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# Insights into PCI and DDCI as Key Metrics for Measuring Subnational Competitiveness in Vietnam

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## Abstract

The purpose of this study is to review and understand Vietnam's measurement of competitiveness for its local authorities. This paper delves into the application of two fundamental metrics, namely the Provincial Competitiveness Index (PCI) and the Department and District Competitiveness Index (DDCI). As Vietnam continues its trajectory of rapid economic development and regional integration understanding the dynamics of competitiveness at subnational levels has great importance. Drawing upon an overview of the competitiveness concept, case study, and perspectives, the article provides a holistic understanding of subnational competitiveness metrics in Vietnam. Results offer valuable insights for policymakers, researchers, and stakeholders involved in subnational development strategies and economic governance frameworks in Vietnam and beyond. This study also indicates future opportunities and challenges within research on pillars/indices, indicators and their impacts on creating the ease of doing business at subnational level.

## Keywords

Business environment, Competitiveness, Economic governance, Investment climate, Metric.

## 1 Introduction

In an increasingly interconnected global landscape, the quest for competitiveness transcends national borders, extending its significance to the granular levels of regions, provinces, states, districts, and cities (International Labour Organization, 2006). Understanding and measuring competitiveness at subnational levels have emerged as pivotal endeavors in the pursuit of sustainable development, economic growth, and effective governance (Medeiros et al., 2019; Siudek & Zawojska, 2014). The significance of evaluating competitiveness at a localized scale lies in its ability to unveil nuanced insights into the diverse and dynamic fabric of regional economies. Subnational competitiveness measurement transcends the one-size-fits-all approach, recognizing the intricate interplay of localized factors that influence the economic, social, and developmental trajectories of specific regions (Nguyen, 2009).

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Against the backdrop of Vietnam's rapid economic transformation and the increasing decentralization of governance, understanding the intricate dynamics of competitiveness within provinces, departments, and districts becomes of paramount importance. Besides, as Vietnam positions itself on the global stage as an emerging economic power, the need to comprehend and enhance the competitiveness of its diverse regions becomes increasingly acute. At this level of analysis, the evaluation of competitiveness becomes a potent tool for policymakers, businesses, investors, and communities. It provides a lens through which tailored strategies can be crafted, resources efficiently allocated, and targeted interventions implemented to harness regional strengths and address specific challenges (Reinert, 1995).

The concept of subnational competitiveness used in this paper refers to the economic governance quality of provincial/local authorities and public agencies of the country in creating the best socio-economic, environmental and legal conditions for development of economies and private sector. Based on that basis, this study delves into the comprehensive exploration of two key metrics, the Provincial Competitiveness Index (PCI) and the Department and District Competitiveness Index (DDCI), as essential tools for gauging subnational competitiveness within the socio-economic context of Vietnam. It illuminates the multifaceted implications of such assessments, including the facilitation of the improvement of business environment and investment climate, and the enhancement of governance effectiveness and social progress.

This paper adds several contributions to the current literature. First, to the authors' knowledge, despite subnational competitiveness measurements are important, research on this theme (esp. focusing on PCI and DDCI measurements) in Vietnam is still limited. Viet (2013), Le & Duy (2021), Malesky et al. (2022), Nhan & Lee (2023) and Nguyen et al. (2023) are the few studies that have been conducted to understand the impacts and effectiveness of measurements in Vietnam. By exploring the intrinsic value and practices of assessing competitiveness at subnational levels, our study systematically synthesizes the pivotal role that key metrics for measuring subnational competitiveness of Vietnam plays in shaping informed decision-making, driving sustainable development, and fostering favorable business environment.

Secondly, this paper delves into the intricate fabric of Vietnam's PCI and its derivative index at departmental and district level, focusing on the localized application in the case study of Can Tho city (Vietnam). Can Tho, situated in the heart of the Mekong Delta, embodies a microcosm of Vietnam's burgeoning economy and cultural richness. By analyzing the adaptation and localization of the DDCI measurement in this city, we aim to unravel the unique nuances and distinctive features that define its competitive landscape, contributing to a broader understanding of subnational development strategies within Vietnam.

## 2 Brief Literature Review

The term of Competitiveness is a frequently used concept in business, economics and public discussion. The concept encapsulates the dynamic capacity of individuals, organizations, regions, or nations to thrive and excel within a competitive environment (Lee et al., 2013). It extends beyond a mere comparison of products or services of corporate sector, and encompassing a multifaceted array of factors that contribute to success, innovation, and sustainable growth (Reinert, 1995).

