
Leveraging Value Adding Factors Through the Construction Development Cycle – Factors Changing the Property Value Landscape

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Abstract:

Purpose: The economic value of residential homes is determined by an array of factors. Property value has taken on a new dimension as sustainability gains popularity in the real estate development industry. The housing market has been significantly impacted by the global COVID-19 outbreak and an increase in demand for domestic residences with access to outside spaces is a result of lockdowns and limitations. Homes that offer outdoor activities, natural ventilation, and a connection to nature are now prioritised by homebuyers. Thus, the economic worth of homes with gardens, patios, and spacious balconies has increased because of this change in preference. The aim of this research was to identify distinct key value-adding factors that could be implemented across the numerous stages of a construction project by individuals, at varied levels of expertise, within a construction development environment. This study examines important variables that affect local residential property value economically and sheds light on the importance for construction and renovation projects.

Design/Methodology/Approach: The study explores highly desired property typologies and homeownership culture, as well as how these factors affect changes in renting behaviour. The strategy taken in this study is qualitative and employs interpretivism theory and inductive reasoning. Semi-structured interviews based on attitudinal research were used in the research as part of an ethnographic strategy with a sample of participants. Selection criteria included experience in the sector for a number of years, comprehension of the value of real estate, skill in financial and ecological property value-adding aspects, and localised social knowledge. Indicators used to predict site desirability included net population movement and the introduction of new companies. Thematic coding was executed with NVIVO™, allowing a methodical language-centered analytic strategy to make sense of the range of data retrieved.

Findings: Results show that the proximity to essential facilities, easy access to transit, ideal urban planning, and the likelihood of future development are the main elements that have had an impact on economic worth. Furthermore, outcomes demonstrate that purchasers' willingness to pay more for greener properties is still restricted, despite the growing interest in sustainable building practices, as economic considerations are taking precedence over environmental concerns.

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Practical Implications: *Associations such as IVS, RICS, and TEGOVA and Malta's transparency in demonstrating reliability and effectiveness of data sources for comparable evidence are key factors for leveraging value-added factors through the construction development cycle.*

Originality/Value: *The primary asset for a significant number of households is their portfolio of real estate properties. This has considerable importance as families can effectively enhance their overall domestic household income by strategically augmenting the perceived value of their real estate holdings.*

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1. Introduction

The construction sector is characterized by its dynamic nature and is supported by a complex network of foundational elements. Cost is considered to be one of the most prominent pillars among the aforementioned factors. The cost factor in construction carries significant importance in assessing the overall financial success of a construction business. Hence the optimisation of construction costs is crucial in order to provide robust liquidity and profitability for all parties involved in construction projects.

Currently, this undertaking has become more challenging than it was in previous eras. Due to the recent increase in constantly evolving macro-level factors, the inflation rates for construction materials and importation costs have reached unprecedented levels (Central Bank, 2022a).

In the current period of instability, investors have exhibited amplified caution in their approach towards funding novel ventures. The heightened degree of speculation arises from the potential occurrence of an economic downturn, which would result in significant challenges pertaining to cash flow. The potential issues arising might impede or terminate their ongoing undertakings that are being sponsored.

There exists a direct correlation between a decline in economic investment in the construction sector and a rise in the unemployment rate. According to recent data, the construction industry in Malta employed a workforce of more than seventeen thousand individuals in 2021. These workers face the potential risk of job loss if construction companies fail to effectively respond to the prevailing circumstances (Central Bank, 2023).

The aforementioned macro-influences have trickled down to impact the fundamental and essential institution of the family. A significant proportion of the local population possesses their primary dwelling, as evidenced by recent data from 2022 indicating that the confirmed percentage stands at 81.9% (Malta Home Ownership Forecast, 2022).

The primary asset for a significant number of households is their portfolio of real estate properties (Attard *et al.*, 2022). This has considerable importance as families can effectively enhance their overall domestic household income by strategically augmenting the perceived value of their real estate holdings.

Consequently, this leads to an enhancement in their general quality of life. This objective can be achieved by selling their real estate assets at a higher rate of return or by leasing out their additional properties at an elevated rental rate. Hence, it is imperative to uphold a favorable rate of return in order to support and enhance local economic development and progress.

Optimizing the entire development budget of a building project by including cost-effective and value-enhancing aspects is a strategic approach to maximize financial returns. In the field of economics, it is widely acknowledged as a fundamental principle that in order to enhance profitability, one must either reduce the cost price or augment the sales price (Marn and Rosiello, 1992).

