thus, the postulated research objectives include:

- To identify the factors (variables) that will promote growth, sustainability and success of property development;
- Analyse existing guidelines governing property development theories;
- Analyse existing 'modus operandi' employed by professionals in property projects and development firms;
- Evaluate the synergy between existing guidelines and procedure related to property development modelling;
- Construct a theoretical model that will describe the relationships,
- Empirically test the proposed theoretical model among property development businesses so as to evolve realistic recommendations; and

- Evolve the business process model for perceived success of property development projects.

2.1   The property development business process

A business process is defined as a system of activities, material and information flows that together with sources and means in the defined organizational structure ensures reaching added value as a difference between input and output (Dulc, 2008; Hustic, 2009). A business process is the combination of a set of activities within an enterprise with a structure describing their logical order and dependence whose objective is to produce a desired result. Business process modelling enables a common understanding and analysis of a business process. A process model can provide a comprehensive understanding of a process. An enterprise can be analysed and integrated through its business processes. Hence, the importance of correctly modelling its business processes. Using the appropriate model involves taking into account the purpose of the analysis and knowledge of the available process modelling techniques and tools (Aguilar-Saven, 2004). The School of Advanced Urban Studies (University of Bristol) has produced a model of the process that shows property development moving from the status quo, the existing land uses, through development pressure and prospects, to the testing of development feasibility. If the tests are positive, development is implemented and a change of the existing use effected (Adelaja and Gotlieb, 2009). No evidence of a holistic business process model from the initiation until the post developed phase however exists until this research was undertaken.

The term business processes renewal includes changes of all business processes, but also the change of management processes (McHugh et al., 1995; Hustic, 2009). Therefore, to understand it, it is important to be familiar with and understand the synergistic activity of the process organization and its interdisciplinary consideration (Potocan, 2005; Hustic, 2009). People always aim at improving their activity. The idea of the process renewal is largely connected with the development of the process movement and goes back to the eighties of the 20th century. Systemic and process understanding of the activity and behaviour of an organisation created conditions for process consideration and related consideration of the process renewal (Potocan,et al., 2005; Hustic, 2009). A business process is a highly complex, dynamic and comprehensive phenomenon that is easier to get to know, study and renew using permanent improvement (Potocan, et al., 2005; Hustic, 2009).

Various variables have been identified as part of the property development business process. Property development practitioners require mentors in terms of specialist advice (Janasz, et al., 2003). Governance has been identified amongst other by (Hyden, et al., 2003) as perhaps the single most important factor in promoting development also relative to property development and the Built Environment. Then Cloete (2007) identified a feasibility study is an essential tool to consider the potential outcome of a property development project. Syms (2002) contends that property development is largely concerned with risk, as every property development project involves risk to a greater or lesser extent. Research statistics indicate that financial objectives as projected in the feasibility study are not always achieved during property development projects. From the developer's perspective, the development process involves risk right up to the point where the last unit has been completed, let and / or sold supporting the viability findings during the feasibility stage before the initiation of the project (Syms, 2002).

Nieuwenhuizen et al. (2004) added that a viability study as read with a feasibility study is an in depth investigation of the profitability of the business idea to be converted into a business enterprise. In the business of property development, the viability study is the first phase of business planning to establish whether a business idea is viable. A formal business plan normally follows onto the findings of a viability study. For an idea to be a viable business idea it must be marketable, the business must be manageable, and viable at a sustainable point.

The literature pertaining to the business process of property development identified important factors influencing the perceived success of property development projects. These factors, as well as those identified in the next section discussing property development and the Built Environment, form part of the theoretical model for realising the success of property development projects followed by and empirical analysed towards establishing the new business process model for property development projects that did not exist before.

3.   PROPERTY DEVELOPMENT AND THE BUILT ENVIRONMENT

Guy and Henneberry (2002) explain that the Built Environment is for most people, a 'taken for granted' aspect of the world. This conceptual challenge is an inescapable aspect of any interpretative encounter with buildings and cities, and in particular, any attempt firmly to define features of built form.

Based upon the review of the literature it is evident that the discipline of property development forms an integral part of the built environment, and the sustainable and viable further development thereof. The literature identified clearly defined factors that directly influence the perceived success of property development projects within the Built Environment landscape. In the context of property development projects, whether new-build or works to existing buildings, procurement refers to that part of the process whereby a contractor is appointed and the construction work is undertaken in accordance with a set of design drawings and specifications (Keeping and Shiers, 2002). Different types of building procurement offer a range of risk transfer opportunities (Mills, 2003). Procurement is the stage of the development process, which includes the appointment of a building contractor, but it also entails agreement on the type of building contract to be used and the construction or refurbishment of the building on site, in accordance with a set of design drawings and specifications (Morledge, et al., 2006). It is essentially the physical construction of the project, which is central to the procurement stage and is the most resource-intensive and fast-moving phase of the development process (Christopher and Juttner, 2000).