Competitiveness concept has been used by politicians and scholars since the 1970s (Krugman, 1996), but it began to spread globally in the 1990s with Michael Porter's book, Competitive Advantage of Nations (Lee et al., 2013). In the study of Siudek & Zawojska (2014),

competitiveness is synthesized by the spectrum of dimensions, in which it takes into account theoretical and relevant concepts associated with the market mechanism, place-based approach, and confusing terms that are often used interchangeably such as innovation, productivity and market share. In each research field, scholars have tried to mention and add different perspectives into the definition of competitiveness (Le & Duy, 2021; Mulatu, 2016; Siudek & Zawojska, 2014). This has diversified the competitiveness concept from both standpoints of field of study and place-based levels. In this research, we elaborate on the place-based competitiveness at national and subnational levels.

Although, there is no consensus on the concept of competitiveness at national level, scholars have made initial efforts to define it, and to explore methods for measuring it to some extent. Of those efforts, European Commission (2001) has defined Competitiveness of the national economy as "the ability of an economy to provide its population with high and rising standards of living and high rates of employment on a sustainable basis". Meanwhile, the World Economic Forum – WEF – (2003) in its Global Competitiveness Report has explained that competitiveness is characterized by the set of institutions, policies, and factors that determine the level of productivity of a country. By integrating the concept of WEF and Michael Porter's notion on national productivity, Nguyen (2009) referred national competitiveness as a "nation's ability to create and sustain economic growth, and raises the standard of living of its citizens by improving national productivity in condition of a market economy". In summary, the country's competitiveness will capture and determine whether its economy has attractiveness, sustainable growth and a favorable business environment.

Given the importance of national competitiveness, there have been many attempts to measure it at a global scale. The very first attempts are from the Global Competitiveness Index (GCI) and the IMD World Competitiveness Ranking (WCR). The GCI captures national competitiveness with 12-pillars structure from 4 focus areas (i.e. enabling environment, human capital, markets and innovation ecosystem) in the WEF's latest report (World Economic Forum, 2020). The WCR on the other hand was built based on 336 criteria from 4 focus areas (i.e. economic performance, government efficiency, business efficiency, infrastructure) selected as a result of comprehensive research (IMD, 2023). For regional settings, there is the existence of the EU Regional Competitiveness Index (RCI) (European Commission, 2024). The RCI is constituted of three pillars – Basic pillar (institutions, macroeconomic stability, infrastructure, health and basic education), Efficiency pillar (higher education and long-life learning, labor market efficiency, market size), Innovation pillar (technology readiness, business sophistication and innovation).

At subnational level, there are only a few countries that currently apply measurements of competitiveness. In South America (Benzaquen et al., 2010), one may mention Structural Departmental Competitiveness Index and Revealed Departmental Competitiveness Index (Colombia), State Competitiveness and Competitiveness of Mexican Cities (Mexico), Regional Competitiveness Index (Peru and Chile). In Africa, there is the Subnational Business Competitiveness Index (SBCI), which is an effort of Nigeria (Iarossi, 2013). While in Southeast Asia, our study has identified reliable indicators from Vietnam, Indonesia and the Philippines. They are the Provincial Competitiveness Index (PCI), Department and District Competitiveness Index (DDCI) ( Malesky et al., 2024), Cities and Municipalities Competitiveness Index (CMCI) (Villamejor-Mendoza, 2020), and ACI's Competitiveness Framework (Tan & Amri, 2013). These indices have recognized the efforts of mentioned countries in improving business environment and investment climate. In this article, we concentrate on PCI and DDCI of Vietnam.

## 3 Significances of Competitiveness Measurement at Subnational Levels of Vietnam

### 3.1 Provincial Competitiveness Index (PCI) as a driving force for governance reforms and business environment improvement

The quantitative evaluation and measurement of competitiveness and economic governance across Vietnam's provinces/cities have emerged as pivotal factors in understanding the country's socio-economic landscape. Keeping pace with that trend, the PCI was launched as a reliable instrument, offering insights into the multifaceted dynamics shaping Vietnam's subnational development. The PCI was first coined in 2005 by a joint initiative between Vietnam Chamber of Commerce and Industry (VCCI) and the U.S. Agency for International Development (USAID). On its surface, PCI measures and ranks Vietnam's provinces/cities on a number of key indicators. However, to create a comprehensive assessment of the improvement of the business and investment environment in Vietnam, the backbone of PCI is surveyed of both domestic and foreign enterprises. This reflects a robust measurement for business climate across the country, but the devil is in the details.

