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Foreword by the Editor

As we have recently marked the 50th anniversary of the International Center for Promotion of Enterprises (ICPE) on 25 April 2024, we feel a unique sense of pride and reflection in sharing the latest edition of our journal, *Public Enterprise*. It has been a journey of learning, adaptation, and continuous pursuit of excellence in public service and management.

For the last fifty years, ICPE has been promoting best practices and encouraging scholarly research in public enterprises. The 28th edition encapsulates the essence of our mission and highlights the role of the public enterprise in national socio-economic development. This is an assertion of the relevance and adaptability of public enterprises to contemporary challenges.

The articles in this volume bring out the varied and dynamic character of public enterprises. While all contribute to an appreciation of important critical dimensions of public enterprise management, each reflects the successes and struggles of public enterprises. It is academic and practically enriching, giving some result-based solutions and strategies that can be applied to real situations.

1. **Public Enterprise: A Systematic Literature Review** by Mary C. Smith provides a comprehensive review of the existing literature on public enterprises, presenting insights into their roles, challenges, and evolving paradigms. This systematic literature review sets the stage for understanding the multifaceted nature of public enterprises, their strategic importance, and the theoretical underpinnings that guide their operations. By identifying research gaps and formulating research questions, this article lays the groundwork for future studies that will continue to advance our understanding of public enterprises.
2. **Determinants of Cultural Intelligence of Public Enterprise Executives** examines the crucial role of cultural intelligence in the leadership of public enterprises. In an increasingly globalized world, the ability of executives to navigate cultural nuances significantly impacts the success and effectiveness of public enterprises. This study delves into the determinants that shape this essential competency, providing valuable insights into how cultural intelligence can be developed and leveraged to enhance organizational performance.
3. **Why Public Enterprises Fail to Provide Basic Needs in Developing Countries: The Case of Rural Water Supply** explores the critical issue of service delivery failures in developing nations. The article focuses on rural water supply, shedding light on the systemic challenges and proposing solutions to enhance the efficiency and reliability of public services in these regions. By examining case studies and analysing the underlying causes of failure, this article offers a roadmap for improving service delivery in the most vulnerable and underserved communities.
4. **Integrating Slovenian Enterprises into a Model of IDC with UNIDO to Achieve Sustainable Development Goals** highlights a collaborative approach towards achieving the Sustainable Development Goals (SDGs). This study presents a model of integration and cooperation between public enterprises and international organizations, illustrating how strategic partnerships can drive sustainable development. The article underscores the importance of aligning public enterprise strategies with global development agendas to create synergistic impacts that benefit both local and international stakeholders.

5. **Farsighted Leadership: Long-Term Orientation and Public Enterprise Strategy** emphasizes the importance of long-term strategic planning in public enterprises. In an era marked by rapid change and uncertainty, this article argues for leadership that prioritizes sustainability and long-term goals over short-term gains. By exploring the principles of farsighted leadership and providing examples of successful long-term strategies, this article serves as a guide for public enterprise leaders aiming to build resilient and future-proof organizations.

As we celebrate the 50th year of ICPE, it seems fit to reflect on the role that public enterprises continue to play in influencing the very texture of the socio-economic life in developed and emerging economies. These lie at the intersection of public policy, economics, and management and hence assume an important role in driving development and ensuring public welfare. The articles in this issue are replete with theoretical insights in all these dimensions but, at the same time, carry some practical implications on how to make the performance and impact of public enterprises better.

Public enterprises are more than an economic entity; they are a custodian of public trust and resources. The extensive scope of issues in this edition is meant to instigate a multidisciplinary angle toward the management of public enterprise—in a way that is responsive, proactive, and responsible.

Besides the academic contributions, this edition also reflects the collective successes of ICPE over the past half-century. The organization has made critical contributions to advances in public enterprise management through international conferences and training programs, publications, and worldwide networks. This issue reflects our ongoing pursuit of excellence and extends our inspiration for the journey public enterprises will take in the future.

The insights and research presented in this edition call upon public enterprise leadership, policymakers, and scholars to a call to action. These remind all stakeholders of public enterprises about how crucial continuous learning, innovation, and collaboration are in surmounting the challenges that confront them. It is from this background that, as we look into the future, let us derive inspiration from the past fifty years and aspire to build public enterprises that are not only efficient and effective but also equitable and sustainable.

Looking ahead, we are pleased to announce our intention to publish another edition, Volume 28(2), in December 2024. This upcoming edition will continue to explore the latest research, innovations, and best practices in public enterprise management, ensuring that our readers remain at the forefront of developments in this vital field.

