REIMAGINING AN URBAN FUTURE:
A FORESIGHT-DRIVEN APPROACH FOR A THRIVING CITY

Archangelo D. Alegado, MEP, MTSS, MPSA
Dean, College of Engineering
Cor Jesu College
archangeloalegado@g.cjc.edu.ph

ABSTRACT

This study examines how the city can evolve into a prosperous, sustainable, and future-thinking urban center by 2040. Grounded in collaborative governance, participatory urban planning, and strategic foresight, the study integrates theories of urban resilience, co-creation, and future scenario planning to explore the complex relationship of environmental factors shaping urban futures. Employing a foresight-driven approach and a concurrent mixed-methods design, the research combines PESTEL Analysis, Scenario Analysis, Causal Layered Analysis (CLA), and Exploratory Factor Analysis (EFA). Data were gathered through interviews, focus group discussions, surveys, and desk reviews, to make sure that there is a comprehensive understanding of local realities. The findings emphasize that effective leadership, economic innovation, governance that is inclusive, and strategic urban planning play a crucial in shaping the future of Digos City. Alternative urban scenarios provide practical insights into policy reforms, key infrastructure priorities, and strategies that can improve public participation. This study provides a structured foresight framework designed to equip decision-makers with the tools to create a city that is both livable and resilient, while embracing a forward-thinking approach. More than just an academic exercise, this study serves as a call to action—urging policymakers, businesses, and communities to co-create a community that thrives amidst daunting challenges.

Keywords: Urban Transformation, Collaborative Governance, Public Participation, Strategic Foresight, Futures Thinking.

1. INTRODUCTION

Globally, political and environmental considerations influence urban development and heighten concerns about populations, making sustainability a top priority. A livable, sustainable communities were emphasized in Habitat III's New Urban Agenda and United Nation's Sustainable Development Goal No. 11. Strategies must also strike a balance between social justice, environmental preservation and economic advancement because more than half of the globe's population live in cities, and this trend is expected to continue by 2050. The study's focus is the Philippines, particularly Digos City in Davao del Sur, but it also looks at urban development worldwide. Important lessons can be learned from cities like Singapore, Seoul, Helsinki, and Barcelona.

Through "macro-surgery" neighborhood regeneration (Yashoaa et al., 2023), Barcelona transformed from an industrial hub to a post-industrial city that is globally competitive. One notable example is the conversion of Poblenou into a mixed-use zone that now houses ICT, biotechnology, and energy companies. However, because public engagement was insufficient, economic prosperity came at the expense of social cohesion (Miao & Phelps, 2019). Since then,

the city has used technology to improve governance, initiating more than 200 smart projects between 2013 and 2014 that have created 21,600 employment (Ferrer, 2015). Business innovation, public digital empowerment, and government digitization are the main themes of Barcelona's digital transformation (Miao & Phelps, 2019; Ferrer, 2017; Deguchi, 2020).

Helsinki welcomed modernization and gave public-owned businesses and urban innovations priority. To improve public transportation and lessen traffic, its 2002 urban plan converted port lands into residential zones (Tiitu et al., 2021). By prioritizing digitization, community engagement, and sustainability, the city sought to become the "world's most functional city" by 2017–2021 (Wahba & Vapaavuori, 2020). With a goal of becoming carbon neutral by 2035, digitalized city planning and construction guaranteed top-notch public services (City of Helsinki, 2017; Huie, 2021).

Through public participation, Seoul created the 2030 Seoul Plan, which envisioned a walkable city with easily accessible transportation and heritage preservation (The Seoul Institute, 2018). Seoul became a global leader in participatory urban planning when the 2015 Seoul Urban Planning Charter established 10 fundamental principles for sustained policy continuity (Erkek, 2023). Launched in 2014, Singapore's Smart Nation initiative merges government, economy, and digital society (Adnan & Hamzah, 2016; Choi & Caicedo, 2023). With a focus on inclusive digital transformation and stakeholder-centric services, it employs a phased approach that includes the Digital Government Blueprint (2020), Smart Nation: The Way Forward (2018), and The Three Pillars of a Smart Nation (2014) (Smart Nation and Digital Government Office, 2018; Government Technology Singapore, 2020).

