

**5th CITIES AND MUNICIPALITIES COMPETITIVENESS INDEX
ACADEMIC SYMPOSIUM**

“Creating Creative Cities, Elevating Local Competitiveness “

Research Title	Is imagination the only limit? Assessing the Innovation Capacity of Cordillera Cities and Municipalities as Enablers of Creative Economy ¹
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ABSTRACT

The capacity of local government units to innovate is imperative to allow the flourishing of a creative economy. It has been established that innovation capacity, the availability of resources that enable entities to develop new products or processes, e.g., knowledge, technologies, human resources, infrastructure, and policies that can be used for solving pressing problems and challenges, is critical and is directly related to the performance of businesses in creative industries (Sumawidjadja, et al., 2020; Gouvea, et al., 2021).

This research is interested in describing innovation capacity in relation to the efforts to pursue a creative economy in the Cordilleras, a region known for its unique natural topography, cultural identity, and development concerns. It is descriptive, qualitative, and analytical utilizing available literature and data. A framework summarizing the factors that enable the development of public sector innovation capacities leading to the development of creative economies according to the literature is presented and was used to evaluate local government unit innovation capacities using data from the Cities and Municipalities Competitiveness Index (CMCI) 2023.

Interventions that the local governments could do to advance their innovation capacities for the progress of creative industries and innovation capacity indicators that can be assessed in the future are determined.

Keywords: *Innovation capacity; creative economy; innovation; cities and municipalities, local governments; competitiveness*

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I. Introduction

A. Background of the study

The global and local environment is dynamic in nature. Not only do businesses have to be responsive to the consequences brought by changes around the world. The public sector is also challenged to bring innovation to the table. To create innovation, the capacity of government units to create and innovate has to be strengthened.

Organisation for Economic Co-operation and Development (OECD) (2019) identifies two main functions why the public sector should focus on innovation – the government as an enabler and the government as a producer. As an enabler, the government should be adopting and crafting policies that ignited innovation activity in different sectors of the economy, e.g. investing in education, provision of social services, investment in scientific research and development, development of infrastructures, elimination of business investment barriers, adaptation in climate change, and reinforcement of functioning markets. As a producer, the government is to build on its innovation capacity to respond to the current challenges in tight fiscal spaces and limited resources simultaneous to increasing societal demands and public needs such as changes in demographics, and threats of climate change.

Of the many industries in the economy that would benefit from investments in innovation is the creative industry. “Advertising, architecture, arts and crafts, design, fashion, film, video, photography, music, performing arts, publishing, electronic publishing, research and development, software, computer games, and television and radio” (United Nations, 2022, pg. 17) are considered as creative industries and the sum of these industries including its trade, labor, and production comprise the creative economy. US\$524 billion worth of creative goods are exported around the world, where China is the largest country contributing to the total exported creative goods in the year 2020 (United Nations, 2022). In 2022, data from the Philippine Statistics Authority reports that the creative economy contributed PHP1.60 trillion which is 7.3 percent of the country's gross domestic product. (Gonzales, 2023)

In the past five years, national laws have also given a legal basis for localities to push for innovation and development and creative industries namely Republic Act (RA) 11293: Philippine Innovation Act enacted in 2019, and RA 11904: Philippine Creative Industries Development Act enacted in 2022. These laws stipulate clear expectations for local government units to be proactive and create their initiatives to contribute to national innovation and a creative economy.

The dynamic environment is a push for local governments to innovate. However, the big concern is their readiness and their capacity to innovate and cope with the pressures from the market, laws, and even various stakeholders. The first step to preparing and cultivating public sector innovation capacity is to identify their current conditions and a readily available data set is present through the conduct of the annual Cities and Municipalities Index (CMCI) where all cities and municipalities in the country

participate. These developments and opportunities lead to the interest in conducting this study.

B. Locale of the study

This study is interested in the state of innovation capacities of identified local government units in the Cordillera Administrative Region. The Cordillera Region is comprised of six provinces and one chartered city covering 77 cities and municipalities.

Cordillera hosts creative industries that give both commercial and cultural benefits. Given its natural topography, unique culture, and people, the region projects great potential as a creative economy hub. Baguio City has already been declared as a UNESCO Creative City for crafts and folk art. Other key cities and municipalities also hold the potential to develop their creative economies.

Since urban areas are avenues where pioneer innovations are done and most economic activities emerge in these areas (UNESCO, n.d.), this study will focus on Baguio City and province capitals Tabuk City in Kalinga which are the two main economic and government centers in the region. This study will also include the capital towns Municipality of Bontoc in Mountain Province, Municipality of Lagawe, Municipality of Kabugao in Apayao, Municipality of La Trinidad in Benguet, and Municipality of Bangued in Abra which serve as the economic and government centers of each province.

C. Statement of Research Problem and Objectives

Since innovation is imperative to support the growth of creative economies, this study focused on answering the following questions.

1. What is the state of Cordillera's key cities and municipalities' innovation capacity?
2. What policy and program interventions can be developed to boost the innovation capacity of identified localities in the Cordillera region?

The general objective of the study is to describe the innovation capacity of identified cities and municipalities in the Cordillera. After this, policies and program interventions that should be done to boost the innovation capacity of the localities in the region are identified.

D. Significance of the Study

The assessment of the current innovation capacities of local government will allow local chief executives and other local officials as well as local stakeholders to be aware of the potentials that they could cultivate to improve the state of their capability to innovate. This leads to the identification of proper interventions that are fit for the context of localities. The interventions identified in this study could serve as a guide for planners and local executives in creating their visions and strategies for their cities, specifically prioritizing their investments and general directions for their local economies.

E. Scope and limitations

This study is limited to the data available in the literature and the data available on the local data capture sheets provided by identified local government units in the Cordillera for the measurement of the annual Cities and Municipalities Competitive Index (CMCI). This does not reflect the status of the whole region. This study is also qualitative in nature. Thus, no statistical analysis is done that could claim causality or correlations on the variables that will be analyzed.

II. Review of Related Literature

A. Innovation and Innovation Capacity in the Public Sector

“Innovate or die”. Current literature highlights the necessity of creating innovations whether organizations are for-profit or not-for-profit. Conversations about innovation have also been growing in the past decades as reflected in academic literature. (Cropley, 2016)

Innovation is perceived to be bearers of brand new and advanced solutions exploiting recent available knowledge and something that is typically a “first-world” country activity. However, innovation is beyond the “high-tech” stereotype but a wider concept covering the attempt to create new products or processes and it is something that can be used to describe changes implemented in different local contexts. Oslo Manual (OECD, 2005, p. 46) defines innovation as “the implementation of a new or significantly improved product (good or service), or process of a new marketing method, or new organizational method in business practices, workplace organization or external relations.” In this sense, innovation is not just a fancy activity exclusive to able nations or firms but something that can be done in any context which includes developing economies (Fagerber, Srholec, and Verspagen, 2010).

Innovation as a product may be understood in straightforward terms but a more complex concept is seen as a process. Cinar, et al. (2022) summarized types of innovation relevant to the public. There are seven types cited - (i) service innovation which is related to the delivery of services to the public, process innovations in the forms of (ii) administrative process innovation and (iii) technological process innovation which is related to operations and the application of technology to service delivery mechanisms, (iv) conceptual innovation which is the development of new views that challenge existing practices and products, (v) governance innovation which introduce mechanisms of citizen participation and transparency and accountability in political governance, (vi) systemic innovation, similar to ancillary innovation or collaborative innovation, that captures ways of interacting with other organizations to deliver services, and (vi) social innovation that aims to meet needs of disadvantaged groups and address underlying social problems.