**Figure 1. Explanations of PCI's sub-indices**

| | |
|---|---|
| **Entry Costs** | Assesses the differences in entry costs for new enterprises across provinces |
| **Land Access and Tenure** | Measures the ease with which entrepreneurs can access land and the security of tenure once they have acquired it |
| **Transparency** | Assesses whether firms have access to planning and legal documents necessary to run their businesses, whether those documents are equitably available, whether new policies and laws are communicated to firms and implemented predictably, and whether the provincial webpage is useful for businesses |
| **Time Costs** | Measures how much time firms waste on administrative compliance and much time they have to shut down their operations for inspections by local regulatory agencies |
| **Informal Charges** | Assesses the amount of informal charges firms pay, how difficult it is for their business operations to pay those extra fees, whether payment of those extra fees produces expected results, and whether provincial officials use compliance with local regulations as a means of extorting money from businesses |
| **Policy Bias** | Assesses the competitive environment for private enterprises in advance of incentives for stateowned enterprises, foreign-invested enterprises, and businesses familiar with provincial government officials, expressed in the form of specific privileges and privileges when accessing resources for development such as land, credit, etc., and priority treatment in the implementation of administrative procedures and policies |
| **Proactivity of Leadership** | Assesses how provinces implement central policy, design their private sector development initiatives, and work within sometimes unclear national regulatory frameworks to assist and interpret in favor of private firms |
| **Business Support Policy** | Measures provincial services for private sector trade promotion, provision of regulatory information to firms, business partner matchmaking, provision of industrial zones or industrial clusters, and technological services for firms |
| **Labor Training** | Measures the efforts by provincial authorities to promote vocational training and skill development for local industries and assist in local labor placement |
| **Legal Institution and Security** | Measures the private sector's confidence in provincial legal institutions and whether firms regard provincial legal institutions as an effective vehicle for dispute resolution or as an avenue for lodging appeals against corrupt official behavior |

Source: Adopted from Malesky et al. (2023) and Nhan & Lee (2023)

PCI represents a comprehensive framework that assesses Vietnam's business and investment environment, administrative efficiency, and quality of economic governance at the provincial level. Through a structured evaluation process involving surveys, data analysis, and stakeholder engagement, the PCI endeavors to provide a better understanding of each province's competitiveness landscape. This tool aids in identifying key drivers that contribute to economic

dynamism and serves as catalysts for sustainable development within specific provinces and areas. In other words, PCI serves as a compass, guiding policymakers, businesses, and stakeholders toward not only building the ease of doing business but also fostering an environment conducive to economic vibrancy and social progress.

With the expectation of fully grasping the environment for doing business in Vietnam, PCI was built with 10 pillars (or sub-indices) including: (1) Entry costs, (2) Land access and tenure, (3) Transparency, (4) Time costs, (5) Informal charges, (6) Policy bias, (7) Proactivity of leadership, (8) Business support policy, (9) Labor training, and (10) Legal institutions and security. These features are respective efforts of localities, partly enabling the ease of doing business in Vietnam.

Since 2006, PCI program has re-evaluated its methodology and re-calibrated the structure of the index and sub-index weights every four years. By doing so, it is ensured that PCI can timely capture the recent changes in the business environment and investment climate of Vietnam. And theoretically, PCI is required to fulfill their updates on methodology and the quality of measurement. However, with the dynamic nature of the economy and on-going reform in Vietnam, these periodic amendments are utterly needed.

Moreover, PCI program has supported implementation of Vietnam's agenda on administrative reform, featured by Resolution 30c/NQ-CP on the National Program for Administrative Reform from 2011 to 2020. PCI and its derivative index, DDCI (which will be discussed in the next section) are amongst Vietnam's major efforts in measuring public sector performance, what is more, it is part of a comprehensive reform of public administration and economic governance performance. PCI (with DDCI) along with PAPI (the Vietnam Provincial Governance, Public Administration Performance Index), SIPAS (Satisfaction Index of Public Administrative Services) and PAR Index (Public Administration Reform Index) are considered as four pillars of Vietnam for building a modern, effective, and efficient system of state administrative agencies from central to grassroots levels. By comprehensively reforming the government, Vietnam has brought its government closer to the "tectonic government" concept (Ho, 2020) for favorable business environment and investment climate.