The primary aim of the study is to ascertain the distinct factors that offer value to a construction project. The factors that contribute to the valuation of real estate will remain influential in the future. Such attributes are expected to consistently increase the financial value of properties and encourage the local economy.

The primary objective of this research project is to evaluate the implications on financial value within the construction sector, that such factors would explore. Furthermore, to fulfill social responsibility, analysis was undertaken to identify the factors of property value enhancement in connection to their broader ecological impact.

Thus, this study lays considerable emphasis on the factors that contribute to the augmentation of property value during the construction period. Furthermore, the objective of this study is to examine the degree to which these characteristics ought to be integrated into current properties.

Moreover, this study aims to ascertain the degree of proficiency and duration necessary for the implementation of these elements, with the potential discrepancies in their implementation across various building typologies.

2. Literature Review

2.1 Investors' Consensus on the Profitability of Local Real Estate Investment

Maltese investors typically exhibit a conservative risk appetite and display a preference for domestic investing opportunities. The findings of the June 2022 Investor Sentiment Index for Malta have revealed the following information (Times of Malta, 2017; The Malta Independent, 2007). The research based on the feedback of 600 seasoned investors across Malta and Gozo showed that 38% of investors believed that real estate was the best type of investment for individuals (*ibid*).

This consensus is shared by the local population, emulated through the homeownership rate standing at 81.9% as of December 2021, significantly higher in comparison to that of the Euro area, which stood at a mere 65.8%. This noticeable divergence accentuates the local preference to own one's main residence over renting (Cremona, 2022).

Thus, highlighting the general Maltese population's shared opinion with local investors, there is substantial financial benefit to owning local real estate. A local household's main residence is the most valuable real asset in their financial portfolio, followed in second place by 'other real estate assets.' The share of other real estate assets in total real assets stood at approximately 23%, with a medium value of €87,500 in 2022 (Attard *et al.*, 2022).

In 2017, Maltese households had a bank deposit holding rate of 97.6%. By the end of 2016, bank deposits made up 51.8% of households' total financial assets (*ibid*). Meanwhile, national inflation reached a record height of 7.4% this past September 2022. The alarming rate at which inflation is accumulating gives rise to financial loss for local households who keep the majority of their wealth in their bank account long term, where their finances will continually devalue.

One potential approach to addressing this issue involves the application of current portfolio theory, which entails the strategic diversification of wealth to optimise efficiency. This protects individuals from absorbing a total loss if an economic crash ensues in one sector (Mangram, 2013).

Hence, in the event that households were to allocate a portion of their financial assets, presently held in bank accounts, towards investments in their primary and secondary dwellings, they would effectively enhance the worth of these tangible properties. This strategic action would serve to mitigate the impact of inflation, thereby potentially generating financial profits. Developers can achieve the same by identifying opportunities to capitalise on, through developing properties which meet the demands of Malta's new economy.

2.2 National Inflation Levels in the Construction Development Industry

Inflation for construction materials reached a record high in 2022. For operators in the construction industry, the increase in inflation resulted in higher charges for building materials and machinery (KPMG, 2022). The industry is now also faced with higher costs of compliance to align with the introduced building regulations following recent health and safety concerns.

Furthermore, Numerous raw materials cannot be replaced, irrespective of their rising inflation levels. The President of the Malta Developers Association (MDA), Mr. Michael Stivala, stated that the cost of steel had inflated by approximately 30% locally since the Ukrainian conflict started [13]. *“Metal has doubled in cost and when you order windows for a new price, the supplier will no longer give you a quotation on the spot but wait until they actually measure the area, because the price literally changes every week”* (Schembri Orland, 2022).

Throughout 2022 developers reported that their highest new-found cost was for the shipment of raw materials. These heightened shipment costs resulted from the recent surge in fuel costs, partly in due to the ongoing Ukrainian conflict. Limestone is the only mineral resource available in Malta, and although concrete blocks are also produced locally, materials including gypsum, timber, steel, marble and granite are imported, all of which drive-up the cost of construction due to increased shipment costs.

Throughout the interview with Mr. Stivala, he further stated that the cost to build had increased by 30% to 40%, amounting to an average of €10,000 to €15,000 per apartment (Stivala, 2022).

Although complications regarding inflation are prevalent amongst other economic sectors, the difficulty is magnified within the construction sector because price movements must be predicted several months in advance (Schembri Orland, 2022). This is especially true where traditional procurement is adopted because of its common utilisation of lump-sum payments. In said projects, prices are agreed upon prior to the commencement of works.