Leipzig (2012) on the other hand highlighted the essence for property development businesses to familiarize them with urban development planning is this spatial development framework highlights the parameters for new proposed property development (Leipzig, 2012). Land and property development is a key dimension of both urban capacity and urban quality. Urban areas require a development industry with a capacity to produce and refurbish sites and buildings 'in a context of dynamic and unpredictable changes in demand for locations and for building forms. It must be capable of producing products, which create and sustain the economic assets of places, while sustaining their aesthetic and biosphere qualities, and promoting social accessibility and cultural value to the people with a stake in urban area (Healey, 2008).

The important observation affecting the business of property development, is the integrative trends and warning signals evident during the various cycles, but sometimes impossible to react to as a result of the time span of typical development processes normally overrunning these indicators (Havenga and Hobbs, 2004). Quite a variety of developers exist within the property market, with each having slightly different objectives, views and approaches to risk assessment, and being mindful towards the indicators as highlighted above (Guy and Henneberry, 2002). "Developers vary enormously in the degree of expertise they bring to the development team." (Ratcliffe, Stubbs and Shepherd, 2004) The extent to which the developer is involved in the development process also differs as their backgrounds can vary immensely such as building, estate agency, engineering, finance, law and architecture (Ratcliffe, Stubbs and Shepherd, 2004). Property development practitioners should therefore be mindful and cautious to the holistic business process whereby the trends and cycles should be clearly identified and pro-actively programmed within the defined parameters of the existing and projects' property and development trends and cycles to reduce the risk associated with achieving success in a property development project (Mayer, et al., 2002).

Demand for property is driven by different factors such as interest rates and economic growth. According to Dehesh and Pugh (2000) and McDonald (2010), the cyclical nature of modern property is deeply interlinked with finance and credit cycles. O'Neill (2005) states that demand is much more responsive, and as a result of the misalignment between supply and demand, price increases and decreases are accentuated at different stages in the property cycle. Due to the different supply and demand conditions for various property types, price increases and decreases occur at different times and result in diverse property cycles for various property types (McDonald, 2010). Indeed, property markets are a complex system and property cycle represents a group of interacting forces (Hoyt, 1947; Reed and Wu, 2010).

The nature of profit is the return or the opportunity cost that property investors require, to justify the risk they take, in organizing development or investment activities. When market conditions are stabilized with the increased uncertainty in the space demand-supply interplay, it lowers the real 'risk' by reducing associated transaction costs. In theory, the average profit or return margin for property development and investment should be reduced because the operational models and conditions for successfully running the system can reduce the risk margin. However, this cannot make players voluntarily lower their profit margin, given that the existing economic structure also tends to maintain this order. The leads and lags of technology upgrade or knowledge advancement are often affected by the social return of the economic system. If the margin is not achieved, then the incentives will be reduced and subsequent production is likely to be delayed (Reed and Wu, 2010). The imbalance of information required in the efficient operation of modern economic systems represents one of the main market defects that can cause instability of the demand and supply conditions. Building construction is not as abstract and sophisticated a task it requires high-level division of labour and various types of knowledge in coordinating factors in production such as land, building material, building design. Making all of these factors work in property development projects in an efficient way is beyond individual's capacity in a world of uncertainty. For those who take these tasks seriously, the risks are normally high, and therefore more likely to exacerbate the problem of asymmetric information to affecting property cycles (Reed and Wu, 2010). The complexity of the interrelated cyclic trends of the business of property development within the macro-economy is evident.

At the highest macro-economic level, the property development market operates within an institutional framework defined by political, social, economic and legal rules through which society is organized and markets operate (Gammelgaard, 2008). Several frameworks exist to support an environmental analysis; however, Johnson et al. (2006) prefer the PESTEL framework, which categorises factors into political, economic, social, technological, environmental and legal. The framework is explained as:

- Political: could include changes in government, such as a new Prime Minister, and resultant policy changes;
- Economic: includes changes in public spending, interest or exchange rates, and the climate for business investment;
- Social: includes changes in lifestyles, attitudes, buying habits or demographic changes, such as extended life expectancy and the growth of the 'grey' market;
- Technological: may include new products and services, or new approaches to research and development activity;
- Environmental: the impact of green policies to minimize the effects of climate change; and
- Legal: includes new legislation, such as the introduction of the minimum wage or changes in occupational health and safety legislation.

In addition to the PESTEL framework, organisations will need to examine competitors, current and potential, in order to determine their capabilities and strategies before evaluating their likely action or response. Property development is conditioned by a range of contextual forces, which give rise to development of certain types in particular locations. These forces impact on the development site and on the actors who control events in the project (Fisher, 1999; Collins, 1999).

The extensive literature review pertaining to the property development contextualised with the broader framework of the Built Environment identified demographics and strategic factors as further factors to be considered during the planning stages of property development projects. Ratcliffe (2000) points out that the dominant tradition of property research has been empiricist and retrospective. He notes that considerable effort has been invested in analysing time series data and performing ever more elaborate calculations in order to guide current decision-making.