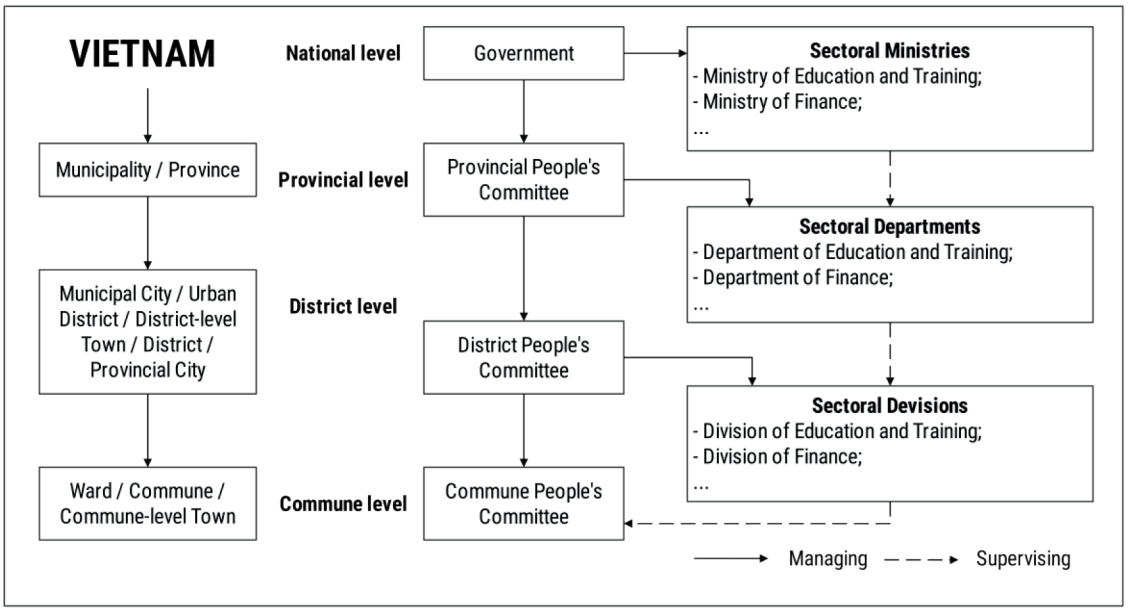
In addition, the comparison of the PCI with other competitiveness frameworks, such as the ACI Framework (Giap et al., 2013), reveals areas where PCI can be further developed to enhance its comprehensiveness and effectiveness. The ACI Framework, for instance, delineates competitiveness through four distinct quadrants, encompassing (1) Macroeconomic stability, (2) Finance, business, manpower condition, (3) Government and institutional setting, (4) Quality of life & infrastructure development.

Currently, PCI does not fully capture the holistic concept of national competitiveness, as it predominantly concentrates on assessing government operational efficiency and institutional frameworks. For a more comprehensive evaluation of a region/province's competitiveness, PCI should expand its focus to include factors like infrastructure quality, standard of living, and both micro- and macroeconomic stability. Additionally, PCI could benefit from diversifying its data sources for assessment. While PCI primarily relies on business surveys, ACI incorporates a variety of data sources, with a significant portion sourced from official statistics agencies and relevant ministries. Also, ACI utilizes surveys and interviews to gather insights into stakeholders' perceptions regarding provincial government performance, business conditions, and workforce situations.

### 3.2 Department and District Competitiveness Index (DDCI) is a proxy for the reflection of businesses' voice from the grassroots

Recognizing the significance of PCI program, Vietnam's provincial/city authorities have embarked on improving their PCI profile. Notably, the DDCI, a derivative index of PCI, was built and put into operation at local administrative levels. The Vietnamese government organizational structure is a hierarchical system comprising central, provincial, district, and communal levels. It also includes sectoral agencies (ministries/departments/divisions) across all levels of administration. At the central level, ministries develop national policies and regulations, while provincial departments implement these policies locally, guided by both provincial People's Committees and central ministries. Therefore, one province's governance capacity is the sum of efforts from many district-level units and sectoral departments under this management mechanism (see Figure 2).