The concept of innovation as a linear process is shown in the graph below according to how Bardon (2014) illustrated Vannevar Bush's (blue elements) and Godin's (*green elements as alternatives to adjacent process items in Bush*) ideation of the innovation process concept.

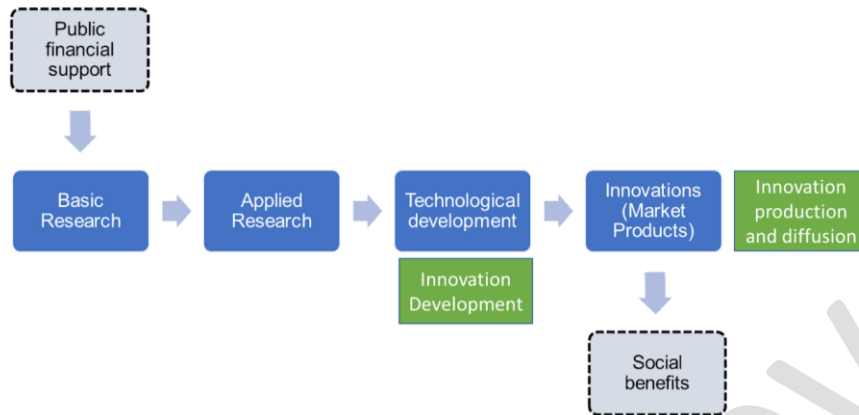


Figure 1. Linear Model of innovation process according to Bush and Godin

As reflected above, the role of government through policy and allocation of resources is the stimulus in the creation of research that would later produce innovative products that would be diffused to the public and ideally would provide social benefits. Innovation can be started by public policy and can be implemented in the business sector and government organizations as well.

It is established in this section that innovation is not exclusive to any kind of organization. Albeit mostly seen in the private sector, innovation can be practiced as well in the public sector like in the local government units in cities and municipalities in Cordillera. The government bears a mandate to provide public goods and services which if improved can also improve the quality of life of citizens in the rapidly changing structures, environments, and values in the society (Gieske et al., 2019 as cited by Kim and Kim, 2022).

Literature in public sector innovation began in the 1980s (Walker, 2007 as cited in Kim & Kim, 2022). To realize innovation, a level of innovation capacity is needed. For Kim and Kim (2022), innovation capacity includes the expertise of members and resources of an organization that could create new resources for the future - as human skills this is technical proficiency; for resources, this is the ability to discover new environments, enhance human, material, and environmental capabilities; the future-oriented developmental competency, and the ability to integrate organizational resources.

Kim and Kim (2022) see public officials as the “innovators” in the context of the government. They claim that innovation happens at the individual, middle manager, and organizational levels. Citing Sorensen and Torfing, Kim and Kim (2022) described innovation happening in three stages. The first stage is where the production and delivery of products, services, and solutions happen. In the second stage, there is a change in repertoire, i.e. in services and organizational customs. In the third stage, the purpose of policies and theories behind programs conducted are transformed. In this context, “the strategic thinking, creative problem-solving skills, analytical decision making, goal-oriented nature, and public entrepreneurship of individuals and middle managers indicate the first change. Data-based decision-making, strategic human resource management, flexible work environment support, active communication, Holacracy, and open and

convergence cultures indicate the second change. Establishing a vision and strategies for government departments, developing and using core competencies, supporting efficient policy implementation, and establishing strategic management models such as policies indicate the third change” (Kim & Kim, 2022, p.12)

In the next section, a discussion on indicators that can be used to assess levels of innovation capacity in the public sector is presented.

B. Assessing innovation capacities in local government units

In this paper, the focus is situated on local government units of cities and capital municipalities. Cities contribute to innovation in two ways – with their size and with their economic and political power (Concilio et al., 2019). Concilio, Culen, and Tosoni (2019) identified common claims from the literature about attributes of cities that would boost their capacity to generate innovation and host innovation in their locality. These are (i) highly qualified and knowledgeable labor, (ii) fixed capital infrastructures and communication hubs, (iii) experience in innovation, (iv) strong national/regional performance in terms of innovation, (v) knowledge assets, and (vi) the cities’ ability to deal with changing circumstances and to re-invent itself (Concilio et al., 2019). In addition to the above mentioned, cities are seen to have greater innovation capacity given the following.

Table 1. Urban innovation capacity criteria/indicators (based on OECD ‘Resilience’ framework) (Concilio et al., 2019, p.98)

Criteria/ Indicator	Characteristics
<i>Adaptiveness</i>	<i>An adaptive urban system manages uncertainty by evolving—modifying standards, norms, or past behavior—using evidence to identify solutions and applying the knowledge gained from experience when making decisions about the future</i>
<i>Robustness</i>	<i>A robust urban system can absorb shocks and emerge without significant losses to its functionality. Robustness depends on a system that is well-designed, built, and managed to absorb the impact of a shock and continue to operate</i>
<i>Redundancy</i>	<i>Redundant urban systems can meet the need for spare capacity when faced with unexpected demand, a disruptive event, or extreme pressure. This entails intentionally developing or having access to more than one source of action, service, or service provider when necessary</i>
<i>Flexibility</i>	<i>A flexible urban system allows individuals, households, businesses, communities, and government to adjust behavior or actions to rapidly respond to change</i>

Criteria/ Indicator	Characteristics
<i>Resourcefulness</i>	<i>A resourceful urban system can effectively and quickly restore the functionality of essential services and systems in a crisis or under highly constrained conditions, with the resources available</i>
<i>Inclusivity</i>	<i>An inclusive urban system ensures that diverse actors and communities are fully consulted, engaged, and empowered in the policy process, including in the policy design stage when possible</i>
<i>Integration</i>	<i>An integrated urban system promotes a cooperative and, ideally, collaborative or participatory approach to policy making and programming that transcends sectoral and administrative boundaries to better ensure coherent decisions and effective investment</i>

In assessing local government’s innovation capacities, there are available instruments that are used by various organizations such as the Asian Productivity Organization’s (2022) Survey on Assess[ing] Innovation Management Capacity using ISO 56002:2019, Massachusetts Institute of Technology Local Innovation Group’s A Framework and Tools for Assessing Local Innovation Capacity: Guide for Implementers written by Assefa and Hoffecker (2022), and the better known Oslo Manual 2018 published by OECD (2018) which provides guidelines for the collection and interpretation of technological innovation data. OECD (2019) also conducted a survey that measured the innovation capacity of cities around the world with the survey instrument publicly available. For this study, with the limited time and resource constraints and its qualitative nature, these instruments which are mainly surveys and primarily quantitative were used as the basis for a framework contextualized for the interest of this study.

Since 2014, the National Competitiveness Council through Regional Competitiveness Committees (RCCs) led by the Department of Trade and Industry regional offices developed the Cities and Municipalities Competitiveness Index which is an annual ranking of cities and municipalities. The index has initially four pillars - economic dynamism, government efficiency, infrastructure, and resiliency. Last year, the innovation pillar was added as one of the measures of competitiveness for localities. In this index, data from local government units are collected annually to reflect their annual performance on the said pillar (CMCI, n.d.). Under the innovation pillar, the presence of an information and communications technology plan is asked, registered intellectual properties, presence of internet infrastructure and subscription, presence of graduates in science, technology, engineering, and mathematics fields, fund allocation for research and development, and presence of adopted new technologies in the locality. This index is a local resource that local researchers can utilize in analyzing the innovation capacities of localities among other interests.