According to Godet (1987) and Ratcliffe (2000), scenarios should aim to detect the key variables that emerge from the relationship between the various different strategic factors describing a particular system, especially those relating to the particular actors and their strategies. The business of property development is subject to various strategic factors and strategic thinking on a day-to-day basis. These should be considered during feasibility studies and viability reports, as it might influence theoretical outcomes (Ormrod, 1995). Over the last decade, the demand for land resources changed. This was brought about by changes in the size, income, and preferences of the global population, the rate of growth of economic activity, methods of transport, and techniques of production and distribution (Sun, McNulty, Myers and Cohen, 2008; Adendorff, 2011a). Subsequently, existing buildings deteriorate or become less suitable to present uses, and the cost of constructing new buildings or adapting old buildings changes significantly (Douglas, 2006).

Development can be argued as the response to such changes (Harvey and Jowsey, 2004). Property development in its own right is a process that involves changing or intensifying the use of land to produce buildings for occupation. Keeping and Shiers (2004). The argument suggests that real estate developers respond to consumer demographic demand by producing buildings in which to carry out the functions of day-to-day living, working and provision of goods and services (Keeping and Shiers, 2004). Harvey & Jowsey (2004) rightly mention that property developers perform a range of functions, acting as entrepreneurs who recognise development potential and bear the risk of the project.

The business of property development is typically considered to be one of high risk and return. Nieboer (2005) and Tay & Tay (2007) determined that all property investors interviewed in their study considered market orientation to be an important aspect in managing their property portfolio. Competition within the property industry is also keen, involving both big and small players. Hence, developers who want to maintain or improve their business will need to constantly produce innovative and high standards, or real properties and services (Tay and Tay, 2007).

The factors affecting perceived success of property development projects as identified in this section of literature pertaining to property development contextualised with it sphere of the Built Environment, is included in the theoretical model hypothesised as indicated and interrelated between the anteceding variables, intervening variables and the dependant variable constituting perceived success of property development projects.

4. THE THEORETICAL MODEL AND THE FACTORS INFLUENCING PERCEIVED SUCCESS OF PROPERTY DEVELOPMENT PROJECTS

The review of the related literature presented, clearly identified the variables of 'feasibility' and 'viability' as the intervening variables. The following 12 anteceding variables were identified:

- Profitability;
- Risk management;
- Procurement;
- Strategic factors;
- External advice;
- Governance structures;
- Demand planning;
- Demographics;
- Urban planning;
- PESTEL analysis, and
- Property cycles.

The hypothesized interrelationships are presented in Figure 1.