This also applies to the buying and selling of properties due to a substantial number of them being sold on plan. Interviews between KPMG and leading local construction developers (KPMG, 2022) suggest that operators who have sold residential dwellings on plan are anticipated to encounter difficulty in finishing said projects with the initially agreed upon budgets due to the current inflation rates.

Current Economic Climate’s Influence on Sales Cost for Residential Dwellings
Investing in the real estate market has become more competitive in the past year. During quarter one of 2022, the Property Price Index (PPI) experienced a 6.7% increase in comparison to the corresponding quarter of the previous year.

The percentage increase is more prevalent across certain property types; developments in the Maisonettes Price Index which stood at 135.95 PPI, registering a substantial annual growth of 9.5% (NSO, 2020; NSO, 2022).

The increase, as mentioned earlier, in sales prices and construction inflation costs impacts buyer affordability when purchasing residential dwellings. Further anticipated expenditure increases include land cost, advertising and real estate agency fees. All of these negatively impact the liquidity and profitability of construction stakeholders.

The National Construction Industry and Market Report include the Housing Affordability Index (HAI), calculated earlier this year by KPMG. The results showed that a local household which was earning a median income would only qualify to borrow 76.4% of the funding required to purchase a median-priced apartment, which stood at €249,000. In the past year alone, should developers pass over the increase in cost to build to buyers, the HAI would decrease from 76.4%, to between 72% and 73.4% (KPMG, 2022).

These unsatisfactory HAI rates will remain true unless there is an intervention through an increase in overall local household income or a decrease in borrowing interest rates from banks, both of which are highly unlikely to transpire without government intervention (KPMG, 2022). Accounting for the increased rate of building costs, the subsequent increase in residential sales prices for residential property ranges from approximately 4% to 6% (*ibid*). The increase in sales price will likely drive away several initial potential buyers due to issues of affordability.

Potential buyers who can afford a residential dwelling are more likely to live in them for longer due to the increased cost of moving. It is, therefore, essential to assess the requirements of the demographic of potential buyers for the long term so that developers can implement their demands accordingly.

In doing so, heightening the value of properties through implementing these value-adding factors. Such properties will garner attention from potential buyers, providing respective developers with a competitive edge in closing sales within the property market (KPMG, 2022; Mangion, 2022).

Speculation of a housing bubble is present due to the scarcity of available land, causing supply constraints, thus resulting in upward pressure on rent and property values. The market is now prone to a price correction. Inflationary pressures saw consumer prices jump to an annual rate of 6.8% in July 2022 (*ibid*). The economy is also forecast to shrink by 6% to 8% in 2023.

The European Central Bank's (ECB) policy to control rising interest will also increase mortgage lending rates, all of which contribute to a decline in property affordability (*ibid*). If dealt with strategically, the resultant downward pressure on

property market prices will provide a unique opportunity for investors and developers alike to invest in residential property and land at a lower-costs during the potential coming declining market cycle.

2.3 Trends and Divergences across Geographical Regions Relative to Residential Dwellings

The Significance of Geographical Location on Property Value:

The most critical determinants of economic value for Maltese residential properties are geographical location and property type (PWC, 2021). Geographical bull markets depend on the current development pipeline, governmental restrictions and supply and demand (Seth, 2022). Demand drivers including job growth, tax friendliness and the weather, have led to positive net migration patterns. The Regional Statistics for Malta state that between 2014 and 2022, for the population of people between thirty to thirty-nine years of age, the increase in foreign population totalled 23,604, all of whom required residential dwellings (NSO, 2022).

The high demand for property on the densely populated island has caused for property prices to double between 2000 and 2015 (Micallef, 2016). The Property Price Index indicates that between 2015 and 2019, the cost to buy property has since continued to increase although became more affordable in the short period between 2020 and 2021, which coincided with the COVID pandemic (NSO, 2022a).

Data published by the MDA also exhibits that the demand for housing is now comparable to pre-crisis levels and is continuously growing (MDA, 2022). PwC's real estate survey coincides with this, given a significant 58% of the respondents' entertaining plans to purchase property and another 16% on the lookout to rent property as of 2021 (Seth, 2022).

Through the analysis of where current demand presents itself, construction developers can uncover trends and forecast net growth population patterns to develop residential dwellings in the highest sought-after geographical locations. Subsequent to discovering the highest sought-after regions, they can research and perform their due diligence in understanding the demography which they will be catering for within these geographical regions to develop residential properties in line with their demands.

PwC's real estate survey population uncovered that the largest demography interested in purchasing residential property, standing at 33%, were those moving out of their parent's home.