**Figure 2. The Vietnamese government organization structure and the relationship among public agencies**



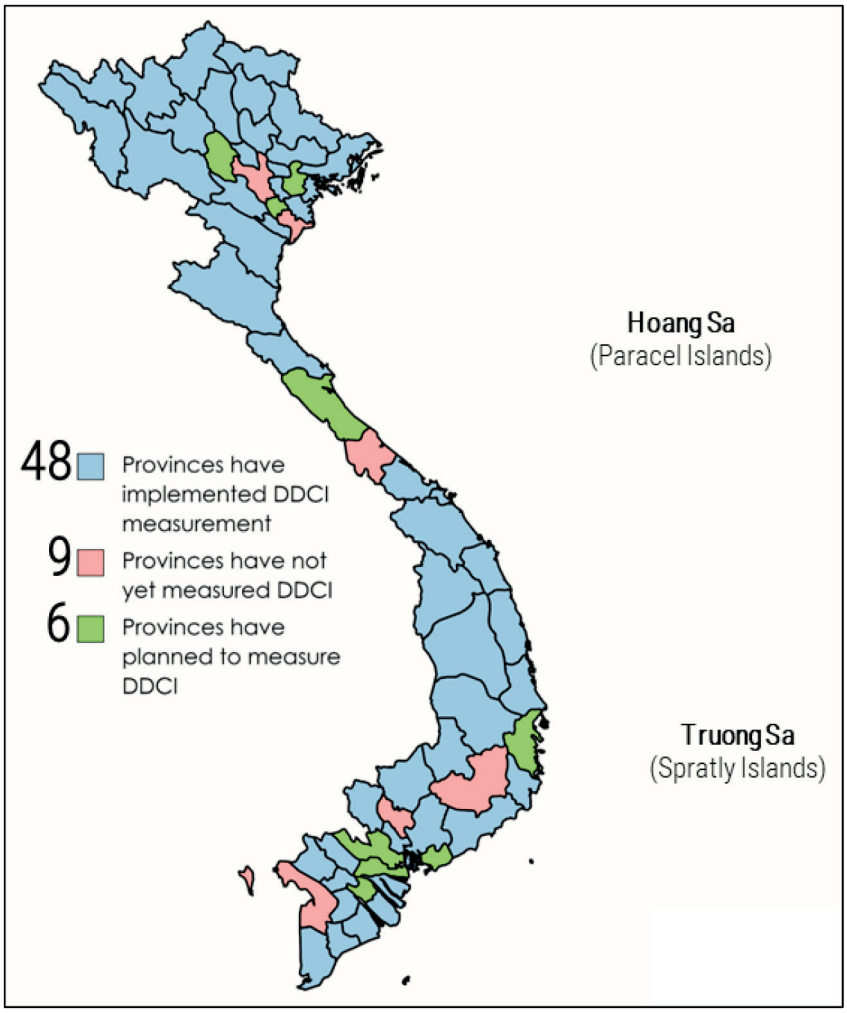

Source: Synthesized by authors

DDCI serves as a benchmark, encompassing various facets based on PCI's key principles. However, its application at the local level presents a fascinating prospect, allowing for a granular examination of factors that influence competitiveness within a specific subnational governance framework. DDCI was first deployed in 2013 in Lao Cai – a northwest province of Vietnam. By 2023, Vietnam has a total of 63 provincial-level administrative units and centrally-run cities. Among them, 76% of provinces/cities (48/63) have implemented DDCI program. Of the remainder, 9 provinces/cities have not yet measured DDCI, and 6 provinces have planned to assess DDCI (see Figure 3).

DDCI stands as a reliable metric based on the foundation of PCI, as mentioned in VCCI's guideline (Tuan et al., 2019), it aims at the following specific goals: (i) Building a friendly and responsive image of local governments for serving the local business community; (ii) Providing provincial and city leaders with an effective tool to timely monitor and direct to improve the quality of relevant units; (iii) Identifying good practices in administrative reform and economic

governance at the grassroots, from which they can be replicated in other units; (iv) Creating a widespread, transparent and reliable feedback channel for investors and businesses to contribute ideas to local governments in improving the local business environment.

**Figure 3. Number of Vietnam's provinces/cities have measured DDCI by 2023**




Source: Synthesized by authors

DDCI empowers the private sector to "grade" the capacity of local governments in creating the ease of doing business at grassroot levels (i.e. district and departmental level). This is an opportunity for businesses to raise their voices about the current situation of the place where they are investing and doing business. Based on businesses' voices, local governments can promptly adjust their core strategies and person-in-charge in supporting business activities. The nature of DDCI lies not only in its capacity to benchmark and compare competitiveness across departments and districts but also in its role as a catalyst for localized development. By facilitating a nuanced understanding of the unique characteristics and challenges within each administrative units, the DDCI empowers local authorities to identify priorities, formulate targeted interventions, and foster an environment conducive to economic dynamism.

It should be noted that DDCI is remarkable with the localized application of Vietnam's provinces/cities. In each province/city, DDCI program is built with different priorities, featured by a set of sub-indices of each place. Based on PCI's pillars, DDCI in most provinces/cities is developed with the following sub-indices: (1) Transparency and information accessibility,

(2) Informal charges, (3) Time costs, (4) Policy bias, (5) Business support policy, (6) Legal institution and public security, (7) Proactivity and Effectiveness of Department/District, (8) Roles of leaderships, (9) Land access and tenure (this index is only applied for districts).

However, in some provinces/cities, other sub-indices are being employed to localize the DDCI program in association with actual needs of that place. With nine sub-indices mentioned above, Dong Thap province has added to indicator of "Information technology application" as tenth sub-index (Dong Thap People's Committee, 2019). This has also been applied in Hai Phong and Quang Ninh cases, under the name of "Transparency and IT application" and "Transparency and digital transformation" respectively (Hai Phong People's Committee, 2022; Quang Ninh People's Committee, 2022). Also, in Ho Chi Minh City, the city government applied the sub-index of "Health and Environment" and "Green Growth" into DDCI 2023 assessment. One of those different cases can be mentioned in the application and localization of the DDCI program of Can Tho city located at the Mekong Delta region, which will be presented as a case study in the section below.