C. Innovation Capacity and Creative Economies

Innovation and creativity are closely related concepts and are often interchanged. It can be argued that innovation capacity and the capacity to improve creativity require almost the same elements if not similar. For Sumawidjadja, et al. (2020), the innovation capacity of local government units is key for creative economies to flourish.

Gouvea, et al. (2021, pg. 53) examined the relationship of creativity to entrepreneurship and innovation using empirical data from 34 countries and concluded that social entrepreneurship, wealth, rule of law, connectivity, education, and population are all positively correlated with the concept of creativity”. Gouvea, et al. (2021) argue that creative economies develop over time as localities foster institutions that support social entrepreneurship and social innovation.

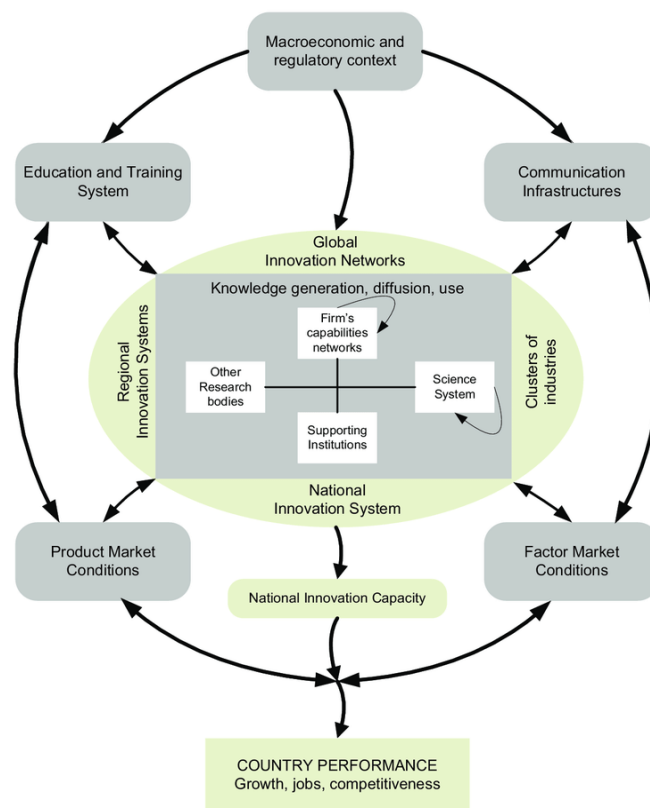


Figure 2. The OECD National Innovation Systems Model-Source: OECD (1999)

In the development of a creative economy, the OECD (1999) National Innovations System schema (Figure 2) shows the interactions of different forces in a nation to foster innovation. In this schema, the forces identified are factors when the public sector can provide interventions to create a good space for innovation and creative activities. The provision of effective and efficient public services would foster a creative economy, therefore. The government is highly involved in the nation’s education systems, the creation of policies for market regulations, the provision of enough and appropriate

infrastructure for communications in partnership with private companies, investment in research, and the involvement of supporting institutions from national and international bodies or even in the local networks.

The Global Agenda Council on the Creative Economy has identified the role of government as one of the five simple factors that policymakers should consider in boosting their creative economies. These five simple factors can be used as a framework to maximize the contribution of creative industries to the general growth and competitiveness of local economies (World Economic Forum, 2016).

1. **The local strengths:** Successful creative economies are found in close proximity to academic, research, and cultural centers, allowing ideas and people to mingle.
2. **The technological enablers:** Digital technology enables creative ventures to be launched from any location at scale, and successful creative entrepreneurs have been able to harness technology to their advantage.
3. **The inspiring entrepreneurs:** The catalysts in creative hubs are successful individuals who demonstrate what is possible while inspiring and training other creative entrepreneurs.
4. **The role of government:** By using regulation and incentives wisely, governments can help create the right conditions for creative economies to flourish.
5. **The power of place:** Creative economies are in places where people want to live due to location and amenities – and the most successful have established themselves as international hubs. (World Economic Forum, 2016, p.4)

Innovation capacity molded by local governments combined with innovation activities, which happens in creative industries and local governments themselves would lead to benefits in the community. Serrat (2012) sees innovation capabilities describes capabilities that can influence innovation such as (i) leadership and culture, e.g. presence of clear visions directed by executives, prioritizing innovation, attitude of learning, concern and attention to stakeholders, and availability of space and capacity for creative thinking. (ii) Management of innovation is also part of the capabilities to innovate which include the presence of “innovation objectives linked to performance priorities, investment intensity, innovation governance, professional engagement, and risk management” (Serrat, 2012, p.6). (iii) Thirdly, the organizational enablers of innovation such as information management, connectedness amongst peoples, presence of incentives and rewards system, avenues for forums and events, infrastructure for information and communication technology, and access to support and skills (including quality of staff) are included in overall innovation capacities of any kind of organizations.



Figure 3. Framework for Innovation in the Public Sector (Serrat, 2012)

Innovation activities, on the other hand, are activities that allow innovation to happen such as idea generation, idea selection, idea implementation, and idea diffusion (Serrat, 2012). These innovation activities are evident in the creative industries. Without the ability to innovate and the activities that make innovation tangible, products and services created in the creative economies will not exist.

Now, the combination of capacities and activities of innovation will impact the overall performance of firms and localities and on the larger scale, economies. In this study, the innovation capacity of local governments is recognized as an enabler itself to allow creative industries in cities and municipalities to develop.

This study is interested in the context of key cities and municipalities in the Cordillera. There has been minimal research on innovation capacities in the Philippines, specifically in the context of the public sector and local government units. This study aims to fill the gap in the scarcity of local studies about innovation capacity and creative economic situations in the country.

III. Conceptual framework

Given the discussions in the literature, it is established that the capacity to innovate in a locality affects the local creative economies which in effect would affect a locality's competitiveness which in this study are Baguio City, Tabuk City, Kalinga, and capital towns of Cordillera provinces.

The framework of this study builds from the analysis of the author from the reviewed literature. As per analysis, it is framed that innovation capacity is the independent variable that would be described in the study confined to the indicators available in the CMCI data and a boosted local creative economy is the dependent variable which is a contributor to the overall local competitiveness of localities.



Figure 3. Conceptual Framework (a)

An expanded framework showing identified factors of innovation capacity extracted from literature is shown below. As per the literature, the innovation capacity of a locality is determined by the conditions of the capacity and availability of human resources, presence of LGU visions, policies, and strategies, availability of infrastructure and local amenities, allocation of funding for innovation, presence of creative networks, presence of creative spaces and entrepreneurs' access to markets, and an established creative/ innovation culture. This framework will be the basis for building the tool to describe the status of innovation capacity in the localities identified in this paper.