In closing, this volume of *Public Enterprise* is a tribute to the legacy of ICPE and a standing testimony to continuing efforts that go into developing the discipline of public enterprise management. We invite readers to engage with, and reflect on insights offered, and contribute towards the evolving discourse in public enterprise management.

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Public Enterprise: A Systematic Literature Review

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Abstract

Public enterprises, also known as government-owned corporations or state-owned enterprises, are companies with government ownership, control, or partial ownership in sectors such as energy, telecommunications, healthcare, and transportation. Their primary goals are to serve the public's basic needs, advance economic growth, or protect national interests. Public enterprises can collaborate with privately held businesses or face competition. The percentage of public enterprises varies across nations, but they play significant roles in both liberal and private enterprise-oriented systems. Public enterprises are becoming increasingly important due to the state's increasing functions and philosophy, moving from laissez-faire to social welfare initiatives. The idea that the state should hold the majority of natural resources and capital-intensive sectors has gained widespread acceptance in modern states. Public businesses are considered essential tools for achieving social and economic growth, fostering technical innovation, and supporting private sector economic development. This paper presents a Systematic Literature Review of the current body of research using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) model. The study further investigates the research gaps (RG), formulates research questions (RQ), and makes an RG-RQ analysis. The study also explores public choice theory and the property rights paradigm, contributing to a better understanding of public enterprises' operations.

KEYWORDS: Public enterprise; Public choice theory, Property Rights paradigm, PRISMA

Introduction

A public enterprise, also known as a state-owned enterprise (SOE), is a company that is wholly or partially owned, controlled, or operated by the government. These entities can be found across various sectors of the economy, including energy, telecommunications, healthcare, and transportation. The primary objectives of public enterprises often revolve around serving the basic

needs of the general public, promoting economic development, or safeguarding vital national interests. They may operate alongside or compete with privately owned businesses within the same industry.

The proportion of public enterprises varies from country to country, depending on historical, social, and economic factors, as well as ideological preferences. In some countries, public enterprises play a dominant role in certain sectors, while in others, they may have a more limited presence. The extent of state ownership and control can also differ, ranging from full ownership to partial ownership or even minority shareholding. Nevertheless, it is clear that public enterprises not only exist but also play significant roles even in the most "liberal" and private enterprise-oriented systems (Fernandes, 1986).

The importance of public enterprises has been growing, but the concepts and practices of state ownership of property are not new; rather, they are as ancient as human civilisation itself. Throughout history, governments have owned and managed various forms of property, such as land, natural resources, and infrastructure. However, the role and scope of public enterprises have expanded significantly in modern times. This is because the functions and philosophy of the state have gradually evolved, shifting from a laissez-faire approach, which emphasised minimal government intervention in the economy, to social welfare initiatives, which sought to address market failures and promote social equity.

The notion that the state should eventually own the majority of natural resources and capital-intensive sectors has gained widespread acceptance in modern states, especially in developing nations. This belief is rooted in the idea that certain industries and resources are too important to be left entirely to the private sector, as they have far-reaching implications for the well-being of society as a whole. In this context, state enterprises have begun to play a crucial role by making substantial contributions to the Gross Domestic Product (GDP) and generating a significant number of employment opportunities.

Public enterprises are often established to achieve specific developmental goals, such as building infrastructure, providing essential services, or promoting industrialisation. They can serve as vehicles for implementing government policies and strategies, and can be used to address market failures or social inequalities. In many countries, public enterprises are considered vital instruments for achieving social and economic development, as well as fostering technological innovation. By investing in research and development, public enterprises can help to drive technological progress and create new opportunities for growth and development.

The purpose of government involvement through public enterprises has also been to support and facilitate private sector economic growth. Public enterprises can provide essential inputs and services that are necessary for the functioning of the private sector, such as energy, transportation, and telecommunications. They can also help to create a more stable and predictable business environment, which can encourage private investment and entrepreneurship. In some cases, public enterprises may also partner with private companies to undertake joint ventures or public-private partnerships, which can leverage the strengths of both sectors to achieve common goals.

The decision-making process is the most critical aspect of public enterprise solutions. Public enterprises employ a multi-stage decision-making process that involves problem identification, analysis of alternatives, decision formulation, implementation, and evaluation. This process is typically more complex and multifaceted than decision-making in the private sector, as public enterprises must balance a wider range of interests and considerations.