The sample was followed by 23% interested in purchasing property as an investment to buy to let (Seth, 2022). Of the respondents interested in purchasing a

residential property, 80% were interested in doing so in Malta, 10% were interested in doing so in Gozo, and the remaining 10% were interested in purchasing a property on both islands (*ibid*).

Northern and central dwellings were sought after significantly more than those in the South of the island and in Gozo. The Regional Statistics for Malta ascertained this finding, showing that from 2014-2020, the island's Northern Harbour and Northern regions had grown in population at a much larger rate than any other region.

These results conform with the prices per geographical region shown in the Malta Sales Indicator per square meter (NSO, 2023). The first-time buyers who represent the highest driver for property purchases generally fall within the millennial generation.

Thus, their preference to purchase property in the Northern and Central Regions is likely attributed to the balanced work-life lifestyle ascribed to these regions. The ranges of property prices within the respondents' budgets varied, with a 52% majority having a budget of €200,000 or less (PWC, 2021).

This figure coincides with the 43% of respondents interested in purchasing an apartment, being one of the cheaper forms of residential properties available on the market. In view of the relatively low budget and uptrend of the real estate price index, the Maltese government has created a housing grant, distributing €10,000 over a period of ten years to first-time buyers (Government of Malta, 2022).

The Annual Malta residential study suggests that house prices exponentially exceeding annual salaries may result in first-time buyers moving to less expensive locations, regardless of their primary preferences.

For example, to Gozo and the South of Malta, to afford residential dwellings (Housing Authority, 2022). The average asking price for a finished apartment in the Southern region is 13% cheaper than in the central region and 30% cheaper than in the North harbour region.

Furthermore, the asking price for a finished apartment in Gozo is 20% cheaper than in the South of Malta (*ibid*). Given the data, this may be a new market opportunity for developers to meet if there is a spike in demand for apartments in these regions. The private rental market is primarily shaped by a sharp increase in the foreign workforce, who often rely on this sector for accommodation.

According to Jobsplus, the number of foreign workers stood at 67,596 in 2019 (Government of Malta Statistics, 2020). It is estimated that the average length of stay for foreign workers in Malta stands at 3.5 years and that almost half of them leave the country after two years, being their reasoning for renting over buying.

Nearly half of all local foreigners resided in the Northern Harbour district, standing at 49.6%, followed by the Northern district, standing at 23.3% in 2021.

Geographically, the Sliema, St Julian's and St Paul's Bay areas are the most sought-after regions with respect to the rental property market and are followed by other central localities on the island, namely Hamrun, Mosta and Qormi (PWC, 2021).

There will be an influx of renters by necessity should the real estate index continue to outcompete salaries, particularly for first-time buyers. This may, in turn, present a new market for developers to accommodate. By considering the importance of price for these demographics, developers may emphasise cost over quality to meet this primary requirement.

2.4 Demand Across Different Property Typologies with Respect to The Residential Market

The Status of the Current Residential Market:

The residential rental market is entering a new era, with the rise of foreign-born residents, single parent households and a new generation of citizens interested in letting before buying. The traditional approach of buying a home has become less feasible, with a survey finding that 38% of resident tenants are renting due to the unaffordability of buying a house (NSO, 2020).

Each of these changes present new emerging markets on the residential property front that need catered for. Researching these emerging markets aids in forecasting emerging needs, propelling the development of housing which meets the upcoming market's demands. In being ahead of the curve, forward-looking developers will assume an upper hand, gaining a competitive advantage in closing deals in the competitive housing market.

Approximately 93% of active rental contracts registered with the Housing Authority are based in Malta, with the remaining 7% in Gozo as of 2022. As aforementioned in the previous chapter, rental units are most highly concentrated in the Northern Harbour and Northern region of Malta, accounting for a majority 70% of all registered contracts. The loWest concentration of rents is exhibited throughout the Western region, demonstrating a mere 5% of all contracts.

Presently, the North of Malta is the most expensive area to rent a residential dwelling. In the Northern Harbour region, 30% of rents exceed €1,000 per month, whilst only 4% in the South-Eastern and 15% in the Western region exceed this same amount (Housing Authority, 2022). A further demonstration is that a three-bedroom apartment in the Northern Harbour region demands a median rent of €950, whilst in other regions the median lies between €700 and €750, and a mere €500 per month in Gozo (NSO, 2019).

The Highest Sought-After Rental Residential Property Type:

Within the residential rental market, apartments are definitively sought after at a significantly higher rate than any other property type, constituting 80% of all rental contracts. In nominal terms, apartments have inflated in demand, increasing by over 30% within four years. The highest segment of rental contracts is for two- and three-bedroom properties, standing at 42% and 33%, respectively (Housing Authority, 2022).