## 4 Localization of the DDCI Program: The Case Study of Can Tho City, Vietnam

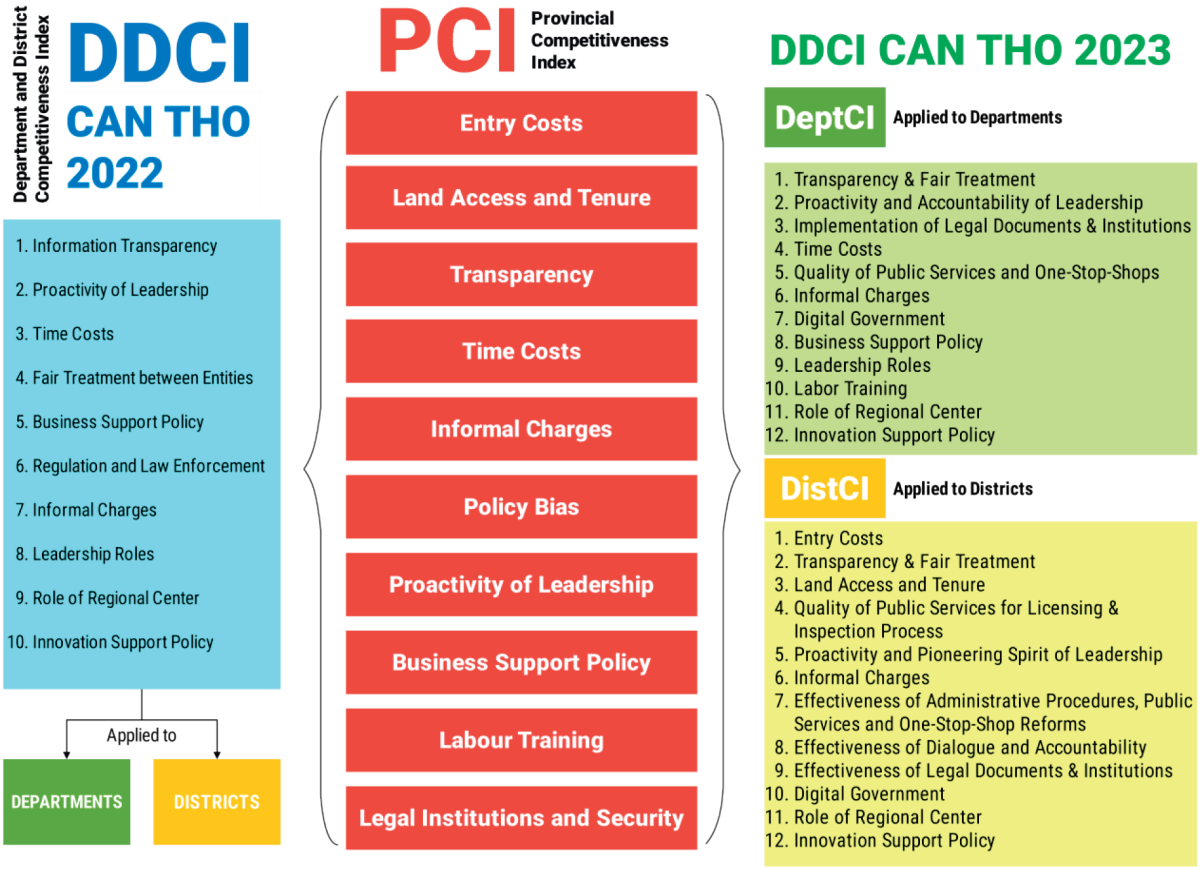
In the case of Can Tho city, we have compared the application of DDCI in the two pilot years, 2022 and 2023. The study reveals there are considerable differences in the application of the DDCI program in Can Tho when compared with other provinces/cities, and compared between years of application. It has noted the changes in quantity and contents of sub-indices, showcasing the authority of Can Tho's commitment to localizing DDCI program (Nguyen, 2023). Figure 4 visually represents the application of DDCI in Can Tho city in comparison with PCI program.

In the initial year of pilot application (2022), the government of Can Tho city developed their DDCI program with 10 sub-indices. In comparison with other provinces, Can Tho's DDCI program still largely relies on PCI, however, it also has taken some local priorities into account. First, with the role of the Vietnamese Mekong Delta, Can Tho city perceives the needs to take advantage of this geopolitical position into their strategy for investor/business attraction. Thus, the sub-index "Role of Regional Center" was added to evaluate the performance of departments and districts in taking advantage of the city's position. Second, aligning with the innovation strategies of Can Tho city (via Program for SMEs, innovative star-up and young talent period 2021–2030; and Program for Intellectual Property Development in Can Tho until 2030), the sub-index of "Innovation Support Policy" was introduced in DDCI measurement 2022. These two sub-indices are local governors' efforts to adjusting DDCI program for fit in well with Can Tho city's socio-economic context.