The first stage of the decision-making process is problem identification, which involves recognizing and defining the issue or challenge that needs to be addressed. This may involve gathering data and information from various sources, such as stakeholder consultations, market research, or internal assessments. Once the problem has been identified, the next stage is to analyse the various options and alternatives available for addressing it. This may involve conducting feasibility studies, cost-benefit analyses, or impact assessments to evaluate the potential outcomes and trade-offs of different approaches.

Based on the analysis of alternatives, a decision is then formulated, which outlines the course of action to be taken. This decision may involve selecting a specific strategy, policy, or project to pursue, and may also include details on the resources and timelines required for implementation. The implementation stage involves putting the decision into action, which may require coordination and collaboration across different departments or organisations. Finally, the evaluation stage involves assessing the effectiveness and impact of the decision, and making any necessary adjustments or improvements based on the results.

Throughout the decision-making process, stakeholder engagement and consultation are often essential to ensure accountability and transparency. Public enterprises are accountable to a wide range of stakeholders, including the government, taxpayers, customers, and employees, and must take their interests and perspectives into account when making decisions. This may involve

holding public hearings, conducting surveys or focus groups, or establishing advisory committees or boards to provide input and guidance.

When making decisions, decision-makers in public enterprises must consider a range of factors, including the public interest, budgetary constraints, and legal obligations. The public interest refers to the collective well-being of society as a whole, and may involve considerations such as social equity, environmental sustainability, or economic development. Budgetary constraints refer to the financial resources available to the public enterprise, which may be limited by factors such as government funding, revenue generation, or debt obligations. Legal obligations refer to the various laws, regulations, and policies that govern the operations of public enterprises, which may include requirements related to procurement, employment, or environmental protection.

Balancing these various factors can be a complex and challenging task, as they may often be in conflict with one another. For example, a decision that maximises economic efficiency may have negative social or environmental impacts, while a decision that prioritises social equity may have higher costs or lower financial returns. Decision-makers must navigate these trade-offs and find solutions that optimise outcomes across multiple dimensions.

Effective decision-making in public enterprises requires a systematic approach, informed by data and evidence, to ensure that decisions align with organisational objectives and the public interest. This may involve using tools such as cost-benefit analysis, multi-criteria decision analysis, or scenario planning to evaluate different options and outcomes. It may also involve engaging in benchmarking or best practice analysis to learn from the experiences of other organisations or jurisdictions.

Public choice theory and property rights theory offer important insights into the decision-making processes and incentives at play in public enterprises. Public choice theory, which applies economic principles to the study of political and bureaucratic behaviour, suggests that decision-makers within public enterprises, such as bureaucrats and policymakers, act in their own self-interest. According to this theory, bureaucratic interests, political considerations, and individual incentives can influence public enterprise solutions, and may lead to outcomes that do not necessarily align with the public interest.

For example, bureaucrats may seek to maximise their budgets or expand their power and influence, even if this leads to inefficient or ineffective outcomes. Politicians may prioritise short-term electoral considerations over long-term strategic planning, or may seek to reward supporters

or punish opponents through the allocation of public resources. Individual employees may prioritise their own career advancement or job security over the overall performance of the organisation.

To address these challenges, public choice theory emphasises the need for mechanisms to align individual incentives with organisational objectives, and to hold decision-makers accountable for their actions. This may involve establishing performance metrics and targets, implementing incentive structures that reward efficiency and effectiveness, or creating oversight and monitoring systems to ensure compliance with rules and regulations.

Property rights theory, on the other hand, highlights the crucial role of clear and secure property rights in public enterprise solutions. This theory suggests that by providing individuals with well-defined property rights, public enterprises can incentivise individuals to make efficient decisions regarding the management and allocation of resources. When property rights are clearly defined and enforced, individuals have a greater stake in the outcomes of their decisions, and are more likely to take a long-term perspective and invest in the maintenance and improvement of assets.

In the context of public enterprises, property rights may take various forms, such as ownership rights, leasehold rights, or usage rights. For example, a public enterprise may own and operate a fleet of buses, but may lease the maintenance facilities from a private company. Or a public enterprise may have usage rights over a natural resource, such as a water source or a forest, but may not have full ownership rights.

The allocation and management of property rights can have significant implications for the efficiency and effectiveness of public enterprises. When property rights are poorly defined or enforced, individuals may have less incentive to invest in the long-term sustainability of assets, leading to overuse, underinvestment, or mismanagement. This can result in higher costs, lower quality of services, or even the depletion of resources.