The Philippines is rapidly becoming more urbanized; by 2050, 65% of the population is predicted to live in cities (World Bank, 2017). According to the Philippine Statistics Authority (2020), 54% of Filipinos were living in the urban areas, up from 51.2% in 2015. Mega Manila's forests are expected to vanish by 2030 due to unrestrained urban growth, endangering natural ecosystems (Mishra et al., 2019). A critical gap exists in city-level studies on public participation in urban planning (Santillan & Heipke, 2023), and development efforts often misalign with political cycles. Digos City has received multiple accolades for its competitiveness and creativity, including the Most Improved City in 2021. But problems still exist, such as inadequate infrastructure, low public involvement, poor fund use, and governance issues (Cagas & Balacy, 2022). The city is further threatened not only by environmental concerns and rapid urbanization, but also by the absence of a definitive roadmap for urban development. Addressing these structural problems and guaranteeing equitable growth require an understanding of Digos' socioeconomic environment.

This study is an impassioned plea to action—a call to investigate the prevailing narratives of development in Digos City and clear the path towards achieving the goal set forth in the vision statement of the city. This research closely examined how the city is governed and how people get involved in decision-making. It aimed to find the main reasons behind the city's problems and mapped a course towards transformative change.

The primary objective of this research was to develop a strategic framework of collaborative foresight in the transformation of Digos City towards its preferred future in 2040. Specifically, it sought to: (1) identify and analyze the environmental factors influencing the development of Digos City; (2) explore and develop alternative future scenarios for the transformation of Digos City by 2040; (3) examine and synthesize the urban transformation vision held by the Digos City community for 2040; and (4) determine and evaluate the critical success factors that will drive the transformation of Digos City in 2040.

2. MATERIALS AND METHODS

This study utilized a mixed methods design (Creswell, 2022), integrating both quantitative and qualitative approaches (Christensen et al., 2015). Specifically, it employed the concurrent mixed methods research design (Castro et al., 2010), where data collection occurred simultaneously, though one type was given more emphasis (Castro et al., 2010; Christensen et al., 2015). Quantitative research examines variable relationships using statistical analysis for generalizable results (Martín-López et al., 2016; Christensen et al., 2015), while qualitative research seeks to understand meanings within natural contexts (Christensen et al., 2015; Creswell, 1998).

3. DATA COLLECTION AND TECHNIQUES

3.1 Inquiry

This study utilized purposive sampling for qualitative analysis and quota sampling for quantitative analysis. There were five participants for the key informant interviews (KII) and sixteen participants for the focus group discussion. All of them were selectively chosen not only to make sure that there was a diverse range of perspectives but also to ascertain that participants had either direct knowledge and involvement in shaping urban development initiatives or could provide valuable insights into the city's development strategies. The sample size for the quantitative stage that included sectoral representation from the government, business, academe, and the general public, was determined using a sample to variable ratio. Although no consensus on the best ratio, the researcher set the ratio to 30:1, suggesting 30 responses per survey question. With 21 items, a sample size of at least 690 was sufficient and was used as a baseline, requiring a distribution of at least 170 for each sector. After the conclusion of the survey, 552 responses were ready for analysis.