The share of one-bedroom properties stands at 21%. These findings coincide with the Annual Residential Rental Study Survey First Edition, within which it was reported that landlords who let out two-bedroom properties stood at 42%, three-bedroom properties at 34% and one-bedroom properties at 20% (NSO, 2021).

In 2019, the most common household size for people living in Malta was two-person households, standing at 32.4%. Meanwhile, the most common household size in Gozo was one-person households, standing at 32.5%. In 2019, approximately 60% of tenants renting were households without dependent children, whilst the remaining 40% had dependent children.

Further disaggregated data suggests that, in households living without dependants, the largest subcategory consisted of two adults living together, followed by single individuals (NSO Regional Statistics, 2022b). The current largest grouping of contracts is for two-bedroom apartments in the Northern Harbour region, given 5,700 active contracts.

This is followed by two-bedroom apartments in the Northern region, standing at 4,009 contracts. Thirdly, three-bedroom apartments in the Northern Harbour region, standing at 4,001 contracts. The growth in demand for these apartment sizes by rooms within these regions is on a steady incline in the rental market.

Highest Demand Property Types in the Buying and Selling Market:

The Selling Price Index indicates that between 2013 and 2019, housing prices increased by 100%. Throughout this period, demand largely outstripped supply, encouraging prices to reach an all-time high in the second half of 2018. In 2020, incremental user demand turned negative as short-stay tourists' contribution outweighed additional demand from first-time buyers.

Based on the number of permits issued by the PA, Malta's demography and forecast economic growth foresees a slowdown in additional housing supply and recovering housing demand (Grant Thornton, 2022). According to the Property Price Index (PPI), in quarter one of 2022, the price change of purchased residential apartments had increased by 6.1% since quarter one of 2021.

Meanwhilst, maisonettes had increased by 9.5% during the same period. Whilst a price index for terraced houses was not published for this period due to the low

count of transactions recorded, PPI², an aggregate index based on apartments, maisonettes and terraced houses, stood at 6.7% for the period (NSO, 2022a). In 2021, the median two-young adult's household could only afford a 115 square meter apartment.

This is based on estimates of the borrowing capacity of two individuals that take on a loan for 35 years at the prevailing average interest rate on home loans. A similar calculation for a one-adult household shows that the maximum affordable residential property price falls significantly short of prevailing market prices. On account of first-time buyers constituting as an important source of housing demand, these considerations are important in forming expectations about future developments in the Maltese housing market for construction stakeholders (Grant Thornton, 2022).

First-time buyers are the primary demand drivers for property, yet only affording a small apartment may give way to a potential price correction. Investors and construction developers may also look towards decreasing and optimising the size of apartments for future projects to meet the market's economic capacity.

2.5 An Economic Analysis of Implementing Sustainable Construction Development Initiatives and Green Construction

The Cost Benefit Analysis of Sustainable Construction as an Economic Property Value Adding Factor for Developers:

Sustainable construction has gained momentum in interest as a new construction process and is being implemented at higher rates annually. Unlike traditional linear methods, sustainable construction is a cyclic process (Ofluoglu, 2022).

It encompasses environmental, social, economic and technical dimensions. The most prominent barrier against the growth of sustainable construction is the consensus held by developers and investors that said construction is not cost-effective and presents a heightened level of financial risk (Sustainably Blue Malta, 2022).

These aforementioned concerns are partly in due to the lack of local and reliable accurate cost information. The financial benefit for developers to incorporate sustainable construction is substantial. A World Green Building Council report found that 'green' buildings commanded higher sales prices and shared similar design costs to traditional procurement building methods (World Green Building Council, 2016).

Moreover, such residential properties were higher in demand and thus quicker to sell when listed on the market. From a commercial aspect, they also resulted in a superior corporate image for potential clients and increased prestige value.

Regarding the financial benefit for investors, within the study, owners reported slow- moving depreciation rates, the ability to command higher rents, increased occupancy rates through marketability and, most significantly, lower operating costs (*ibid*). The general public's interest in health and well-being has increased dramatically in recent years (Decelis, 2023).

The findings from KPMG in Malta's survey found that local respondents were generally considerably environmentally conscientious and preferred to purchase sustainable products when made available. Furthermore, a reported 90% of respondents were willing to pay more for sustainable products, with the majority willing to spend up to 10% more.