To address these challenges, property rights theory emphasises the need for clear and enforceable property rights, as well as mechanisms for resolving disputes and ensuring compliance. This may involve establishing legal frameworks and institutions that define and protect property rights, such as courts, registries, or regulatory agencies. It may also involve creating incentives for individuals to act as responsible stewards of assets, such as through performance-based contracts or public-private partnerships.

Another crucial aspect related to public enterprises is asset management. Assets are vital to the functioning and success of public enterprises, as they support strategic planning, accountability, value creation, financial sustainability, and service delivery. Effective asset management involves the systematic and coordinated activities and practices through which an organisation optimally and sustainably manages its assets and asset systems, their associated performance, risks and expenditures over their life cycles for the purpose of achieving its organisational strategic plan.

Asset management in public enterprises can be a complex and challenging task, given the wide range of assets that these organisations may own or control, such as infrastructure, buildings, equipment, vehicles, or natural resources. These assets may have different life cycles, maintenance requirements, and risk profiles, and may be subject to various legal, regulatory, or environmental constraints.

Effective asset management requires a strategic and long-term approach, informed by data and evidence, to ensure that assets are managed in a way that maximises value for money and supports the achievement of organisational objectives. This may involve developing asset management plans and policies, conducting regular assessments and audits of asset condition and performance, implementing preventive maintenance and repair programs, and making informed decisions about asset acquisition, disposal, or renewal.

Asset management also requires effective coordination and collaboration across different departments and stakeholders, such as finance, operations, engineering, and procurement. This may involve establishing cross-functional teams or committees to oversee asset management activities, and ensuring that there is clear communication and information sharing among different parts of the organisation.

Effective asset management can have significant benefits for public enterprises, such as improved service delivery, reduced costs, enhanced risk management, and increased public trust and confidence. By optimizing the use and performance of assets, public enterprises can deliver better value for money and improve the quality of life for citizens and communities.

However, asset management in public enterprises also faces various challenges and constraints, such as limited budgets, aging infrastructure, changing demographics and demand patterns, and political pressures. Public enterprises may also face competing priorities and trade-offs, such as between short-term cost savings and long-term sustainability, or between efficiency and equity.

To address these challenges, public enterprises may need to adopt innovative approaches and technologies, such as data analytics, predictive maintenance, or lifecycle costing. They may also need to engage in partnerships and collaborations with other organisations, such as private companies, academic institutions, or community groups, to leverage expertise and resources.

The paper aims to make a comprehensive Systematic Literature Review (SLR) of the various aspects of public enterprise including its operational theories, rationale and characteristics through the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). The 2009 PRISMA statement was created to assist systematic reviewers in clearly outlining the purpose of the review, the actions taken by the authors, and the results they discovered. The guideline has to be updated due to advancements in systematic review methodology and terminology during the last ten years. The 2009 statement is replaced by the PRISMA 2020 statement, which also includes revised reporting guidelines reflecting improvements in finding, picking, evaluating, and synthesising studies. To make implementation easier, the elements' organisation and presentation have been changed (Page et al., 2021).

SLR is a methodical approach of finding, assessing, and synthesizing prior research that is pertinent to a certain subject. In order to reduce bias and guarantee that all pertinent research is included, it adheres to a methodical and open procedure. The several stages of the review process, such as the identification of studies, screening and selection of studies based on predetermined criteria, data extraction and synthesis, and assessment of study quality, are reported by researchers using the PRISMA standards in an SLR. Researchers can increase the validity and dependability of their review results by conducting their SLR in a transparent and repeatable manner by adhering to the PRISMA standards.

The contribution of the paper is as follows.

1. An SLR of the characteristics, theories, and rationales of public enterprises using the PRISMA model (Moher, 2015).
2. Investigating the research gaps (RGs), formulating the research questions (RQs), and conducting an RG-RQ analysis of public enterprise solutions.
3. Exploring characteristics, rationales and operations of public enterprises through public choice theory and property rights paradigm.

The rest of the paper is organised as follows. Section 2 presents an SLR of the current body of research using the PRISMA model. This section includes investigating RG, formulating RQs and performing RG-RQ analysis. Related works are presented in Section 3 followed by

elucidations of the rationales and operations of public enterprises through public choice theory and the property rights paradigm in Section 4. The paper concludes in Section 5 with further discussions and highlights on future scopes.