FIGURE 1 THEORETICAL MODEL OF PERCEIVED SUCCESS OF PROPERTY DEVELOPMENT

SOURCE: RESEARCHER'S OWN CONSTRUCTION
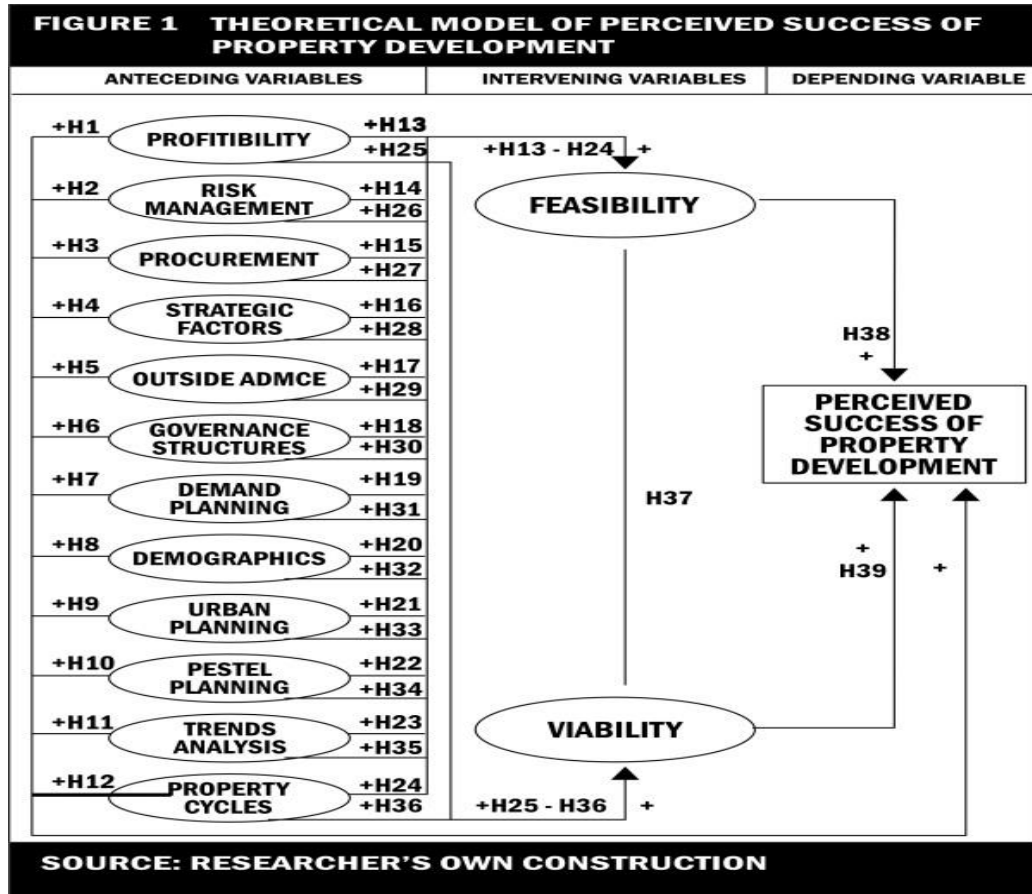
5. RESEARCH METHODOLOGY

Research has been conducted on various aspects of property development, but a model for perceived success of property development projects has not been developed to date. As stated, the primary objective of this research is to develop a theoretical property development process model for property development projects in South Africa. The proposed model, shown in Figure 1 was first discussed with various experts familiar with the property development fraternity. Informal interviews were also conducted with various Property Development practitioners. After minor changes to the model, a questionnaire was developed and tested with the statistical method called structural equation modelling (SEQ) as part of the quantitative research methodology. The considering factor in the identification of the inevitable convenience population sample, was for candidates that currently fulfil the function of property developers or play a significant part within the total property development process in his or her own capacity or within an appropriate legal entity with specific reference to the property development process

The population sample identified for this research included nine hundred and forty (940) property development practitioners within the existing built and property environment. Benter and Chou (1987) suggests that in Structural Equation Modelling (SEM), the sample size requirements vary for measurement and structural models. The authors furthermore state that the ideal constitutes a sample size of five responses per free parameter. Hair et al. (2006) suggests that a generally accepted ratio of respondents to parameters to minimise problems with deviation from normality is 15 respondents for each parameter estimated in the model.

Herewith a summary of the population sample, the categories of distribution and sample response rates as per Table 1:

TABLE 1: DISTRIBUTION & SAMPLE RESPONSE RATES	
Response received category	**Sample Responses**
Web-survey:	190
Hard copies hand delivered:	30
Ms word e-mail attachments	**17**
Total:	**237**
Percentage of total accepted returns	**25.48%**
SOURCE: RESEARCHERS OWN CONSTRUCTION	

The purpose of the measuring instrument for this research was to source primary data to test the hypothesised relationships depicted in the conceptual model and consequently to identify the factors influencing perceived success for Property Development.

The questionnaire designed for this research was based on information depicted in the literature review. The questions were carefully selected to address each of the factors that have an influence on the success of property development projects in South Africa. These formulated questions also addressed the hypotheses proposed for this research. Questions were further carefully constructed to ensure that the research objectives could be met.

Questions were coded according to the variables identified in the conceptual model. Using a seven (7) point Likert-type interval scale, respondents were requested to indicate their extent of agreement with regard to each statement. Items were designed to assess the factors influencing the success of a specific property development project as perceived by the respondent based on the specific project identified.

According to Hair et al. (2006) there are 5 considerations affecting the required sample size for structural equation modelling (SEM), namely the multivariate distribution of the data, the estimation technique, the model complexity, the amount of missing data and the amount of average error variance among the reflective indicators. Sample sizes commonly vary from 200 to 400 for models with 10 to 15 indicators.

The average respondent, age 45 years of which the majority was male, constituted sufficient experience (13 years) in the property development business. The sample populations represented a well-balanced response in terms of the categories of property development with the majority of projects being residential, slightly followed by Commercial / Industrial and a minor percentage of sundry projects. 70% of projects referred to with an average value of R395 000 000.00 were developed in the private domain supporting the profitability argument of perceived success of property development projects as presented by this research. A cohort of 30% constituted Public and Public / Private Partnerships, which is a balanced projection of the industry. 95% of all respondents and active property development practitioners possesses tertiary education qualifications and 68% of all respondents are professionally registered within the Built Environment and / or related disciplines.

The measurement tool employed for this research had three characteristics, namely reliability, validity and practicality. Cronbach-alpha coefficients were used to measure the degree of reliability of the measuring instrument in the present study and consequently used to determine which items would be included as measures of specific constructs. The measuring instrument in the present study has been developed based on constructs identified in theory, and consequently assessing the discriminant validity is an attempt to establish whether the measuring instrument sufficiently discriminates between the constructs being assessed.

SEM applied in this research is a multivariate statistical technique for building and testing statistical models. It is a hybrid technique that encompasses aspects of confirmatory factor analysis, path analysis and Multiple Regression to estimate a series of interrelated dependence relationships simultaneously (Garson, 2006; Hair et al., 2006; Hair et al., 1998). SEM had the ability to assess relationships comprehensively, and thus provides a transition from exploratory to confirmatory analysis. This transition corresponds with efforts in all fields of study towards developing a more systematic and holistic view of problems (Hair et al., 1998). SEM encourages confirmatory rather than exploratory modelling and is thus suited to theory testing, rather than theory development (Garson, 2006).

The advantage of SEM is that it has the ability to employ multiple measures to represent a construct in a manner similar to factor analysis (Hair et al., 2006). Using latent constructs improves statistical estimation, better represents theoretical concepts and directly account for measurement error (Hair et al., 2006). According to Hair et al., (2006), SEM provides a better way of empirically examining a theoretical model than Multiple Regression because it involves the measurement model and the structural model in one analysis. In other words, it takes information about measurement into account in testing the structural model. As such, in contrast to other multivariate techniques, SEM allows the researcher to assess both measurement properties and test for key theoretical relationships in one technique (Hair, 2006).