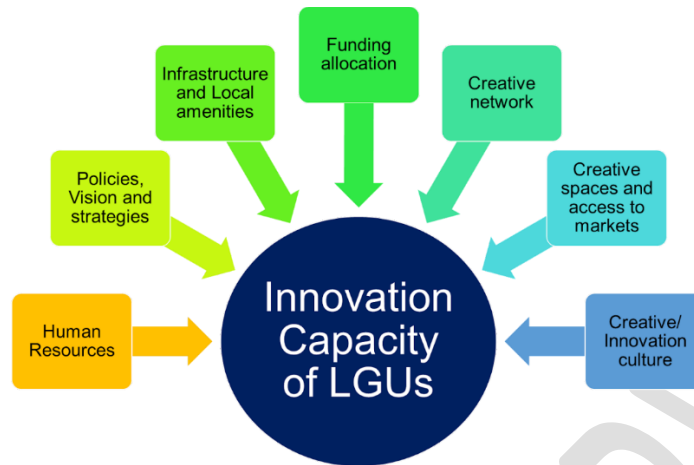


Figure 4. Conceptual Framework (b)

IV. Research design and method

A. Research Design and Case Study Area

This study is descriptive, analytical, and qualitative in nature. Data triangulation is a mixed-method design. In this paper literature, CMCI data, and interviews were utilized to satisfy the objectives declared in this study. This design allows the researcher to give due importance to the data gathered and interrelate them for analysis.

The study utilized research and synthesis of the literature to identify factors that affect the innovation capacities of the public sector specific to cities with creative economies. This is done to build an appropriate framework that is the basis of the variables to be accessed in the study. The resources used are online sources in the form of e-books, academic journals, and materials from government and international organizations like UNESCO, OECD, and the World Economic Forum. The key terms used in the research are words and phrases such as ‘innovation’, ‘innovation capacity’, ‘innovation capacity in the public sector’, ‘innovation capacity of cities’, ‘creative economy’, and ‘creative economy and innovation capacity’, among others.

Based on the framework shown in the prior section, the variables available in the CMCI indicators were utilized to proxy the identified factors of innovation capacity as shown in Table 2. The data utilized are from the data collected during the filling up of local data capture sheets for CMCI 2023 provided by the Department of Trade and Industry Cordillera. The only cities in the Cordillera region, Baguio City and Tabuk City, Kalinga, and the capital towns act as economic and political centers of provinces. As such, these localities are chosen as case study areas for this study.

To be able to provide answers for the second objective of this study, providing relevant interventions, a key informant interview was done with artists, artisans, and entrepreneurs who are involved in the creative economy in the Cordillera capturing the

perspectives of the local stakeholders and to identify the possible interventions that local governments could do. The key informants are from the researchers' network and contacts referred by the DTI-CAR. Each informant is a practitioner of a specific creative business. Profiles of the informants and transcripts of interviews were recorded. Consent to be named and cited for this paper was gathered from the informants.

B. Measurement of Variables

To achieve the objectives of this study, the innovation capacity of identified cities and municipalities will be evaluated based on the indicators available in the CMCI 2023. The following will serve as indicators for each innovation capacity factor described in the conceptual framework. To supplement the data, additional research was conducted from publicly available data, and the analysis of data was supplemented with available academic literature.

Attribution aggregation and spatial aggregation were used in the data treatment. The CMCI data was aggregated based on attribution to the factors built in the framework and based on spatial reasons since the data are particularly from geographic areas in the region. These data are triangulated with the information extracted from the key informant interviews which are subjected to thematic analysis conceptual analysis and reviewed literature. The conducted interviews are primarily for the sake of extracting perceptions of the stakeholders of the creative economy to the current state of innovation capacities of the locality as well as to capture the needs of the current creative economy and the recommendations that can be proposed for policy intervention.

The table below summarizes the factors that will be described in this study utilizing the present indicators used in the measurement of annual CMCI.

Table 2. Factors affecting the innovation capacity of localities

Factor	Indicator	Description
Human Resources	Graduates of STEM	Number of Science, Technology, Engineering, and Mathematics related college degrees
	Graduate of Tertiary Education	Number of graduates of tertiary education in institutions located in the locality
	Graduate of Technical and Vocational (TechVoc) courses	Number of graduates of technical and vocational courses in institutions located in the locality
Policies, Vision, and Strategies	Presence of ICT Plan	Presence of updated Information and Communication Technologies Plan used and implemented by local government unit
	Publicly published plans and visions or current programs and activities	Presence of innovation and creativity as part of LGU's programs, plans, and visions published online

Factor	Indicator	Description
	promoting innovation and creativity initiated by LGU	
Infrastructure And Local amenities	Presence of ICT technology (Cell sites)	Number of cell sites in the locality
	Free Wi-Fi access available to the public	The presence of Wi-Fi access available to the public
	Concrete and asphalt road network over total land area	Total road length in of asphalt and concrete roads in kilometers over the total land area in square kilometers in the locality
	Transportation	Number of available registered public utility vehicles
	Accommodation capacity	Number of registered accommodation infrastructure in the locality
	Presence of educational institutions	Number of schools in the locality, i.e. tertiary, secondary, TechVoc schools
	Presence of health facilities	Number of health facilities in the locality, i.e. clinics, diagnostic centers, hospitals
	Emergency infrastructure	Number of emergency infrastructure, i.e. Ambulance, Fire trucks, Clearing equipment, Rescue boats, Evacuation sites
	Redundancy	Number of alternative sources of power, water, telecom, alternate routes, and fuel
Funding allocation	Budget allocation for R&D	The amount allocated by the LGU for research and development
Creative network	Number of recognized groups	Number of organized business groups in the locality that have legal personalities and are accredited in the locality
	Number of businesses in the locality	Number of active and registered business establishments in the locality
Creative spaces and ease of entering the market	Inflation Rate	A measure of the stability of prices and the local cost of living; provided by the Philippine Statistics Authority
	Cost of Land in the CBD (in Php)	Cost of land in the central business district per square meter

Factor	Indicator	Description
	Rent for the largest commercial space per square meter (in Php)	Rental rate of the largest commercial space in the central business district
Creative/ Innovation culture	Start-Up and Innovation Facilities	STARTUP refers to any person or registered entity in the Philippines, which aims to develop an innovative product, process, or business model. A technology startup is a company whose purpose is to bring technology products or services to market. These companies deliver new technology products or services or deliver existing technology products or services in new ways. (CMCI definition)
	Intellectual Property Registration	Total of filed and registered intellectual properties in the form of patents, trademarks, copyrights, utility models, and industrial designs
	Adoption of E-BPLS	Adoption of the LGU to available Electronic Business Permits and Licensing System (E-BPLS) software for fast-tracking processes
	Adoption of New Technology in the locality	Several adopted new technologies in the locality. "New Technology means any invention, discovery, improvement, or innovation, that was not available, whether or not patentable, including, but not limited to, new processes, emerging technology, machines, and improvements to, or new applications of existing processes, machines, manufactures and software." (CMCI definition)

V. Results and Discussion

To describe the state of innovation capacities of the key cities and municipalities in the Cordillera, data captured from the CMCI 2023 are summarized in the table below. Responses of KIs are also integrated into the discussion. With these data, there are several observations.

A. On Human Resources

In the data, all locations reported graduates in STEM degrees, tertiary education, and TechVoc courses besides Kabugao, Apayao where there is no identified tertiary school or technical-vocational school. With this information, the impression is that Kabugao is lacking human resources in its innovation capacity while Baguio City, Tabuk City, and La Trinidad have available human resources that could contribute to their

innovation capacities. It has to be noted however that the reported graduates in these localities are not all residents of the cities and municipalities and that they may choose to be part of the labor markets elsewhere.