Sustainability also ranked sixth on the index of what occupants looked for when renting or purchasing a property. Post-occupational building research has also found that commercial employees were more productive in sustainably constructed buildings due to the enhanced environment, raising the businesses' bottom line. Regulations regarding sustainability have also become increasingly enforced within the European Union, with the rising mandatory disclosure, building codes and laws banning inefficient buildings that do not implement sustainable measures (Vella, 2020).

The Economical Principalities of Sustainable Construction:

Inflation reaching record highs globally, especially regarding power, further establishes the importance of sustainable construction due to its ability to drastically decrease the cost of power, water and maintenance (Kiziridis, 2021).

The thermal comfort levels, protection against drafts, and control of natural light, amongst numerous other value-adding factors attainable through conscientious design, are tremendously cost-effective in the long term. Achieving sustainable designs and development will require a changeover in methodology and education amongst construction stakeholders. The correct skills are required to install the full range of measures to achieve energy efficiency in new and existing buildings.

Training will be required to teach how to build low-carbon infrastructure (Decelis, 2023). The investment in learning these skills will allow developers to reach new markets within the sustainability niche. Becoming further educated will also enable them to be in line with the ever-increasing sustainability measures being implemented abroad and gain a better understanding of supply chains for green materials and technologies as they mature.

The implementation of sustainable construction follows economic principles, ensuring financial benefit for both construction developers and clients. The economic principles of sustainable construction encompass financial benefits for increased upfront capital; maximum output with minimum input; integration of short-term return and long-term benefits; stakeholder partnerships and human

quality of life (Zhou and Lowe, 2003).

Achieving great success across each principle is idealistic and coherent at a theoretical level, however, is much more complex to achieve in practice. Nevertheless, achieving even one of the above principles would heighten the construction developer's margins due to each principle operating even at singular levels.

Techniques in Attaining Sustainable Construction and Green Buildings:

Sustainability can be implemented as a cost-effective feature throughout construction. Through collaborative procurement, local businesses can collectively achieve economic and environmental prosperity. By streamlining their processes and entities purchasing raw materials collaboratively, they would achieve; increased buying power, economies of scale and reduced shipping and transportation costs (Burnand, 2022).

Effective planning through the use of Gantt charts and maintaining effective communication further reduces costs. An example is conducting regular quality checks for factory deficiencies before transporting materials on-site. This ensures that defective materials are dealt with immediately rather than wasting time, losing resources and causing disputes.

A further example is through prudent calculation of what and when materials are required on site, leaving a margin for error (*ibid*). This alleviates delays in development which would have transpired if insufficient material was available, halting work or causing waste if too much material had been bought.

Having the required materials, machinery and personnel on-site at each stage alleviates costly inventory space from being required and reduces safety hazards to labourers through avoiding congesting the construction site with unrequired obstacles and dangers.

One of the most effective measures of sustainable construction is the process of reusing materials to reduce the amounts of new materials needing bought. It was found that the waste generated by limestone quarrying in the local scenario was alarming because of the amount of stone discarded during quarrying, owing to chipping and demolition projects. This dust should not be discarded and can be repurposed in numerous ways (Buhagiar, 2022).

For example, it can be used in cement-based materials, influencing their properties by filler, nucleation and dilution. Moreover, it may be used as a filler in manufactured goods, such as: paints, plastics, cleansers, paper and carpets. This locally sourced material is also used to create mortar and increase soil's quality. Boulders are another prior landfill-bound element which can be repurposed.

Boulders can be utilised as retaining walls and throughout the backfilling around the foundations to increase strength and lessen the volume of mortar required to fill. There are numerous levels of difficulty, time and cost in implementing economically sustainable materials and methods into a construction development project. For example, developers may choose to use self-healing concrete, which prevents cracking in concrete by 90%, is 100% stronger than traditional concrete and 70% more ductile than traditional concrete (PNNL, 2020).

Another sustainable construction development measure especially idealistic within the local Mediterranean climate is the use of cool roofing (US Department of Energy, 2019), which is created from materials reflecting the sun's heat whilst increasing energy efficiency and reducing the heat island effect in urban areas.

Sustainable measures can also be implemented at the finishing level of a project with lowered capital levels, even for individuals without a construction background. For example, green roofing can be installed, helping in reducing urban air temperatures and providing building insulation (B:UE, 2014). In addition, painting the exterior of local buildings with white reflective paint also keeps out excess heat throughout the summer months.

3. Research Methodology

The research process began with participant observations, followed by the formulation of theories based on those facts, through employing an inductive approach. Inductive research entails the identification of patterns within the data and the subsequent development of explanations for such patterns.