6. THE EMPIRICAL RESULTS

When a large set of variables is factored, the method first extracts the combinations of variables explaining the greatest amount of variance and then proceeds to combinations that account for smaller amounts of variance (Hair et al., 2006). Consequently, the model was split into three sub-models, with each sub model being individually factor analysed.

The results of the factor analysis for the sub models are reported in the following tables:

Table 2: ROTATED FACTOR LOADINGS: INTECEDING VARIABLES SUB-MODEL A

	FACTOR		
	1 GOVERN	2 PROCURE	3 FINRISK
STRAT4	**.763**	-.059	.045
GOV4	**.724**	.028	-.126
GOV7	**.689**	.119	-.043
STRAT3	**.647**	.060	.143
GOV5	**.628**	.168	-.005
PROF7	**.610**	.066	-.007
ADVICE4	**.497**	.114	.257
PROCURE1	**-.101**	**.803**	.030
GOV1	.087	**.550**	-.034
ADVICE1	.031	**.533**	-.030
RISK1	.047	**.498**	.053
PROCURE2	.073	**.450**	.169
PROF2	-.114	.110	**.855**
PROF5	.159	.046	**.548**
RISK2	331	.111	**.484**

Table 3: ROTATED FACTOR LOADINGS: ANTECEDING VARIABLES SUB-MODEL B

	Factor		
Cycle 2	**.809**	.125	.077
Cycle 1	**.761**	-.124	-.136
Cycle 4	**.758**	-.026	.127
Cycle 5	**.665**	-.116	.170
Demo 3	**.580**	-.116	.179
Demo 1	**.512**	-.112	-.041
Urban 4	**.494**	-.029	.332
Cycle 8	-.133	**-.889**	.066
Cycle 3	-.005	**-.812**	-.012
Demand 5	.010	**-.769**	.056
Demo 5	.063	**-.755**	.042
Demo 7	.081	**-.729**	-.034
Cycle 7	.108	**-.653**	.106
Demo 4	.298	**-.496**	.020
Urban 7	.054	.044	**.834**
Urban 8	-.054	-.073	**.761**
Urban 6	.119	-.076	**.568**
Urban 5	.139	-.262	**.474**

Table 4: ROTATED FACTOR LOADINGS INTERVENING & DEPENDANT SUB MODEL C			
	FACTOR		
	FEASIBLE	PROFES	SUCCESS
FEAS7	**840**	.011	.082
VIABLE3	**.749**	.027	-.050
FEASA5	**.739**	-.120	.111
FEAS4	**.732**	.112	-.146
VIABLE7	**.654**	-.026	-.163
VIABLE8	**.583**	-.060	-.130
FEAS1	.066	**-.908**	.040
VIABLE1	.039	**-.858**	-.109
SUCC4	.030	.098	**-.897**
SUCC3	.124	.129	**-.770**
SUCC1	-.114	-.353	**-.722**
SUCC5	.071	-.049	**-.690**
SUCC2	.099	-.233	**-.647**
VIABLE2	.260	-.336	**-.414**

The method of factor extraction is based on whether one expects the underlying constructs to be correlated or not. In sub-models where it was expected that the constructs would not be correlated, Principal Component Analysis a Varimax Rotation was specified as the extraction and rotation method. On the other hand, in sub-models where it was expected that the constructs would be correlated, Principal Axis Factoring with an Oblimin (Oblique) Rotation was specified as the extraction and rotation method. Bartlett's Test of Sphericity was used to assess the factor-analysability of the data. In determining the number of factors constructs to extract for each sub-model, Eigenvalues, the Percentage of Variance explained, and the individual factor loading were considered.

In order to assess the adequacy of the data matrix for factor analysis (i.e. the factor-analysability of the data), Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) was introduced. The closer the KMO is to one, the more factor-analysable the data. Consequently, for the purpose of this study, data with KMOs of > 0.07 (p < 0.05) are considered factor-analysable. Eigenvalues are used to explain the variance captured by the factor. In the present study, a Cronbach-alpha coefficient of greater than 0.70 is used to indicate a factor as reliable (Nunally, 1978; Nunally & Bernstein, 1994; Peterson, 1994). A Cronbach-alpha coefficient of greater than 0.70 as a reliable factor confirmed to be the acceptable norm in various other studies (Hair et al., 2006, 1998).

The anteceding variables in the three sub-models were assessed for discriminant validity by using the Principle Axis Factoring extraction method with Quantimin Oblique Rotation.

The proposed theoretical model as developed from the literature was presented in figure 1. As a result of the factor analyses, the original theoretical had to be revised. The factor, Property Cycles has been removed from the model as a result of multi-collinearity.

This revised theoretical model and subsequent hypotheses were subjected to further testing. The exploratory factor analyses performed were unable to confirm all the anteceding variables as originally intended in the theoretical model. The original intervening variables, Feasibility and Viability were re-defined and named, Financial Feasibility and Practical Viability Considerations, as well as Professional Feasibility and Viability reporting some items from the deleted variables did, however, load on other factors in the exploratory factor analysis, and interpreted as such.