Kim and Kim (2022) highlighted the importance of human resources in innovation. They are the source of ideas and primary implementers of innovation and creativity. Education is a usual measure of citizen competence; this factor has always been critical to the development of nations. Education is now seen as a way to “anticipate and adapt to the various demands and dynamics of change in the 21st century” (Martini et al., 2020, pg. 103). As such, the availability of graduates in tertiary education and technical-vocational training courses can be seen as indicators of available human capital that can initiate and implement innovation in a locality.

For the creative economy, human skills, e.g. silver crafting, weaving, animation, software development, and curator of artworks, have to be mainstreamed or promoted at least as an option for the skills that can be given focus by local governments and educational institutions. Hence, investment in equipment, scholarships, and training of possible trainers should be given focus to boost the pool of creatives in the region’s creative industries.

The most number and biggest schools are located in Baguio City, Tabuk City, and La Trinidad, Benguet. This would mean that LGUs covering these schools would be able to report a higher number of graduates as well. Although not everyone who graduates from these schools stays in the locality of their schools, the possibility that new graduates will be attracted to become part of the workforce in these areas cannot be eliminated especially since more job opportunities are also present in these localities compared to the other capital towns in other provinces.

B. On Policies, Vision, and Strategies

To describe the presence of policies, visions, or strategies that local government units in the case of localities, the presence of an information and communication technologies plan of local government units. This plan lays out the plans for the LGUs’ investments in hardware and software, and the creation of supporting bodies, i.e. ICT council, that would be in charge of the implementation and development of the plan. According to the data gathered, only Baguio City, Tabuk City, and Kabugao, Apayao reported the presence of ICT plans.

OECD (2019, pg.11) has concluded that a “dedicated strategy encourages cities to stimulate their long-term capacity to innovate by publicly stating those goals so that the city can be held accountable to achieving them”. In this study, new articles or posts on the LGU websites or social media accounts were utilized to identify whether the localities have clear directions or current activities that are related to developing their innovation capacities or programs that strengthen their creative industries.

Baguio has accelerated its vision to be a Smart City, the pioneer in the Philippines. The city grounds data analytics and artificial intelligence as tools to enact the current

“good governance” brand of the current city administration. The innovations done in the city affected the management of tourism, strengthening public safety, control of traffic, disaster risk reduction, tourism management, public safety, traffic control, disaster risk reduction, preservation of the environment, and citizen welfare. (DAP, 2023)

Besides its vision to become a Smart City, Baguio has been awarded as a UNESCO Creative City since 2017 for crafts and folk art. It is known as a hub for artists in visual arts and music among others. It is home to different ethnic groups. It caters to different festivals that become avenues for different cultures to share their art and crafts. Baguio can be a benchmark for the other municipalities in the region, and even in the country if they want to aim to become Smart and Creative cities and localities. It has to be noted that this award given to Baguio has to be revalidated every four years so it has to maintain activities and resources that should be poured out for the creative economy. Localities wanting to align to this direction have to give priority investing to the creative economy.

Among the other localities, only Tabuk City and Bontoc, Mountain Province have displayed clear political visions and plans through public statements published in new articles, municipal visions posted online, and activities that are related to innovation and creativity.

Tabuk City has formalized its journey to become a Smart City this year. On July 24, 2023, a Business Intelligence Research and Development Center (BIRD-C) was launched in the city where the LGU local chief executives, government agencies, and universities signed a memorandum of understanding to formalize their partnership. (Valdez, 2023) Tabuk has also pushed for the implementation of the ‘MANG-WA’ Creative Festival in support of the city’s creative industries which the Department of Trade and Industry has provided initial funding (Sicnao, 2023). Kalinga is dubbed to be the “Peacock of the North” because of their way of dressing up and personal ornaments. Tabuk is a center of trade where textiles and accessories, among others, are promoted.

In Bontoc, Mountain Province, part of their municipal vision is to be a dynamic provider of service. The current municipal administration holds “ENLANGAKHA: Achieving the Vision for a Dynamic Bontoc, one of its pillars is Empowered Communities” as its roadmap. In October 2023, they are recognized as best implementers of Community Empowerment through the Science and Technology (CEST) program of the Department of Science and Technology Cordillera. (Killa-Malwagay, 2023)

It appears that Kabugao has no clear roadmap as of the date whether to go in the direction of a creative city or to actively pursue innovation programs in their locality. This is true for La Trinidad, Lagawe, and Bangued. The said municipalities, however, are hosting cultural events like festivals which serve as avenues for creative industries to flourish (van der Borg and Russo, 2005). Since cultural events attract the gathering of people, business and employment opportunities also thrive with the conduct of festivals. Whilst cultural events are done in a short period, Richards and Palmer (2010) describe cultural events as having evolved into “generators of meaning” for the city and its people. Hence, the continuous conduct of festivals in local communities not only provides benefits

during its implementation but it amalgamates into the creation of a brand image of localities.

Among 89 cities that which OECD (2019) studied, they concluded that the commitment of the leaders is the most important determinant of successful innovation work. Public officials are the innovators in the public sector (Kim and Kim, 2022). The result of the OECD's study seems to be aligned with the case for Baguio, Tabuk, and Bontoc where the local chief executives have clear visions and roadmaps to make innovation tangible and seen in their jurisdictions.

C. On Infrastructure and Local Amenities

Under this factor of innovation capacity, five CMCI indicators could contribute to innovation in localities. These are the Presence of ICT Technology (Cellsites), Free Wi-Fi access available to the public, Concrete and asphalt road network over the total land area, Available Public Transportation, and Accommodation capacity. Based on the data, the presence of infrastructures tends to crowd in the bigger cities and municipalities. Kabugao has shown the least performance in these indicators.

The availability of infrastructures identified above supports the general process of innovation. They provide mobility and they allow a more efficient way of diffusing innovation. The presence of accommodation and public transport in particular indicates a feasibility that people from other localities which could bring innovation could reach and stay in localities. These two infrastructures also make it more feasible for people to collaborate and create networks for innovation and creative projects. Connectivity is also essential to provide innovation in the delivery of services and goods in the locality by the local government. This helps the whole population to engage in business, education, and personal activities. (Suarez - Villa and Hasnath, 1993)

The presence of local amenities attracts people to live in an area, e.g. schools, hospitals, available emergency facilities, and power sources. Among China cities, Zhang et al. (2017) gathered evidence that the presence of educational resources and healthcare facilities are significant in creating innovative cities. They pinned that to formulate innovation-driven growth, more attention should be paid to the role of local amenities and these amenity-related strategies should be made based on the context of the localities.

In the Cordillera, the mountainous topography is one of the main challenges why road networks and connectivity infrastructures are not well established as compared to cities and municipalities in the lowlands. This is because it is more costly for the government and even for private companies to put up roads and cell sites in mountainous areas. That is why, more resources are needed and policy interventions, partnerships with private organizations, and even international aid can be considered.

D. Fund allocation

Limited budget and tight fiscal space are some of the barriers to innovation (OECD, 2019). In the CMCI, the prioritization for research and development (R&D) in the LGU can be seen in the funding allocation of the locality. In the data gathered in 2023, Lagawe, Bontoc, and Bangued did not allocate R&D in their annual budget. Baguio is the highest allocator in the whole region. Nineteen LGUs in CAR have allocated a portion of their total LGU budget to R&D programs and activities. In the region, 0.69 percent of the total LGU budget is allocated to R&D considering the need to implement R&D programs and activities. Only Baguio and Benguet allocated more than 1% of their budgets to R&D.