3.2 Data Analysis

To comprehensively analyze urban development transformation in Digos City, the study applied PESTEL Analysis, Scenario Analysis, Causal Layered Analysis, and Exploratory Factor Analysis. These four analytical approaches, combined with diverse data collection methods, formed the basis of "quadrangulation." Although quadrangulation is not widely recognized in social sciences, it is commonly used in computational geometry, where four-sided mesh structures enhance clarity and structure (Dong et al., 2006; Huang et al., 2008). Similarly, in social sciences, quadrangulation synthesizes multiple methods and data sources to provide a richer understanding of social issues, recognizing that numerical data or descriptive narratives alone are insufficient.
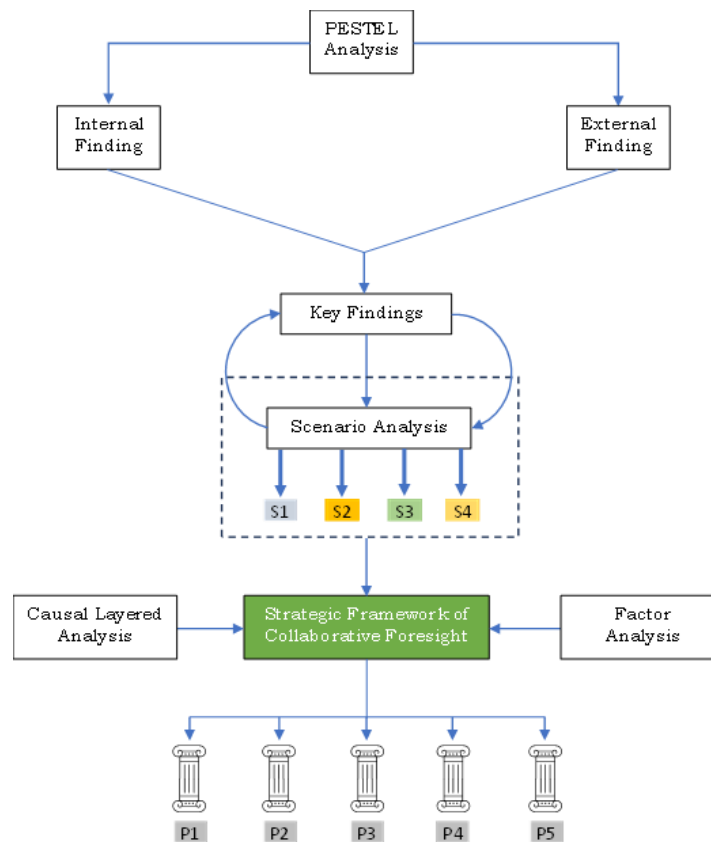
Figure 1: Methodological Framework for Concurrent and Sequential Synthesis

4. RESULTS
4.1 PESTEL Factors

Transformative and visionary governance emerged from the political aspect of the PESTEL framework. KII participants saw the importance of political will and progressive and passionate leadership that was seen as the driver for creating a strategic vision.

KII 1: "*But if you are someone who doesn't constantly think about politics, then you will start to notice this problem. However, if you are stable and not afraid to take risks because you believe that even short-term actions can benefit the greater good, then you will go ahead and do it.*"

KII 3: "*The mayor is incredibly driven to sustain his vision for the city's development. We are very grateful because he always includes us in his plans. He never neglects our advice and recommendations, and we are truly thankful for that.*"

KII 5: "*The local government's aggressiveness, despite inevitable interference, is remarkable...I see the mayor's heart and dedication—his determination to drive development forward. His eagerness is evident, especially because he is still young; I can clearly see his desire to make a difference.*"

The emphasis on leadership as a driver of public engagement resonates well with the theory on Ladder of Citizen Participation (Arnstein, 1969). The key interviews reveal Digos City leadership has not gone past tokenism (e.g., public hearings and consultation), far from genuine partnership and shared decision-making reflected in Arnstein's theory.

Economic vitality and business innovation were highlighted in the economic dimension of the PESTEL framework. Key informant interviews reveal that a supportive climate is important for achieving sustainable socio-economic growth. They point towards income-generating projects, such as investment in solar energy, green public spaces (e.g., ecological parks), tourism destinations, and improvement of terminal exchange.

Community participation and collaborative development emerged as a defining theme for the social dimension. According to the PESTEL Analysis, this theme shows how collaborative efforts, inclusivity, and public participation drive social cohesion and community well-being. One key informant recalled that informative or consultative mechanisms, such as public hearings and consultations, were identified as important instruments to make sure there is inclusivity and respect for the rights of the members of the community.