The anteceding variables Profitability, Risk Management, Strategic Factors, Specialist Advice, Demand planning, Demographics, and Trends analysis were removed from the theoretical model as the discriminant validity could not be confirmed by the exploratory factor analysis. Two newly defined variables however replaced these omissions in the revised theoretical model for perceived success of Property Development projects. Subsequently the hypotheses presented, based on the initial theoretical model were now revised, re-formulated and are presented in Table 5.

Table 5: HYPOTHESES
H1: There is a positive relationship between Governance and Financial Feasibility & Practical Viability Considerations or Property development projects.
H2: There is a positive relationship between Procurement and Financial & Practical Viability Considerations of Property development projects.
H3: There is a positive relationship between Financial Risk Forecast and Financial Feasibility & Practical Viability Considerations of Property development projects.
H4: There is a positive relationship between Consumer Confidence & Ability and Financial Feasibility & Practical Viability Considerations of Property development projects.
H5: There is a positive relationship Urban Planning and Financial Feasibility & Practical Viability Considerations of Property development projects.
H6: There is a positive relationship between PESTEL Analysis and Financial Feasibility & Practical Viability Considerations of Property development projects.
H7: There is a positive relationship between Governance and Professional Feasibility and Viability Reporting of Property development projects.
H8: There is a positive relationship between Procurement and Professional Feasibility & Viability Reporting of Property development projects.
H9: There is a positive relationship between Financial Risk Forecast and Professional Feasibility and Viability Reporting of Property development projects.
H10: There is a positive relationship between Consumer Confidence & Ability and Professional Feasibility & Viability Reporting of Property development projects.
H11: There is a positive relationship between Financial Feasibility & Practical Viability Considerations and Professional Feasibility and Viability Reporting of Property development projects.
H12: There is a positive relationship between Financial Feasibility and Practical Viability Considerations and Perceived Success of Property Development projects.
H13: There is a positive relationship between Professional Financial Reporting and Perceived Success of Property Development projects.

After the reliability and discriminant validity of all the variables remaining in the empirical model had been confirmed, the statistical technique, SEM was introduced to test the series of relationships of the revised model.

The model was further divided in two sections identified as Financial Regulatory Considerations and Strategic Operational Considerations and were analysed separately. A path diagram is a method of presenting causal relationships among constructs where each theoretically proposed relationship is described by means of a hypothesis (Hair et al., 2006).

7.   DISCUSSION OF SIGNIFICANT RELATIONSHIPS IDENTIFIED BY SEM

Significant relationships were identified between the various anteceding, intervening and dependent variables. The sub-models were subjected separately to SEM. This approach was implemented because the sample size of the significant relationships identified the factors that influence Perceived Success of Property Development projects. The significant findings will be discussed in the next section. Thereafter, the statistical relationships, hypotheses, and the decision on the hypotheses will be stated.

8.   PROCUREMENT
Hypothesis: There is a positive relationship between:

H2 Procurement and Financial Feasibility & Practical Viability Considerations of Property Development projects, and

Hypothesis:
H8 Procurement and Professional Feasibility & Viability Reporting of Property development projects.

The factors Procurement and Financial Feasibility & Practical Viability Considerations of Property Development projects. The results suggest that Property Development practitioners consider all aspects of Procurement as very important during the Financial Feasibility stage to be reflected on in the Viability report. Hypothesis H2 is therefore accepted.

Hypothesis:
H8 Procurement and Professional Feasibility & Viability Reporting of Property development projects. The factors Procurement and Professional Feasibility & Viability Reporting of Property development projects. The results suggest that Property Development practitioners also consider all aspects of Procurement as very important during the Professional Viability reporting of the proposed project including the Feasibility findings. Hypothesis H2 is therefore accepted.

8.1   Financial risk forecast
Hypothesis:
H3 Financial Risk Forecast and Financial Feasibility & Practical Viability Considerations of Property development projects.

The factors Financial Risk Forecast and Financial Feasibility & Practical Viability Considerations of Property Development projects.

The results suggest that Property Development practitioners consider Financial Risk Forecast as very important during the Financial Feasibility stage to be reflected on in the Viability report. Hypothesis H3 is therefore accepted.

8.2 Consumer confidence & ability
Hypothesis:

H4 Consumer Confidence & Ability and Financial Feasibility & Practical Viability Considerations of Property development projects.

The factors Consumer Confidence& Ability and Financial Feasibility & Practical Viability Considerations of Property Development projects. The results suggest that Property Development practitioners consider Consumer Confidence & Ability as very important during the Financial Feasibility stage to be reflected on in the Viability report. Hypothesis H4 is therefore accepted.

8.3 Urban planning
Hypothesis:

H5 Urban Planning and Financial Feasibility & Practical Viability Considerations of Property development projects.

The factors Urban Planning and Financial Feasibility & Practical Viability Considerations of Property Development projects. The results suggest that Property Development practitioners consider Urban Planning as very important during the Financial Feasibility stage to be reflected on in the Viability report. Hypothesis H5 is therefore accepted.

8.4 Financial Feasibility & Practical Viability Considerations of Property Development projects
Hypothesis:

H12 Financial Feasibility & Practical Viability Considerations and Perceived Success of Property Development projects.