In the subsequent year (2023), the study observed substantial changes in the application of the DDCI program in Can Tho. Here are some major changes to the index. In terms of sub-indices, Can Tho's DDCI 2023 has introduced new sets of sub-indices with 12-pillar structure (see details in Figure 4). Unlike the previous year, when Can Tho applied a common set for both Departments and Districts, DDCI 2023 did not opt for a one-size-fits-all approach. Can Tho city has adopted two distinct sets for measurement (Nguyen, 2023), i.e. DeptCI for Departments and DistCI for Districts (hereinafter referred to as sister indices). This customization reflects an acknowledgment of the differing roles and responsibilities of departments and districts in supporting the private sector.

With the appearance of DeptCI and DistCI, the case of Can Tho shows the reasonableness of localization and ensures fairness between evaluated units. In two sister indices, the study

**Figure 4. The application of DDCI measurement in Can Tho city**




Source: Synthesized by authors

found that Can Tho city is paying a lot of attention to improving business support procedures, quality of public services, and strengthening key units responsible for business support. Notably, Can Tho also incorporated the "Digital Government" sub-index (also known as "E-Government") in DDCI 2023 program. Unlike Dong Thap province or Quang Ninh province, Can Tho implemented a strategy for E-government development into DDCI as a key sub-index. And the term "E-government" is more inclusive and broader than the application of information technology or digital transformation alone. This initiative sets Can Tho apart from other provinces and underscores the city's commitment to a comprehensive approach to digital transformation beyond conventional IT applications.

In addition, another priority of Can Tho is improving the quality of One-Stop-Shop's services, shown via the sub-index of "Quality of Public Services and One-Stop-Shops" in DeptCI and, sub-index of "Effectiveness of Administrative Procedures, Public Services and One-Stop-Shop Reforms" in DistCI. The One-Stop-Shop model represents a transformative and innovative approach aimed at enhancing the efficiency and effectiveness of administrative service delivery to the public. This model has gained significant recognition and support in Vietnam, where it has been officially recognized as a compulsory legal requirement for all public administrative levels (Blunt et al., 2017).

The One-Stop-Shop model is designed to streamline and simplify bureaucratic processes, making it more convenient for citizens and businesses to access public services. Instead of navigating through various government offices or departments, individuals and entities can avail

multiple services in one centralized location. This consolidation not only saves time and effort but also contributes to a more citizen-centric and business-friendly government. The quality of One-Stop-Shop model is likely to contribute to an improved business environment, increased citizen satisfaction, and a more responsive and accountable government. As Can Tho put the quality of One-Stop-Shop into DDCI evaluation process, this reflects the ongoing commitment to embracing modern administrative practices and fostering a favorable environment for doing business in localities.

In summary, Can Tho City's evolving application of DDCI reflects a thoughtful and context-specific localization effort. The city's proactive adjustments to the measurement program, considering regional priorities and dynamic changes over the years, exemplify a strategic approach to subnational competitiveness measurement. The introduction of sister indices and the emphasis on digital government further underscore Can Tho's commitment to fostering an environment conducive to economic growth, innovation, and effective governance.

## 5 Discussion

The longevity and effectiveness of the PCI in Vietnam compared to similar initiatives in other countries can be attributed to several key factors, including the Vietnamese political system, the incentive structure for local officials, and the active role of the VCCI. Vietnam's political system features significant decentralization, granting provincial governments substantial autonomy in economic management, which allows for tailored and responsive governance. This decentralization is coupled with a performance-based promotion system where the career advancement of local officials is tied to their ability to drive economic growth and improve the local business environment. The PCI acts as a transparent and public measure of their performance, creating strong incentives for officials to implement reforms that enhance provincial competitiveness. Furthermore, the PCI fosters healthy competition among provinces, motivating officials to outperform their peers and continuously improve their rankings.

The key point that must be mentioned here is the role of VCCI. The VCCI plays a crucial part in the success of the PCI. As a neutral and credible entity representing the business community, lending legitimacy to the PCI and ensuring that the evaluations are perceived as fair and unbiased. It actively engages with various stakeholders, including businesses, government officials, and academics, to accurately capture the business climate and reflect the concerns and needs of the business community. Additionally, the VCCI provides training and support to provincial governments, equipping local officials with the knowledge and tools needed to implement meaningful reforms.