The low allocation for R&D reflects the budgetary priority for the LGUs and the scarcity of their fiscal space. Given the limited space, LGUs can venture into partnerships with private sector organizations. They can also partner with universities, especially those located in their jurisdictions to continue activities related to research and development in the locality.

Research and development are a pillar in the innovation process. With the presence of knowledge and technology products, these funds given to R&D could serve local businesses. Mr. Rommel Marcelo of Pilak Sivercraft pinned that technological innovation could highly help the creative economy by providing knowledge and technology that could make their processes more efficient. For example, a research made by Mr. Marcelo himself with the help of Professor Roland M. Hipol at the University of the Philippines Baguio was able to produce copper masks that were proven effective against the virus. This copper mask production of Pilak helped them survive the impact of the pandemic. If more resources were available and were allotted to R&D, the creative businesses could also flourish, and available technologies might just impact more than their primary purposes.

E. Creative Network

Technological Enablers and Inspiring Entrepreneurs are identified by the World Economic Forum (2016) as factors enabling a creative economy. People who could be investing in digital technology and people who could serve as mentors for entrepreneurs could come from established businesses and organized groups.

Most businesses are in Baguio, La Trinidad, and Bangued, respectively while most organized groups are located in Baguio, Lagawe, and Tabuk. There is no reported recognized organization in Kabugao. Besides the said functions of businesses and groups, empowering these entities and involving them in innovation programs of the locality would allow bigger opportunities for innovation creation and diffusion.

Aside from business groups, localities can venture to organize art enthusiasts, curators, and collectors, which can help support the local creative economy. Mr. Silvino Dulnuan, a local artist of Baguio who is from Ifugao highlights the importance of having a present organized collective that can be easily reached on occasions where a crowd is needed to view exhibits, buy paintings, and even participate in local trade expos where

art is the center of the event. Having a good network is affirmed by Mr. Elon Nagaño, a freelance videographer, who has been in the industry for more than 20 years. Creating a good network allows not only connection to clients but also collaboration among fellow creatives and artists.

F. Creative Spaces and access to markets

Tabuk City and La Trinidad seem to have the most expensive spaces in the region, Baguio City being third. Avenues for creative and innovative work are essential in the process. In the key cities and municipalities, all have large spaces that can be rented for events and other gatherings, besides Kabugao which did not report an input to the CMCI 2023. Cohendet et al. (2010) claim that open spaces and avenues in general allow people to immerse themselves in cultural events, and create formal and informal connections that could allow them to be part of networks.

Businesses would find it difficult to enter markets because the barriers to engaging in business are high. From the CMCI indicators, the cost of land and inflation rate are available to describe the current situation of prices in the identified localities. Things are cheapest in Lagawe and most expensive in Kabugao and Bontoc. The land is most expensive in Baguio, La Trinidad, and Bangued respectively while it is cheapest in Kabugao and second cheapest in Bontoc. For new businesses, particularly those who come from different areas, prices of goods and services mean cost. High costs in the market would add to barriers to market engagement in competitive markets. LGUs could create policies to attract investments in the locality, e.g. tax holidays or discounts.

Large spaces are considered relevant for creative events since these could serve as avenues for events where creative businesses could gather and showcase their products. One of the advantages of Baguio and Tabuk as cities is the availability of space. Concerts, music festivals, conventions, and trade fairs, among others held in their localities, would boost not just the creative economy but the economy of the locality as a whole since it would mean demand for accommodations, transportation, etc.

Mr. Marcelo and Ms. Mika Moctao highlighted the impact and importance of having a space for trade fairs. These events, especially annual events like Mandeko Kito, an artisanal market, and Ibagiw Festival, an arts festival in Baguio, would require spaces to be hosted.

Aside from big spaces, Mr. Dulnuan has also pointed out the sustainability aspect of events. There is a need for physical space according to him. He cited that there was once a plan of Baguio City LGU to create an artist village but was not pursued yet. He visualized a physical space where different creative businesses could do their workshops, collaborate with other artists or artisans, and, at the same place, package and showcase their products for people to buy. This perspective can be a notable project for localities planning to invest in the infrastructure side of the creative economy.

In terms of creative culture, the evidence that can be used from CMCI 2023 is the number of registered start-ups and innovation facilities, intellectual property registration, adoption of E-BPLS, and adoption of new technology in the locality. It is observable in the data that most innovation activities happen in Baguio, Tabuk, and La Trinidad. There are 841 total intellectual registrations in the region and 258 of those are in Baguio. There are 76 start-ups in Baguio while in other localities, there are none. It is also only in Baguio that there is a reported adopted technology among the seven case locales.

Table 3. Summary of identified indicators from CMCI 2023 Innovation Pillar

Province	LGUs with ICT Plan (Actual count)	R&D share in Budget	Intellectual Property Registration (Actual count)	New Technology Adoption (Total)
Abra	2	0.11 %	38	4
Apayao	2	0 %	64	0
Benguet	4	1.25 %	287	2
Baguio	1	3.26 %	258	6
Ifugao	0	0.05 %	67	0
Kalinga	2	0.02 %	90	0
Mountain Province	1	0.09 %	37	0
Region	12	0.69 %	841	12

The process of innovation does not only happen on the creation of a product or implementation of a process. Innovation happens when this is adopted and diffused to the community. Among the key localities, it is only in Baguio that there was a reported adoption of new technology last year. The adoption of new technology is an indication of the openness of the public to be part of the innovation process by using the available technologies. The accessibility, affordability, and acceptability of the technology are some of the factors that may have affected the adoption of new technology in the localities. Hence, if there are innovations, local governments could focus on providing access to the technology, assuring the affordability of the technology through possible financing schemes or subsidies, and creating avenues for training, advertisement, or allowing the people to experience firsthand the new technologies to create higher acceptability rates. (Rogers, 1962 as cited in LaMorte, 2016)

Table 4. Factors of Innovation capacity in Local Governments based on data captured in CMCI 2023

Factor	Indicator	Baguio City	Tabuk City	La Trinidad	Bontoc	Lagawe	Kabugao	Bangued
Human Resources	Graduates of STEM	S - 1,664 T - 431 E - 1,235 M- 36	S - 194 T - 91 E - 99 M- 20	S - 791 T - 362 E -83 M- 75	S - 8 T - 17 E - 0 M- 11	NDA	0	S - 3 T - 3 E - 3 M- 2
	Graduate of Tertiary Education	7,765	1,757	6,976	342	123	0	1,159
	Graduate of TechVoc courses	9,039	2,450	585	2,967	347	0	292
Policies, Vision, and Strategies	Presence of ICT Plan	Present	Present	None	None	None	Present	None
	Publicly published plans and visions or current programs and activities promoting innovation and creativity initiated by LGU	Smart City Vision, Creative City	Smart City Vision, Mang-wa Creative Festival	Local Festivals , e.g. Strawberry Festival, Coffee Festival	ENLAN GAKHA: Achieving the Vision for a Dynamic Bontoc	Local Festival, i.e. Kulpitad Lagawe	No available data	Local festival, i.e. Dapil Festival
Infra-Structure and Local amenities	Presence of ICT Technology (Cellsites)	136	46	15	4	3	3	4
	Free Wi-Fi access available to the public	Yes	Yes	Yes	Yes	Yes	No	Yes
	Concrete and asphalt road network over total land area	45.54 km / 57.51 sq. km (0.7919)	318.8 km/ 774.47 sq. km (0.4416)	34.86 km / 80.79 sq. km (0.4315)	33.6 km /396.12 sq. km (0.0848)	54.82 km/ 282.20 sq. km (0.1942)	90 km / 928.96 sq. km (0.0969)	115.29 km/ 136.40 sq. km (0.8452)
	Transportation	Buses - 846 Vans - 276	Buses - 2 Vans - 27 Jeepney - 161	Buses - 14 Vans - 148	Buses - 18 Vans - 63	Buses - 27 Vans - 15	Buses - NDA Vans - NDA	Buses - 110 Vans - 14