KII 5: "*We really involved all the barangays [suburbs], as well as all interested stakeholders within the barangay—schools, barangay officials—all were part of the public hearing. It was a public hearing for all the barangays, with interaction included.*"

The interviews also noted the importance of government-led relocation programs and poverty reduction initiatives (KII3, KII 5); training for capacity building (KII 4, KII 5); and cultural preservation (KII 1, KII 2, KII 3).

Digitalization and technological integration emerged as factors in the technological aspect. These theme highlights the city's efforts to leverage digital technologies, global information systems, and innovations in public services to improve urban planning and disaster resilience. While key informants observed the increasing adoption of digital systems (e.g., business licensing, data privacy, real-time kinematic instrument for precise locations) and collaboration with government agencies for digitalization (e.g., ICT and S&T departments), the city is still in the initial technology adoption stage. Generational gap was one of the main challenges to technology adoption, noting that a large number of the city's manpower includes a wide age range, with employees up to 70 years old.

Environmental stewardship and adaptive resilience were captured from the environmental aspect of the PESTEL framework. The interviews highlighted the city's struggle with environmental degradation and inadequate infrastructure to deal, for example, with flooding as there is no comprehensive master plan for drainage network and waste management facilities.

Legal compliance and regulatory governance are central to the city's environmental and urban development strategies. Issues with current environmental compliance, legal challenges to governance, jurisdiction and regulatory enforcement, real properties not properly registered in the city government, previous administration's infrastructure project documents that have not been properly turned over to the current administration, and building establishments that do not have building occupancy permits, are serious impediments to legal compliance and governance.

4.2 Scenario Analysis – Alternative Futures in the Transformation of Digos City in 2040

The alternative futures for Digos City's transformation in 2040 were derived using Scenario Analysis, a process of developing plausible narratives about the future. The Scenario Analysis was built upon insights from the PESTEL Analysis to identify drivers of change. Governance effectiveness in climate adaption and public engagement in urban development emerged as the driving forces for Digos City's urban development.

Scenario 1: *Fragmented Futures: The City Left Behind:* Urban growth and climate adaption are impeded by a lack of coordination, including political intervention, and worse, poor governance. This scenario results in economic deterioration, stagnation, and an increase in social conflicts.

Scenario 2: *Grassroots Momentum: Pockets of Progress:* Neighbourhood level climate concerns are addressed by community-driven projects that promote diversity and strength. However, poorly coordinated governance limits the scalability of these initiatives. In other words, some suburbs lead the way while others fall behind.

Scenario 3: *Efficient but Disconnected: Progress without Trust*: Green infrastructure and technological development fuels economic expansion and climate resilience. However, the participation of public is tokenistic; and despite tangible advancements, social instability and a lack of diversity undermine confidence in the government.

Scenario 4: *Shared Vision, Shared Prosperity:* A vibrant, inclusive, and sustainable city which is a result of a strong governance, integrated climate strategies, and democratic decision-making.

The findings highlight how governance, community involvement, and investments in technology and the environment work together. These factors play crucial roles not just in shaping the city's future but also in balancing efficiency and inclusivity.
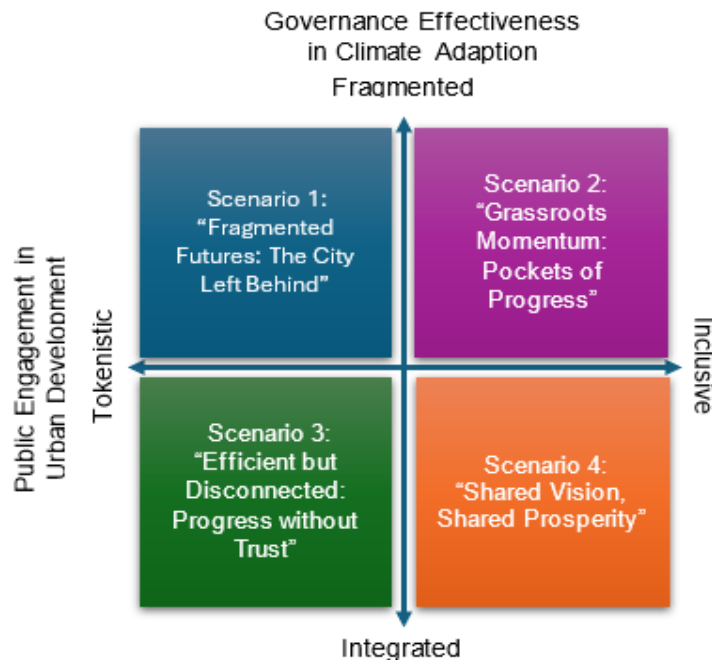