Systematic Literature Review

A literature review is a crucial component of academic investigations. Knowledge advancement fundamentally has to be constructed upon previously completed effort. In order to advance knowledge, we have to understand the location of the frontier. We can determine research gaps and gain an understanding of the scope and depth of the current body of work by evaluating pertinent literature. A set of related literature can be analysed, summarised, and synthesised to test a particular theory or generate new theories. We can also assess the quality and validity of previous work using a standard to identify flaws, contradictions, and inconsistencies (Asthana, 1997; Paré et al., 2015).

Reviews of the literature should be legitimate, dependable, and reproducible as scientific investigations. We do not have many robust systematic reviews in certain subjects, in part because we do not talk about the literature review process very often and do not offer enough advice on how to perform good reviews (Asthana & Asthana, 2012; Xiao & Watson, 2019). The primary objective of scientific literature review articles is to discuss a certain topic or theme theoretically and objectively. They are methodological investigations that gather research results from databases. Scientific literature typically consists of two basic article types: narrative and systematic. Published from a theoretical and contextual perspective, narrative review articles present and debate the current state of science related to a particular topic or issue. The categories of databases, methodological techniques, and inclusion criteria for retrieved articles are not included in these kinds of evaluations.

On the other hand, systematic literature review is a well planned review to answer specific research questions using a systematic and explicit methodology. In other words, SLR is a thorough, methodical strategy to finding, assessing, and synthesizing previous research pertinent to a certain topic or research issue known as SLR. It entails methodically looking up pertinent research across a variety of sources, including scholarly databases, filtering the results according to preset standards, and then critically evaluating and summarizing the results. In order to guide future research paths and practice, the objective is to present a thorough and unbiased review of the current state of knowledge on a given area.

Research Methodology

The research methodology of Systematic Literature Review (SLR) is a rigorous and comprehensive approach to identifying, evaluating, and synthesising prior research relevant to a specific topic or research question. It involves several crucial steps to ensure the thoroughness and impartiality of the review process. The first and arguably most critical step towards a successful SLR is identifying research gaps (RGs). RGs refer to areas or topics within a field of study that have not been adequately addressed or explored in existing research. These gaps represent opportunities for further investigation and can arise due to various reasons, such as unanswered questions, new developments in the field, contradictory findings, understudied areas, or changing contexts. Identifying and addressing research gaps is essential for advancing knowledge in a subject area and guiding future research efforts. Researchers typically identify these gaps and formulate research questions (RQs) that can help bridge them through systematic literature reviews or gap assessments.

Once the RGs and RQs have been established, the next steps involve defining inclusion and exclusion criteria, developing a comprehensive search strategy, and selecting relevant studies. The inclusion and exclusion criteria are predetermined standards that dictate which studies will be included in the review based on factors such as study design, population, interventions, outcomes, and publication date. The search strategy involves identifying relevant databases, journals, and conference proceedings to search for studies. This process should be comprehensive and systematic to ensure that all relevant research is captured. The study selection process involves screening the search results, typically involving two or more independent reviewers to minimise bias and ensure consistency. The reviewers assess each study against the inclusion and exclusion criteria, and any disagreements are resolved through discussion or by involving a third reviewer.

After the relevant studies have been selected, the data extraction process begins. This involves extracting key information from each study, such as study design, participants, interventions, outcomes, and results. The extracted data is then subjected to a quality assessment to determine the reliability and validity of the findings. This assessment may involve using standardised tools or checklists specific to the study design, such as the Cochrane Risk of Bias tool for randomised controlled trials or the Newcastle-Ottawa Scale for observational studies. The quality assessment helps to determine the strength of the evidence and identify any limitations or potential sources of bias in the included studies.

The data synthesis process is the next crucial step, which involves combining the results of the included studies to draw overall conclusions and answer the research questions. Depending on the nature of the data and the research questions, this may involve a qualitative or quantitative synthesis. A qualitative synthesis involves summarising and interpreting the findings of the included studies narratively, highlighting key themes, similarities, and differences. A quantitative synthesis, such as a meta-analysis, involves statistically combining the results of the included studies to obtain a pooled estimate of the effect size and assess heterogeneity between studies.

The findings of the SLR are then interpreted and reported in a structured format, following the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). PRISMA is a set of minimum items for reporting in systematic reviews and meta-analyses, based on evidence. Although PRISMA is primarily focused on the reporting of reviews evaluating the effects of interventions (e.g., evaluating aetiology, prevalence, diagnosis, or prognosis), it can serve as a basis for reporting systematic reviews with other objectives. While PRISMA is not a quality assessment tool for systematic reviews, it can assist authors in improving the reporting of their reviews and help readers critically appraise published systematic reviews. The completed review may undergo peer review to ensure the rigour and quality of the process and may be updated periodically or repeated with updated methods, depending on the field and nature of the review.