Factor	Indicator	Baguio City	Tabuk City	La Trinidad	Bontoc	Lagawe	Kabugao	Bangue d
		Jeepney - 4160 Taxis - 3,152	Tricycle - 1,250	Jeepney - 73 Tricycle - 30 Taxi - 62	Jeepney - 103 Tricycle - 674	Jeepney - 164 Tricycle - 639	Jeepney - NDA Tricycle - 35	Jeepney - 211 Tricycle - 2,635
	Accommodation capacity	Hotel - 24 Resort - 2 Apartelles - 3 Mabuhay Accommodations - 124 Homestays - 45	Hotel - 3 Resort - 1 Mabuhay Accommodations - 9	Mabuhay Accommodations - 11 Homestays - 4	Mabuhay Accommodations - 3 Homestays - 5	Hotel - 2 Resort - 2 Mabuhay Accommodations - 6	NDA	Hotel - 6 Resort - 8 Homestays - 5
	Presence of educational institutions	Secondary - 114 Tertiary - 20 TechVoc - 61	Secondary - 24 Tertiary - 7 TechVoc - 17	Secondary - 22 Tertiary - 7 TechVoc - 24	Secondary - 10 Tertiary - 2 TechVoc - 5	Secondary - 6 Tertiary - 1 TechVoc - 3	Secondary - 8 Tertiary - NDA TechVoc - NDA	Secondary - 8 Tertiary - 4 TechVoc - 2
	Presence of hospitals and health workers	Clinics - 376 Diagnostic centers - 49 Hospital - 7	Clinics - 21 Hospital - 8	Clinics - 143 Diagnostic centers - 20 Hospital - 2	Clinics - 21 Diagnostic centers - 1 Hospital - 1	Clinics - 46 Diagnostic centers - 6 Hospital - 1	NDA	Clinics - 25 Diagnostic centers - 8 Hospital - 5
	Emergency infrastructure	Ambulance - 29 Firetrucks - 18 Clearing equipment - 118 Rescue boats - 120 Evacuation sites - 144	Ambulance - 32 Firetrucks - 5 Clearing equipment - 119 Rescue boats - 11 Evacuation sites - 135	Ambulance - 12 Firetrucks - 5 Clearing equipment - 12 Rescue boats - 6 Evacuation sites - 57	Ambulance - 1 Firetrucks - 3 Clearing equipment - 7 Rescue boats - 1 Evacuation sites - 98	Ambulance - 10 Firetrucks - 2 Clearing equipment - 314 Evacuation sites - 51	Ambulance - 1 Firetrucks - 1 Clearing equipment - NDA Rescue boats - NDA Evacuation sites - NDA	Ambulance - 13 Firetrucks - 7 Clearing equipment - 71 Rescue boats - 5 Evacuation sites - 9
	Redundancy	Power - 5 Water - 6 Telecom - 558	Power - 3 Water - 5 Telecom - 33 Alternate	Power - 1 Water - 35	Power - 1 Water - 6	Power - 197 Water - 3683	NDA	Power - 3 Water - 6

Factor	Indicator	Baguio City	Tabuk City	La Trinidad	Bontoc	Lagawe	Kabugao	Bangue d
		Alternate Route - 59 Fuel - 4	Route - 5 Fuel - 1	Telecom - 6 Alternate Route - 9 Fuel - 6	Telecom - 23 Alternate Route - 9 Fuel - 3	Telecom - 3 Alternate Route - 5 Fuel - 5		Telecom - 3 Alternate Route - 6 Fuel - 6
Funding allocation	Budget allocation for R&D over the total budget of LGU	79,876,350.76 (3.26%)	363,000.00 (0.02%)	310,000.00 (0.05%)	300,000.00 (0.11%)	0	0	0
Creative network	Number of recognized groups	395	150	40	33	189	0	31
	Number of businesses in the locality	23,230	2,501	10,238	1,196	829	278	3,065
Creative spaces and access to markets	Inflation Rate	6.5%	9.70%	7.70%	10.30%	5.40%	10.50%	8.70%
	Cost of Land in the CBD (in Php)	142,200.00	1,270.00	21,450.00	1,000.00	1,154.00	339.30	16,940.70
	Rent for the largest commercial space per square meter (in Php)	978.48	25,000.00	5,000.00	165.00	174.80	NDA	144.34
Creative/ Innovation culture	Start-Up and Innovation Facilities	Start-Up - 76 Higher Education offering STEM - 43 R&D Centers - 20	Start-Up - 1 Higher Education offering STEM - 6 R&D Centers - 12	Start-Up - 2 Higher Education offering STEM - 4 R&D Centers - 16	Start-Up - NDA Higher Education offering STEM - 2 R&D Centers - 1	Start-Up - NDA Higher Education offering STEM - 1 R&D Centers - 0	0	Start-Up - 0 Higher Education offering STEM - 1 R&D Centers - 1
	Intellectual Property Registration	Filed - 153 Registered - 105	Filed - 47 Registered - 38	Filed - 108 Registered - 54	Filed - 5 Registered - 1	Filed - 4 Registered - 5	Filed - 0 Registered - 1	Filed - 17 Registered - 0

Factor	Indicator	Baguio City	Tabuk City	La Trinidad	Bontoc	Lagawe	Kabugao	Bangued
	Adoption of E-BPLS	Yes	Yes	Yes	Yes	Yes	No	Yes
	Adoption of New Technology in the locality	6	0	NDA	NDA	0	0	0

VI. Conclusions

In this study, the innovation capacity of capital cities and municipalities was observed using the data captured from CMCI 2023. It could be observed that the innovation capacity is stronger in more urbanized localities, particularly in Baguio, Tabuk, and La Trinidad. The capital town Kabugao of Apayao has to cope with the other capital towns in all of the identified factors to boost innovation capacity in this study. It should be taken into consideration that Kabugao may be serving as the de jure capital of Apayao but most economic activities and amenities are located in its neighboring town Luna. This is the same case in the municipality of Lagawe in the Province of Ifugao. Most economic activities are located in the municipality of Alfonso Lista.

While Baguio has been a pioneer in innovation in the country, the neighboring towns are yet to create strategies and roadmaps for innovation and creative economies. Baguio is already recognized as a creative city while others have not institutionalized plans to foster their locality as creative communities. The region is already catering to some creative businesses. This present setup should be capitalized and supported to make the current state of local governments more efficient and creative industries be boosted.

Innovation initiatives and activities are concentrated in three locations - Baguio City, Tabuk City, and La Trinidad, Benguet. It can be postulated that this is possible since most resources are also concentrated in these locations, human resources, funding, and even networks and creative spaces. Besides the resources, their administrations have identified innovation and creativity as part of their governance agenda.