The factors Financial Feasibility & Practical Viability Considerations and Perceived Success of Property Development projects. The results suggest that Property Development practitioners consider Financial Feasibility & Practical Viability Considerations as very important towards perceived Success of Property development projects. Hypothesis H12 is therefore accepted.

8.5 Professional feasibility & viability reporting
Hypothesis:

H13 Professional Financial Reporting and Perceived Success of Property Development projects.

The factors Professional Feasibility and Viability Reporting and Perceived Success of Property Development projects. The results suggest that Property Development practitioners consider Professional Feasibility & Viability Reporting as very important towards perceived Success of Property development projects. Hypothesis H13 is therefore accepted.

8.6   Making theoretically justified modifications to the model

The final phase in the data analysis was to test and report on all the hypotheses. Based on the empirical results of the path coefficients, all the hypotheses defined can be interpreted as being supported or not. A summary in the form of Table 6 has been provided, which presents the outcomes of the testing of the hypotheses.

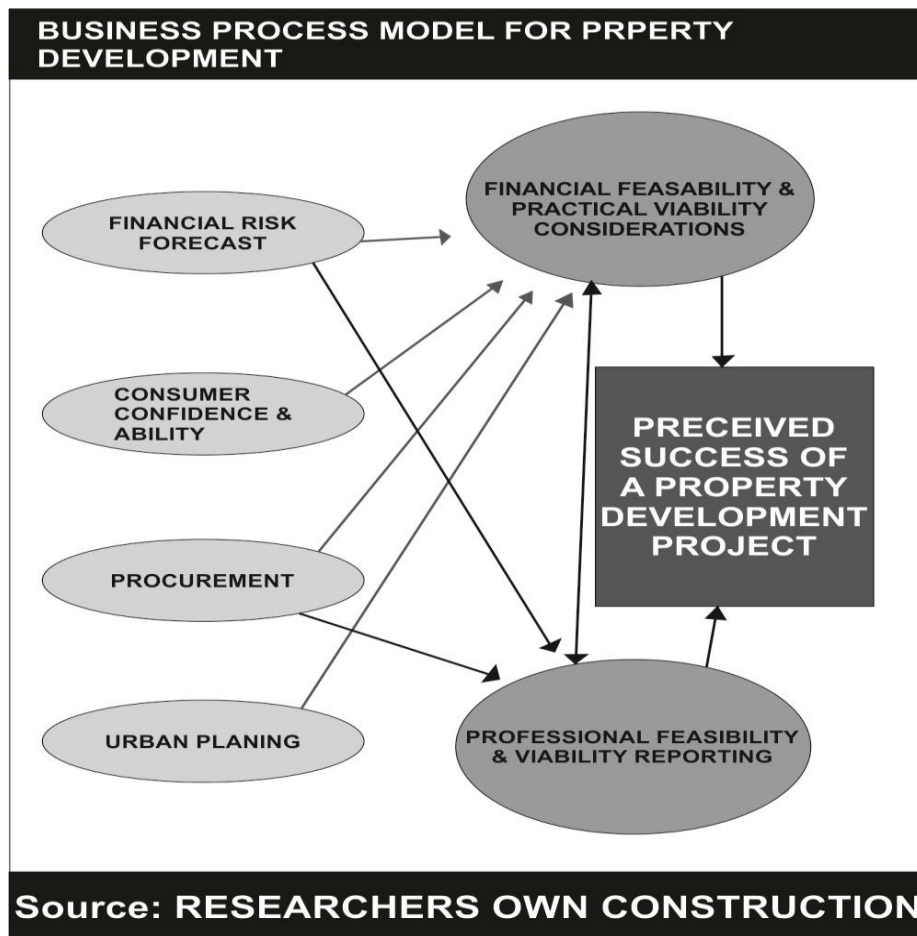| TABLE 6 HYPOTHESIS	
H1: There is a positive relationship between Governance and Financial Feasibility & Practical Viability Considerations or Property development projects.	Not Supported
H2: There is a positive relationship between Procurement and Financial & Practical Viability Considerations of Property development projects.	Supported
H3: There is a positive relationship between Financial Risk Forecast and Financial Feasibility & Practical Viability Considerations of Property development projects.	Supported
H4: There is a positive relationship between Consumer Confidence & Ability and Financial Feasibility & Practical Viability Considerations of Property development projects.	Supported
H5: There is a positive relationship Urban Planning and Financial Feasibility & Practical Viability Considerations of Property development projects	Supported
H6: There is a positive relationship between PESTEL Analysis and Financial Feasibility & Practical Viability Considerations of Property development projects.	Not Supported
H7: There is a positive relationship between Governance and Professional Feasibility and Viability Reporting of Property development projects.	Not Supported
H8: There is a positive relationship between Procurement and Professional Feasibility & Viability Reporting of Property development projects.	Supported
H9: There is a positive relationship between Financial Risk Forecast and Professional Feasibility and Viability Reporting of Property development projects.	Not Supported
H10: There is a positive relationship between Consumer Confidence & Ability and Professional Feasibility & Viability Reporting of Property development projects.	Not Supported
H11: There is a positive relationship between Financial Feasibility & Practical Viability Considerations and Professional Feasibility and Viability Reporting of Property development projects.	Not supported
H12: There is a positive relationship between Financial Feasibility and Practical Viability Considerations and Perceived Success of Property Development projects.	Supported

The proposed theoretical model, the perceived success of property development projects, was empirically tested by means of the SEM technique. The validity and reliability instrument was assessed and reported on. This resulted in six factors that potentially influence the dependent variable namely perceived success of property development projects. These factors are:

- Procurement;
- Financial risk forecast;
- Consumer confidence and ability;
- Urban planning;

- Financial feasibility and practical viability considerations of property development projects, and
- Professional feasibility and viability reporting.