Several other factors also contribute to the PCI's longevity and effectiveness. The index continuously evolves to include new and relevant metrics, ensuring its relevance and usefulness over time. The public availability of PCI data ensures transparency and accountability, encouraging local officials to take the index seriously and work towards improvements. Furthermore, the PCI incorporates feedback from the business community, creating a continuous feedback loop that ensures the index remains dynamic and reflective of actual business conditions. Compared to similar initiatives in other countries, the PCI stands out due to its strong institutional support, integration into the political incentive structure, and its role in fostering a competitive environment among provinces. These elements create a robust ecosystem that continuously promotes improvements in the provincial business environment in Vietnam.

On the DDCI, provincial officials use this spin-off index to fill in gaps in their knowledge

that PCI has not yet discovered, enabling them to identify and address district/sector-specific issues more effectively. By leveraging the detailed information from the DDCI, provincial governments can implement targeted reforms that enhance their overall competitiveness. This localized focus not only helps improve district-level performance but also contributes to better provincial rankings on the PCI, as improvements at the district level aggregate to create a more favorable business environment across the entire province.

Customizing the DDCI to suit the specific features and conditions of each province or city is crucial for accurately reflecting local concerns and development orientations. Unlike the PCI, which can be applied nationwide, the DDCI requires localization due to the varying natural conditions, socio-economic infrastructure, and development priorities across different localities. Each province or city possesses unique characteristics and faces distinct challenges, necessitating the adaptation of DDCI sub-indices to align with local needs. For instance, in the case of Can Tho, the inclusion of the "Regional Center Role" sub-index in the DDCI program reflects the city's strategic position as a hub in the Mekong Delta region. The development of the "Regional Center Role" sub-index in Can Tho's DDCI program involves consulting the business community to assess the efforts of local leaders in guiding industries, sectors, and localities. This sub-index recognizes initiatives that extend beyond Can Tho's administrative boundaries, aiming to influence and lead development across the broader Mekong Delta region.

By incorporating sub-indices tailored to the specific context of each province or city, the DDCI program ensures that assessments accurately capture local development priorities and initiatives. This localization enables policymakers and local leaders to make informed decisions and implement targeted strategies to drive sustainable development and enhance competitiveness within their respective regions.

## 6 Conclusion

The article underscores the importance of measuring competitiveness at the sub-national level in Vietnam, highlighting the significance of the PCI and DDCI metrics. PCI serves as a tool to gauge the capacity and quality of economic management across provinces and cities, while DDCI focuses on the efforts made by each province or city to enhance their PCI profile. Given that the governmental structure at the provincial and city level in Vietnam comprises specialized bodies and district-level authorities, the effectiveness of improving PCI or enhancing the management capacity and operational quality of a province or city heavily relies on the operational efficiency, service quality, and delivery of public services by these departments and districts. Consequently, implementing the DDCI metric at the departmental and district levels becomes crucial in elevating the PCI results of a province or city. By doing so, authorities can identify areas for improvement and allocate resources more efficiently to enhance competitiveness and overall economic performance. This approach acknowledges the interconnectedness and interdependency of various administrative units within the Vietnamese governmental system and underscores the importance of coordinated efforts to drive sustainable development and competitiveness at both regional and national levels.

Obviously, a robust economy is closely intertwined with vibrant and healthy business communities. The PCI and DDCI play crucial roles in providing evidence-based and data-driven insights for policymakers and local leadership to enhance the business environment. These metrics offer valuable recommendations for improving the business climate within provinces and cities. By analyzing PCI and DDCI results, policymakers can gain insights

into the effectiveness of their policies and identify areas for improvement. Additionally, these measurements serve as benchmarks, allowing local governments to compare their business and investment environment against national averages, providing a gauge of their competitiveness.

Furthermore, PCI and DDCI serve as channels for the local business community to voice concerns and highlight challenges within the business environment. By capturing the sentiments and experiences of businesses operating within a locality, these metrics offer valuable feedback to policymakers and local authorities. From there, subnational governments can use this feedback to refine and adjust existing policies and business support schemes to better cater to the needs of local businesses. This iterative process of evaluation, feedback, and adjustment helps foster a more conducive environment for business growth and investment, ultimately contributing to the overall economic prosperity of the nation.

In summary, PCI and DDCI metrics are Vietnam's remarkable efforts in improving institutions for a more favorable business environment. However, to prolong the effectiveness of these measurements, both PCI and DDCI must regularly update and adjust to better suit the country's development context. Future research can explore the effective of PCI and DDCI metrics in attracting business and investment at subnational levels. And a holistic analysis on standardized methods and weights for measuring PCI and DDCI metrics is utterly needed.

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