Figure 2: Alternative Futures of Digos City in 2040

4.3 Causal Layered Analysis – Vision of Urban Transformation of Digos City in 2040

The vision for Digos City's urban transformation in 2040 is based on a Causal Layered Analysis (Inayatullah, 2004), revealing interconnected challenges across government, business, academic, and public sectors.

4.3.1. Summary table of the causal layered analysis (CLA) of four sectoral representations

CLA Layer	Sector-Specific Priorities			
	Government	Business	Academe	Public
Litany	- Rapid urbanization - Population growth - Lack of infrastructure	- Increase of population - Crime rate increase - Traffic congestion	- Education issues - Chaotic roads - Lacking sewerage preps	- PUVs at the city center
Systemic Causes	- Poor planning - Reactive governance	- Peace & order challenges - Uncontrolled transport franchises	- Corruption - Governance flaws - Weak enforcement of laws	- Lack of discipline - No proper PUV routes
Discourse/ Worldview	- Pessimistic attitude - Short-term planning focus	- Safety prioritization - Sustainability policies	- High standard education - Accountability and transparency	- Visionary leadership - Community awareness programs
Myth/ Metaphor	"Come what may!"	"City of resilience & sustainability"	"City of innovators, change-makers"	"Health is wealth" "City on the move"

This study identified five themes: urban planning and infrastructure, governance and leadership, education and workforce development, community engagement and safety, and aspirational narratives. Government sector faces rapid population growth and urbanization, causing infrastructure and governance strain. Business sector faces traffic congestion, unregulated transportation, and crime, while academic sector focuses on addressing corruption and on innovative education and sustainability. Public sector sees a city with a healthier population, enhanced quality of life, and efficient transportation systems. Addressing cultural norms requires integrating education reforms with proactive governance strategies.

4.4 Exploratory Factor Analysis – Critical Success Factors in the Transformation of Digos City in 2040

The vision for Digos City's urban transformation in 2040 is based on a Causal Layered Analysis (Inayatullah, 2004), revealing interconnected challenges across government, business, academic, and public sectors.

4.4.1. Summary table for the sociodemographic profile of respondents (N=552)

Characteristics	Frequency	Percentage
Age		
18-24	345	63.07
25-34	75	13.71
35-44	66	12.07
45-54	46	8.41
55 and above	15	2.74
Total	**547**	**100.00**
Gender		
Male	234	43.90
Female	299	56.10
Total	**533**	**100.00**
Sector Affiliation		
Academe	160	30.42
Business	98	18.63
Government	111	21.10
Public (Community/Resident)	157	29.85
Total	**526**	**100.00**
Years of Residence		
Less than 5 years	135	25.42
5-10	69	12.99
11-15	44	8.29
16-20	110	20.72
Over 20 years	173	32.58
Total	**531**	**100.00**

Note: Total number of responses on each variable differ from N=552 as there were participants who did not indicate their age (0.91%), gender (3.44%), sector affiliation (4.71%), and years of residence (3.80%).

The study reveals that Digos City's demographics are predominantly young adults, with a slight female majority. The largest groups are academe (30.42%) and public/residents (29.85%), while government respondents (21.10%) offer policy insights but may face barriers. The business sector (18.63%) has the smallest representation, possibly indicating lower relevance to their interests. Long-term residents (32.58%) provide deep historical perspectives, while new residents (25.42%) may have different expectations and challenges.