In the present study, a database search was conducted to analyse 105 articles from academic publications and industry whitepapers published between 1983 and 2024. The analysis focused on the benefits and limitations of the articles, the methods or analysis tools used, the study context, and the relationships identified from the findings. The databases searched included IEEE Xplore, Google Scholar, Web of Science, ResearchGate, Science Citation Index, Taylor & Francis, and SpringerLink, among others. Initially, only the keywords, abstracts, and titles from 1983 to 2024 were screened. The search strategy was solely based on the defined search terms, such as "public enterprise," "literature review," "public choice," "property rights," "asset," "decision making," "PRISMA," etc. This step resulted in the selection of 105 papers for analysis.

The research was further refined using the following inclusion and selection criteria: (a) studies published between 1983 and 2023; (b) peer-reviewed articles; and (c) publications in reputable English-language journals and conference proceedings. The next step involved synthesising the findings of the selected studies, which required either a statistical or qualitative synthesis, depending on the study design and research questions. The data analysis flow diagram,

as shown in Figure 1, was constructed based on the PRISMA model. A total of 105 papers were identified using the relevant keywords. After an initial search for eligibility, 85 papers were found to be eligible. Online software was used to remove 15 duplicates, resulting in 70 papers being selected for full-text screening. Thirty articles were excluded due to their lack of relevance to the current study, leaving 40 papers for assessment and full-text analysis. At least 26 irrelevant articles were further removed, ultimately resulting in 14 papers being selected for qualitative and quantitative synthesis. These integers are represented by the variable 'var'.

The SLR methodology employed in this study ensures a thorough and unbiased review of the existing literature on public enterprises, their characteristics, theories, and rationales. By adhering to the PRISMA guidelines and following a systematic approach to identifying, selecting, and synthesising relevant studies, the review aims to provide a comprehensive understanding of the current state of knowledge in this field and identify potential areas for future research. The rigorous and transparent nature of the SLR process enhances the reliability and reproducibility of the findings, allowing for a more robust evidence base to inform policy, practice, and further research in the domain of public enterprises.

Furthermore, the SLR methodology enables the identification of trends, patterns, and gaps in the existing literature, which can guide the formulation of new research questions and hypotheses. By synthesising the findings of multiple studies, SLRs can provide a more comprehensive and nuanced understanding of complex phenomena, such as the decision-making processes, incentive structures, and property rights considerations that shape the operations and performance of public enterprises.

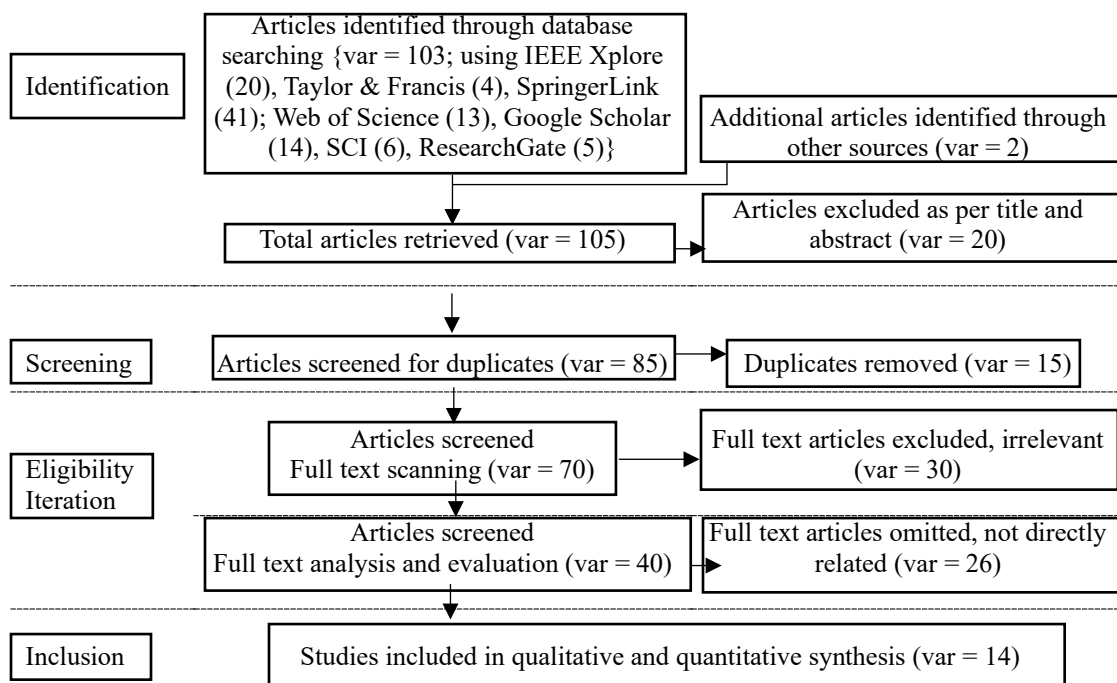
The present study's focus on investigating research gaps and formulating research questions through the SLR process is particularly valuable, as it helps to identify areas where further research is needed to advance the field and address key challenges facing public enterprises. By conducting a thorough gap analysis and developing targeted research questions, this study can inform the development of future research agendas and guide the allocation of resources towards the most pressing and promising areas of inquiry.