VII. Recommendations and Policy Implications

In this study, it is established that the boosting of the LGU innovation capacity would allow the boosting of creative industries. In the Cordillera, there are different registered creative businesses present. There are media production companies that do videography, and photography. There are also news companies that produce printed and digital content, digital art studios, and music studios, not to mention freelancers who do not saturate the social media content creation business.

Cordillera is also known for its handicrafts like woven crafts, wooden crafts, oils and sprays, candles, accessories, and knitted crafts, among others. It hosts artists who

sell their works or are commissioned by the government or private organizations. The gastronomy sector is also active around the region, coffee makers, local food producers, and others who venture into the food industry which is considerably a part of the creative economy as well.

Making innovation possible requires a system that enables different stakeholders to participate in the process and a system that requires resources that would serve as fuel – innovation capacity.

Continuous research on innovation capacities in the Philippine local governments should be done for future studies about assessing innovation capacities of local governments, “A Framework and Tools for Assessing Local Innovation Capacity: Guide for Implementers” published by US Aid and Massachusetts Institute of Technology Local Innovation Group (Assefa & Hoffecker, 2022) can be used as an instrument.

From the review of literature, the public sector, specifically local government units of cities and municipalities should focus on the development of human resources through investments in education and training. People’s demands, ideas, and competence are valuable in the whole process of innovation. Leaders must provide direction through policies, clear vision, and strategic approaches reflected in local government plans. Investments in basic infrastructure are imperative to innovation and not only to utilize available resources. Investments in schools, health facilities, public parks, disaster management, and power resources boost the possibility of higher innovation and creative activities in the economy.

It should not be forgotten that technological change happens because somebody starts to conduct research first. LGUs should look at possibilities to invest their resources in research and development. The CMCI data have shown that LGUs with budget allotments in R&D have higher registrations for intellectual properties.

Creative networks, creative spaces, easing of market barriers, and fostering creative and innovation culture in localities require policy interventions. Incentivizing innovation can be one program to motivate citizens and local governments to engage in innovation and creative industry activities.

For future studies, the framework and methodology used in this study may be replicated to assess LGU innovation capacity in other areas in the Philippines. Other studies may be done to identify relevant policy interventions that can help and address problems specific to other areas.

For the consideration of local government units identified in this study and other LGUs in the Cordillera, the following interventions can be done to boost local innovation capacities. (OECD, 2019)

1. Create a dedicated strategic plan for innovation

Localities with clear directions in the innovation agenda are guided on the steps that have to be taken. Furthermore, those who have plans tend to be more accountable for achieving them.

LGUs have their Comprehensive Development Plans, Land Use Plans, and Disaster Risk Reduction Plans. In CMCI, the LGUs are asked if they have ICT Plans. Instead of just ICT, LGUs can create a Local Government Innovation Plan to capture all aspects of innovation fit to the locality. Visions aligned to innovation, roadmaps, specific strategies, programs, policies, and timelines can be identified in this document that can be used even after a term of elected officials.

Available materials from international organizations like the United States Agency for International Development's "Tools for Innovation Programming Lifecycle Steps Toolkit, Step 3: Develop the Strategy" (Askin, n.d.). These plans should also serve as evaluation tools in the future.

This recommendation can be made in the following manner.

- a. Through a local ordinance, the city/ municipal council could create a specific council or committee that could hire innovation-focused personnel that should be in charge of the creation and execution of innovation plans in the local community.
- b. After the first step, the hiring of innovation-focused personnel should come after. This recommendation may be less feasible for some LGUs given the scarcity of human resources. This should be taken into consideration and is a challenge since it has been established that human capital is integral to the innovation capacity of the public sector. If there will be Innovation Plans, there should also be Innovation Teams that should be focused on innovation-related activities in the locality. This recommendation would challenge localities to attract competent individuals who will be pioneers of innovation. The innovation focal could be a part of the Mayor's office or the Municipal/City Planning and Development Office (M/CPDO). These innovation-focused personnel could be the ones also in charge of the formulation and implementation of the proposed innovation development plan.
- c. After the creation of this ordinance and approval of the council, assistance in innovation planning can be requested from national agencies such as the National Innovation Council Secretariat from the National Economic Development Authority which is also in charge of formulation of the National Innovation Agenda and Strategy Document. This can be done at the provincial level; hence the provincial government should be involved to encourage and gather LGUs to be part of the efforts to create local innovation plans.

d. After the crafting of local innovation plans, investment programs, and monitoring and evaluation should follow.

2. Utilization of data to support innovation work

Innovation programs must be based on the actual needs and challenges of a locality to make it relevant. Therefore, available data such as the data available in the CMCI platform should be utilized to make sound decisions. Availability of data to the public also allows external investors to identify the business potentials in localities. Local governments should use data to evaluate the state of their jurisdictions and identify intervention thereof.

A specific recommendation is also presented by Mr. Marcelo. He plans to research to estimate the exact value that the creative industries give to the city and what the city gives back to the creative community. Mr. Dulnuan also cited that there should be data that should be collected by the local government profiling the present artists and artisans in the city. These programs can be replicated by other local government units.

3. Securing resources and funding

To be able to conduct research, develop prototypes, and build education, health, and transportation infrastructures, funding sources should be secured. LGUs are challenged to allocate resources dedicated to innovation activities. They can also venture on external resources such as bank financing for big projects or partnerships with non-profit organizations, other government agencies, profit-oriented organizations, and philanthropies.

4. Build on local strengths

Many localities are innovative because of their local resources, the presence of academic institutions, active research and technology centers, and cultural centers which allow them to develop skills essential to initiate innovation (World Economic Forum, 2016). Baguio and the local capitals of the other six provinces in Cordillera should be able to capitalize on their strengths to develop innovation and creative industries. Cordillera's rich cultural heritage, craftsmanship, indigenous knowledge systems and practices, and natural resources, among others, could be the start of every local government's innovation framework. There are already national laws that support innovation and creative economies. It is time for local governments to localize these policies and create actions that are relevant to them.

5. Create relevant laws and programs for the creative industries

The informants themselves proposed specific projects that could be provided by local government like physical spaces, e.g. artist centers, funding allocations for projects and events, reduction of taxes/ fees for creatives, subsidies for technological needs, institutionalization of artist/artisans as an occupation, and creation of networks among local government and private sectors for the sake of creative economy activities.

This paper does not claim that the cities and municipalities of Cordillera should aim to become creative cities and towns. However, given the very nature of the Cordillera, its indigenous traditions, indigenous knowledge and technologies, material culture, and continuously coping nature in terms of economic growth, they can seize the opportunity and develop the potential that they have.

If ever LGUs in the region do not envision developing their creative industries, developing their innovation capacities will empower them to reach whatever vision they have. Innovation does not only serve creative economies. It can be used for cultural preservation, overall resiliency, e.g. against effects of climate change, and environmental sustainability, and general efficiency and effectivity in the delivery of public goods and services.

The recommendations identified above can serve not only for localities that have the resources to innovate but it could also serve as a guide for municipalities and cities with lower income classes. Focusing on creating clear targets for lower-income municipalities would give them a framework on what to work on and what kinds of projects they should be prioritizing. Building the innovation capacity of LGUs is not a high-end task. It starts with imaginations and visions, and once these are translated to plans, then they should ask next, and assess what other opportunities or limits they have.

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