4.4.2. Summary table for the KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.971
Bartlett's Test of Sphericity	Approx. Chi-Square	10871.483
	df	253
	Sig.	.000

The Kaiser-Meyer-Olkin (KMO) Test performed preliminary suitability tests. The 21 items were subjected to a Principal Component Analysis (PCA) utilizing Varimax rotation. The Kaiser-Meyer-Olkin (KMO) measure verified the sample adequacy with a value of 0.971, which is much higher than the acceptable threshold, and considered as "marvellous" (Field 2017, citing Kaiser and Rice, 1974).

4.4.3. Summary table for the rotated component matrix with component labels

Item	Component Name	Communality
1. Community involvement is encouraged in decision-making related to city projects. (.824)	**Governance and Community Engagement**	.585
2. The decision-making processes for urban development are inclusive and transparent. (.744)		.660
3. The local government provides sufficient platforms for citizen feedback. (.739)		.662
4. Policies for urban planning are implemented consistently and effectively across departments. (.728)		.693
5. Leadership promotes collaboration among government, community, and industries. (.711)		.762
6. Local communities are actively involved in disaster preparedness programs. (.708)		.656
7. Social programs address the needs of marginalized groups adequately. (.697)		.678
8. The local government offers consistent direction for urban development. (.685)		.677
9. Urban planning integrates environmental sustainability considerations. (.656)		.531
10. Flood control systems in Digos function effectively. (.635)		.657
11. Economic programs create opportunities for small and medium enterprises (SMEs). (.766)	**Innovation and Economic Development**	.561
12. Processes for property ownership and registration are transparent and efficient. (.766)		.645
13. Local ordinances align effectively with national urban development policies. (.761)		.684
14. Public-private partnerships are utilized effectively for development initiatives. (.758)		.674
15. The local government enforces building codes and zoning regulations effectively. (.758)		.664
16. Funding for infrastructure projects is managed effectively. (.729)		.667
17. Smart city initiatives are actively pursued in Digos. (.725)		.722
18. Dispute resolution mechanisms related to urban development are accessible and fair. (.722)		.713
19. The local government attracts investments that support urban development. (.702)		.717

Item	Component Name	Communality
20. The local workforce is adequately trained in adopting new technologies. (.649)		.731
21. Digital systems enhance efficiency in local government services. (.580)		.670

The component solution indicates all variables having significant loading on a component. Hair et al. (2019) suggest that variables with stronger loadings are 'more important' and exert more influence in determining the name chosen to represent a component (p. 156). Variables with higher loadings were prioritized in naming the component, as they represent the strongest relationships between the variables and that component. The communality of a variable is the proportion of its variance that is explained by the combined retained factors (Hair et al., 2019). High communalities (≥ 0.50) show that the variable is well-represented by the factor solution and has a substantial common variance with other variables. In other words, variables with communalities of at least 0.50 have at least half of their variance explained by the factors, which indicate a strong fit (Costello & Osborne, 2019: Hair et al., 2019). The rotated component matrix (4.4.3) revealed a distribution of loadings across two components, which reflect distinct patterns in the relationships between variables and the underlying factors.

Governance and Community Engagement and Innovation and Economic Development are the two main factors influencing urban transformation, according to the study. The first half emphasizes the vital role of participatory governance, which cultivates trust and accountability through inclusive leadership, transparent decision-making, and community cooperation. This strategy guarantees that sustainability and safety issues are successfully addressed by putting a strong emphasis on teamwork.

On the other hand, the focus of Innovation and Economic Development is on infrastructure development, economic expansion, and technological breakthroughs. In promoting long-term progress, it emphasizes the value of strategic investments, public-private partnerships, and entrepreneurial support. Integration of digital governance and smart city programs improves efficiency, and policy alignment guarantees that economic development stays accountable, accessible, and equitable.