Moreover, the study's exploration of public choice theory and property rights paradigm in the context of public enterprises is a significant contribution to the field. These theoretical frameworks offer valuable insights into the incentives, motivations, and constraints that shape the behaviour of decision-makers within public enterprises, as well as the role of property rights in influencing the efficiency and effectiveness of these organisations. By applying these theoretical

lenses to the analysis of public enterprises, the study can generate new insights and perspectives that can inform the design and implementation of policies and practices to enhance the performance and social impact of these entities. Overall, the SLR methodology employed in this study provides a robust and systematic approach to reviewing the existing literature on public enterprises, identifying research gaps and questions, and exploring key theoretical frameworks. By adhering to the PRISMA guidelines and following a transparent and rigorous process, the study can generate reliable and actionable insights that can inform policy, practice, and future research in this important subject.

Figure 1

PRISMA Model



Research Flow

The PRISMA 2020 Statement was published in 2021. It consists of a checklist and a flow diagram, and is intended to be accompanied by the PRISMA 2020 Explanation and Elaboration document. The PRISMA Flow Diagram is a tool that can be used to record different stages of the literature search process--across multiple resources--and clearly show how a researcher went from, 'These are the databases I searched for my terms', to, 'These are the papers I'm going to talk about'. PRISMA is not inflexible; it can be modified to suit specific research needs. In this case the research flow consists of finding five RGs, formulation of the corresponding RQs and performing RG-RQ analysis as shown in Table 1.

Table 1*Research Flow*

Area	RGs	RQs	RQ-RG analysis
Technology and Innovation	Exploring the challenges and opportunities of digital transformation in public enterprises, including issues related to technology adoption, data management, and cybersecurity.	How can emerging technologies (e.g., AI, blockchain) be leveraged to improve public enterprise solutions?	Several internal and external factors influence the adoption and diffusion of innovative solutions in public enterprises viz., organisational support, leadership, market forces, regulatory environment etc.
Governance and Policy	Understanding how governance structures influence the performance and effectiveness of public enterprises, especially in terms of transparency and accountability.	How do governance structures impact the implementation and success of public enterprise solutions?	Best practices for integrating public enterprise solutions into existing policy frameworks viz., sustainability, monitoring and evaluation, stakeholder engagement etc.
Sustainability and Social Impact	Examining the role of public enterprises in promoting sustainability and resilience, including strategies for mitigating environmental impact and responding to crises.	How can public enterprise solutions contribute to sustainability goals (e.g., environmental, social) and impact society?	The initiative focuses on reducing greenhouse gas emissions, promoting social inclusion through inclusive hiring practices, understanding community needs, and supporting economic development through job creation.
Capacity Building	Identifying the capacity building needs of public enterprises, particularly in terms of developing digital skills and capabilities among employees.	What are the capacity building needs of public enterprises to effectively adopt and utilise enterprise solutions?	Best strategies for enhancing digital skills in public enterprises, such as regular employee training programs and fostering a culture that encourages experimentation and learning.
Performance Measurement and Evaluation	Developing robust frameworks for measuring and evaluating the performance of public enterprises, including the identification of relevant key performance indicators (KPIs).	What are the KPIs for evaluating the success of public enterprise solutions?	Performance measurement systems in public enterprises are used to drive continuous improvement through KPIs, data analysis, and feedback mechanisms, fostering a culture of strategic decision-making.