The research study involved the formulation of a theoretical framework, which was afterwards supported by the collection of data from professionals working in their respective industries. In relation to the collection of primary data, the researcher conducted interviews with professionals from the industry. A data gathering exercise was carried out at the local Property Valuation Conference, which facilitated the acquisition of a comprehensive understanding of diverse perspectives within the field of property management.

By engaging in interactions with persons from different industries, the researchers were able to generate a research study outcome that was significantly more comprehensive and diverse. The study employed the non-probability purposive sampling technique as its primary methodology. The selection of research participants was based on the researcher's subjective assessment of their grasp and skill in the subject matter under investigation.

Hence, the researcher selected a target demographic for conducting interviews based on their prior expertise in the pertinent sectors under investigation – a set of pre-defined criteria were established. The individuals were chosen based on their

specific areas of expertise pertaining to aspects that contribute to the enhancement of property value.

The study population comprised professionals from the fields of architecture, quantity surveying, property valuation, and real estate (denoted by participants P1,P2 and so on). The utilisation of thematic analysis as a methodology involved the identification and interpretation of patterns of meaning and themes within the gathered data. The interviews were transcribed, and subsequently, a theme coding analysis was performed.

4. Research Results and Discussion

The subsequent findings presented herein illustrate the aspects that contribute to the transformation of the property landscape:

Demographic Shift and Regional Demand:

The agreement among participants P1-P3 and P5-P10 suggests that the Northern districts of Malta will sustain higher levels of demand. This can be attributed to their concentration of entertainment establishments, advantageous geographical positioning, and strong connectivity, particularly appealing to the foreign community.

This result is consistent with the findings reported in the literature review, which indicated that in 2021, a considerable percentage of foreign residents, approximately 49.6%, opted to reside in the Northern Harbour district, thus establishing it as the most favored location among the local foreign population.

The Northern district exhibited a high level of concentration, housing around 23.3% of the foreign population. Nevertheless, it is expected that this demand would experience a deceleration in growth when compared to past years. Significantly, there is an observable trend towards the Southern regions, namely within the medium to low rental categories and the sales market. The change in question is influenced by affordability considerations and the availability of properties within the regions discussed by participants P6 to P10.

Price Trends and Property Values:

The analysis of property rates over the past four years reveals fluctuations in the Southern regions. According to P8, areas such as Fgura, Paola, and Zabbar witnessed a price increase from 1,700 euros per square meter in 2019 to 2,050 euros per square meter in 2021, followed by a slight decrease to around 1,900 euros per square meter in the subsequent year.

It was further stated among P3, P6, P7 and P8 that high-quality properties, including houses of character, are expected to experience an increase in value in the South. Furthermore, it was observed by P5 that despite higher prices in the

North, properties in that region generally offer better finishes and higher quality for their respective price ranges. There was a lack of secondary data to substantiate this stance and requires further data.

Urban Planning and Policy Implications:

P4, P8 and P9 suggested that policies promoting greater development in the South may influence movement toward this region while limiting further urban densification in the Northern regions. Considering that the North is already facing planning challenges due to extensive building work.

Additionally, it was anticipated by P1, P6 and P7 that the South will remain relatively cheap for now, but it is expected to reach a balance with the North eventually. Consequently, investors are advised to consider buying properties in the South sooner rather than later. These results conform with the prices per geographical region shown in the Malta Sales Indicator per square meter. Determining accurate net population migration is challenging, due to limitations in the current statistical literature.

However, according to P9, local businesses can provide valuable insight into market trends and population distribution. A significant number of individuals are estimated to reside informally, particularly in regions like St. Paul's Bay, where the official population figures differ from local council estimates, where statistics show 29,000 individuals living in the area contrary to the council estimates closer to 42,000.

The Regional Statistics for Malta ascertained the finding that the statistical data stated that 29,000 individuals were living in Malta as of 2019. Thus, causing a deviation between the literature review's findings and the results from the local council from the research.

According to P9 and P10, the prevalence of co-sharing rental apartments in regions such as St. Paul's Bay suggests many individuals are living below the official radar. As was observed by P4 and P7 that in towns such as Qawra, poor urban planning has discouraged the local population from relocating to these areas, perceiving them more as transitory zones. On the other hand, positive urban planning, exemplified by development in Valletta, has led to a limited supply of properties, driving prices upward.

Similar trends are expected in Sliema as it gradually reaches its full development potential. P1, P2 and P7 felt that it was worth noting that zoning regulations play a role, with certain areas designated for villas primarily occupied by locals, while other regions have witnessed the construction of apartments spanning up to eight floors. This is in accordance with what was discovered throughout the literature review, that positive urban planning and encapsulated regions generally retain a higher level of perceived value.