Strategic Framework for Digos City's Transformation in 2040
The study construct five transformational strategic pillars: *Catalytic leadership* ascertains accountability and community involvement by promoting open, inclusive, and creative governance. Through heritage initiatives and living labs, *co-created communities* promote social resilience, cultural identity, and citizen participation. A *future-proof economy* is an economy that promotes sustainability, improves connectivity, and diversifies industries to guarantee sustained economic progress. To save resources and enhance livability, *eco-friendly urban design* incorporates sustainable planning, carbon offset schemes, and green initiatives. The *agile policy ecosystem* makes use of data-driven, flexible governance to guarantee that policies are current and responsive to new issues.
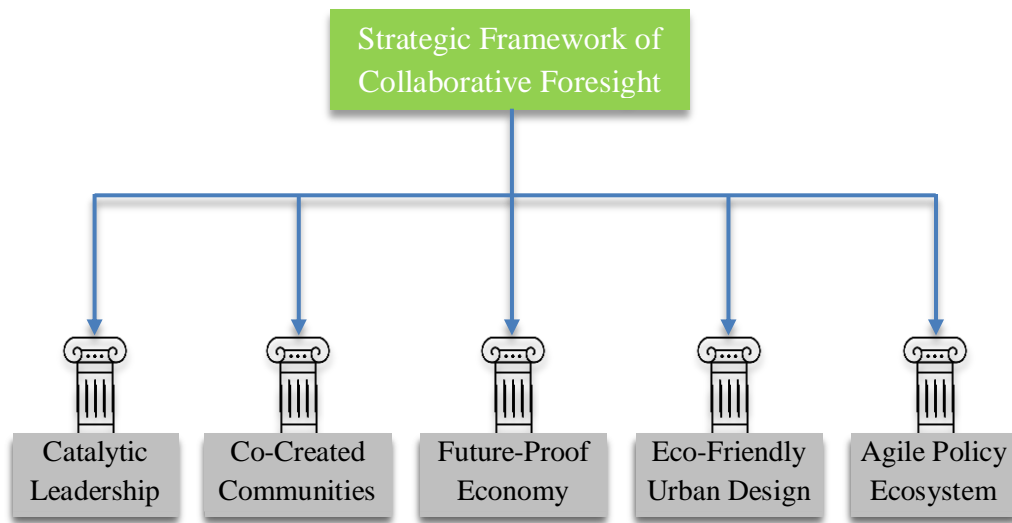
Figure 3: Five Pillars of Digos City Transformation in 2040

5. DISCUSSION-CONCLUSION

Digos City is undergoing significant transformation, driven by a quite careful management, project funding, public participation, technology, environmental concerns, and legislation. However, challenges such as regulatory conflicts and enforcement issues must be addressed to maintain progress. Economic growth in Digos City depends on enterprise, trade, and tourism, but key barangays (suburbs), such as Kapatagan, which is located in a nationally protected area, faces tax and revenue challenges due to unresolved governance and jurisdictional problems. To ensure fair contributions to local growth, well-defined policies on taxation and economic regulation are necessary.

Public participation in Digos City is still tokenistic, with decision-making authority remaining with government officials and policymakers. To ensure genuine partnership and co-governance, the city needs to establish institutions like participatory budgeting, active citizen planning committees, and co-governance frameworks. In addition, the study indicates that the government, business, academe, and communities have different priorities but share common goals. Poor communication and coordination, however, inhibit their actions, indicating that urban development is driven by different interests and requires a better structured approach to participatory governance and stakeholder management.

Governance remains an issue in Digos City. Short political cycles (three years), corruption, and political interference, impact decision-making. Addressing these requires increased transparency, enhanced anti-corruption measures, and public service efficiency reforms. The adoption of technology, such as Geographic Information Systems (GIS), real-time kinematic instruments, and early warning systems, is growing, but adoption has been slow due to gaps in digital literacy and resistance to change. This study emphasizes the importance of identifying and prioritizing key success factors, including governance reforms, economic strategies, participatory engagement,

technological innovation, and environmental sustainability, in the urban development trajectory of the city.

Digos City's transformation should not be a passive process; rather, it should be a ground-up redesign powered by visionary leadership, fearless innovation, and unstoppable citizen action. The pillars of the strategic framework are not standalone mechanisms—they reinforce each other to create a powerful ripple effect.

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