9.   CONCLUSIONS AND RECOMMENDATIONS

This research developed the new business process model for property development projects as per model below stated a figure 2 below:

BUSINESS PROCESS MODEL FOR PRPERTY DEVELOPMENT

FINANCIAL RISK FORECAST

FINANCIAL FEASABILITY & PRACTICAL VIABILITY CONSIDERATIONS

CONSUMER CONFIDENCE & ABILITY

PRECEIVED SUCCESS OF A PROPERTY DEVELOPMENT PROJECT

PROCUREMENT

URBAN PLANING

PROFESSIONAL FEASIBILITY & VIABILITY REPORTING

Source: RESEARCHERS OWN CONSTRUCTION

10.   SUMMARY AND RECOMMENDATIONS FOR FUTURE RESEARCH

Procurement, as part of the identified property development business process model, has a significant influence on the perceived success of a project.

During the exploratory factor analysis, a significant risk item loaded onto the theoretically identified factor, namely profitability. This relevance benchmarked against two out of seven profitability items that loaded onto one factor, resulted in the renaming of the factor to financial risk forecast.

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The essence of this newly identified factor was the escalation and inflation factors identified as risk towards the financial forecast of a proposed property development project.

In the business of property development, the consumer demand has a significant influence on the initiative to develop property although a macro-economic term, consumer demand plays an even more important role in the property development fraternity as a result of the magnitude of the financial impact associated with property development projects relative to other businesses meaning the product on offer is of relative high monetary value in GDP terms. This affects the ability of the identified consumer. It is thus significant that the targeted consumer population has the ability to provide payment guarantees to the acceptance of the property development product on offer with the development period in property cycles.

10.1   FINANCIAL FEASIBILITY AND PRACTICAL VIABILITY CONSIDERATIONS & PROFESSIONAL FEASIBILITY AND VIABILITY REPORTING

Feasibility and viability are key factors affecting success of property development projects, hence the definition in the conceptual model. The review of the related literature and subsequent empirical testing of the model, clearly highlighted confusion between the concepts, although the importance was agreed upon and supported by structural equation modelling:

- This study recommends the following protocol for property development practitioners to follow when conducting feasibility studies and preparing viability reports. Firstly, a feasibility study is contained within a viability report:
- Feasibility study;
- Recommendation report;
- Evaluation report, and
- References.

The feasibility study should address the following:

- Profitability and financial feasibility;
- PESTEL analysis;
- Definition of trade area;
- Macro-economic factors incorporating demand and supply analysis in niche markets;
- Socio-economic factors;
- Demographic factors;
- Consumer income and expenditure patterns;
- Urban growth pattern and spatial development planning;
- Property tendencies;
- Property trends in the built environment;
- Market feasibility, and
- Merchandising analysis.

A recommendation report should be based on the following viability considerations:

- Physical viability;
- Zoning and other limiting real rights;
- Site characteristics;
- Services;
- Underground factors;
- Topography;
- Vegetation;
- Location characteristics;
- Accessibility;
- Exposure of the site and structure, and
- Complementary activities;

An evaluation report should include:

- Recommendations based on the feasibility and viability factors portrayed in the viability report. Success in the private sector business of property development refers to, inter alia, achieving the anticipated profit margin as projected in the feasibility study. Success in property development in the public sector focuses more on the favourable outcome of the objective as highlighted in the viability report. This research developed a business process model for perceived success of property development projects internationally in the public and private sectors. The identified business process model for perceived success of property development projects and further recommendations as discussed in this chapter, should serve as guideline towards property development practitioners internationally.

This research makes a significant contribution to the property development body of knowledge (PDBoK) especially focussing on perceived business success for property development projects. The use of an advanced statistical technique such as SEM, as well as an optimum empirical sample size, also contributed to sufficient findings and recommendations. By identifying and developing conceptual models that outline the most significant factors affecting perceived success of property development projects, a significant contribution has been made towards understanding certain complex factors influencing the business of property development. The results of the study thus offer recommendations and suggestions towards good governance in planning and executing proposed property development projects.

This study has integrated many of the traditional property development, built environment and real estate theories in the extensive review of the related literature and has tested these among property development practitioners. By incorporating those factors with business process modelling, the present study has also contributed to the field of business management, the built environment and real estate. This study has broken new ground in terms of the identification of a business process model for perceived success of property development projects that did not exist before. Finally, the complexity of the property development business should not be underestimated because of possible high profit margins achievable.

The macro-economic and cyclical driving forces, inter alia, regulating a business contributing substantially to the GDP of the world, should be professionally approached to assure success and sustainability of the business of property development.

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