Impact of the Gaming Industry and Foreign Markets:

The consensus among participants P1-P10 was that the gaming sector and its associated international markets exert a substantial influence on rental costs. Based on the findings presented by P2, P6, P7, and P10, it can be observed that the presence of exorbitant rental prices and the emergence of compact designs and divisions in the Northern Harbour area have imposed financial limitations, resulting in the displacement of individuals belonging to the first-time homebuyer category and those with lower income levels.

Consequently, this has prompted these individuals to migrate towards the southern regions. Furthermore, it has been seen that the involvement of investors in the market has contributed to the continued increase in regional prices, as stated by sources P1 and P2. This aligns closely with the findings presented in the literature review conducted by the PWC real estate survey.

Regional Preferences and Cultural Influences:

The responses by P4, P8 and P9 indicated that Maltese residents generally have predetermined preferences regarding living in the North or South, influenced by factors such as upbringing, life experiences and societal perceptions. Cultural ties and the desire to remain close to family also affects residential housing choices.

However, according to P1, P6 and P9, specific areas such as Marsascala, attract more rental investments than first-time buyers, having experienced a significant building boom. P9 felt that the commercialisation of Marsascala has transformed it into the 'St. Paul's Bay of the South', driving higher rates due to increased demand for rental properties.

Price correction and optimising size of apartments:

P1, P2, P6, P7, P8 and P9 acknowledged the theoretical possibility of a price correction or capping in the housing market. However, according to P3, P4, P5 and P10 historical trends indicate otherwise.

According to P10, for development costs to decrease, a price correction would need to occur on the land itself, however, its value is continuing to increase steadily. P5 further added that although first-time buyers are being pushed off the property ladder, other market segments still find the current prices affordable. P6, P7 and P8 believed that if a correction were to happen, it would result in market stabilisation or a plateau, rather than a significant decrease in prices in the residential sales market.

An important point raised by P7 and P10 was that individuals become more inclined to rent over purchase when loan repayments increase beyond rental costs. This deviates with the current local prevailing homeownership culture established throughout the literature review, with emerging statistics from 2022 revealing that the verified figure was 81.9%.

5. Conclusions

The majority of families' most predominant asset is their real estate portfolio. Thus, indicating that without intervention, current affordability statistics are foreshadowing a time in which it will become financially unfeasible for first-time buyers to enter the property market, causing them to become renters by demand. Furthermore, it was noted that the supply and demand theory operates on the presumption that sellers want to sell.

However, major developers often prefer to hold onto their properties rather than keep money in the bank, where it would depreciate. This causes market cycles to skew off their natural course, resulting in buyers' markets becoming less common, with the most reasonable priced properties being purchased up immediately. In respect of government intervention, suggestions were made for the implementation of rental price regulations, similar to those witnessed in Berlin.

In addition, it was further suggested that laws should be established requiring large construction developments to include social housing, as is required throughout London. There is currently no secondary statistical literature which evaluates the concept of price regulations within the local context and thus this concept is a relatively new idea locally.

There was a split opinion regarding lifting the local regulation which is currently restricting one-bedroom apartments to 20% of total construction development projects. Among the arguments in favour of altering the current regulations, it was suggested that due to economies of scale and being able to build more units within the same space, building one-bedroom apartments would allow developers to price them at a cheaper rate.

Considering the increasing prevalence of single-parent homes, separation cases and foreign workers who often prefer one-bedroom apartments, along with the lack of current supply, the largest demand may be for one-bedroom apartments. However, concerns were raised about the potential consequences of leading first-time buyers into purchasing one-bedroom apartments, which do not accommodate for families.

One must highlight the fact that the more transparent a market is, the more efficient is the outcome. Ranking countries' transparency encourages them to become more transparent, hence without being in the index, it is difficult to achieve such. Malta is currently ranked at 3.62 points, with the highest number attainable being number 1 in the index. Further studies regarding Malta's transparency for reliability and effectiveness of various data sources may be used to obtain comparable evidence.

The research could explore the strengths and limitations of different sources, such as public listings, databases, government listings, and subscription services, regarding their accuracy, comprehensiveness, and accessibility. It would inform valuers about

the most reliable and efficient sources of comparable evidence for different market contexts.

Future recommendations are directed towards the impact of Market Dynamics on Valuation. Examining the effects of market dynamics, such as fluctuations in transaction volumes and market conditions, on the availability and applicability of comparable evidence would be critical to this area of research. The research would involve studying markets that have experienced significant changes, such as booming markets with high transaction volumes or markets undergoing rapid transformations.

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