Related Works

The term "public enterprise" is ambiguous and can mean different things depending on context (Adebayo & Ackers, 2023). Hinds et al. (2005) define it using a positive (descriptive) and normative (prescriptive) approach. The normative approach, defines the policy analysis, while the positive approach fits for a constitutional approach to public finance challenges. Fernandes (1986) delves into the intricate relationship between government agencies and public enterprises, emphasizing the need for adherence to policies and regulations, managing relations with stakeholders, and exploring various governance methods, decision-making procedures, autonomy, and centralised versus decentralised institutions, to ensure productive collaboration. Private enterprises are believed to be driven by transaction costs and information-sharing issues in collaborative production. Public enterprises exist due to government ownership preferences, favouritism, lack of market knowledge, and natural constraints. People may choose one type of firm over another based on their preference for certain goods, but taste does not seem to be a significant explanatory variable. De Alessi (2004) suggests that people may choose one type of firm over another based on advantageous outcomes, rather than taste. Kiser (1994) rationalises public enterprise by analysing the constitutional choice between private and public ownership of production arrangements. Faulhaber (1983) investigates the intricate world of pricing within regulated or public enterprises. This exploration is particularly relevant for industries subject to increasing returns to scale and tight regulation by the state. Tatahi (2006) studies theories about how the public and private sectors interact. The major goal is to find the empirical implications of theory for evaluating the performance of private versus state enterprises, explore their advantages and disadvantages, and ascertain their applicability and method of measurement for business performance. While Bös (1986) discusses the privatisation of public enterprises, Mpanga (2019). talks about implementation of Enterprise Resource Planning (ERP) systems in developing countries public sector. To guarantee a successful and cost-effective ERP deployment, they considered the external and internal opposing factors, particularly Critical Success Factor (CSF) and Critical Failure Factor (CFF), ERP implementing framework/methodologies, total cost of ownership, and ERP integration. Jain et al. (2014) examines India's non-financial central public sector enterprises (PSEs) from 1986–1987 to 2010–2011, with an emphasis on productivity, profitability, efficiency, liquidity, and leverage. To lower fiscal deficits, it draws attention to how liberalisation and globalisation have affected PSEs by cutting back on subsidies and budgetary assistance. Scholars have been looking at the theoretical underpinnings, research focus, and

research methodology in their analysis and suggest a number of interesting directions for further research by combining the suggestions made for the potential projects. The majority of the research on Enterprise Systems (ES) in the public sector is devoted to determining success criteria and evaluating how they affect companies. Future studies could evaluate the adoption of ES in the public and private sectors, look into stakeholder roles, and examine other crucial success criteria. They should also broaden their reach and use a larger sample size.

PT Bank Rakyat Indonesia (Persero) Tbk (lit. "Indonesian People's Bank"), commonly known as Bank BRI or just BRI, is the second largest banks in Indonesia. It specialises in small scale and microfinance style borrowing from and lending to its approximately 30 million retail clients through its over 8,600 branches, units and rural service posts. It also has a comparatively small, but growing, corporate business. It is using Extended Enterprise techniques to boost company value. Partners collaborate with BRI to streamline business procedures and coordinate objectives between firms and partners. The purpose of the study of Oduor et al. (2020) is to examine how BRI has implemented Extended Enterprise, including its benefits, drawbacks, and partner and company issues. Through documentation studies, interviews, and observations, data was gathered. The findings highlight the difficulties that partners encounter, including inaccurate information, a dearth of standard services, and disagreements. The study has assisted in mapping the variables influencing how well cooperation works when using Extended Enterprise. Basu (2005) investigates the function of public companies in the economy and looks at innovative management techniques that apply to public companies in the modern era. Schmitz (1996) study examines the production of commodities by the government, concentrating on the types of public companies rather than their overall worth. It shows that while governments usually keep out of high-productivity countries, they create a sizable portion of manufactured items in low-productivity countries. Resolving conflicts of interest and issues related to collective action among investors are the goals of corporate governance. This survey examines studies on legal and regulatory frameworks, corporate control systems, and comparative literature. There is a conflict here: while alternative approaches have not been efficacious, regulating major shareholder intervention for the sake of protecting small investors may enhance managerial discretion and abuse (Becht et al., 2002).

Clarification of Public Enterprise Rationale and Operations

Public choice theory and the property rights paradigm provide interesting perspectives on the rationales and operations of public enterprises. Public choice theory treats government actors

as self-interested individuals who are comparable to those in the private sector by applying economic analysis to public sector operations. According to this theory, those working in government, like those in the private sector, may try to maximise their own utility at the expense of efficiency and less-than-ideal results.

- Rationale: According to public choice theory, public businesses may be founded in order to further the interests of certain interest groups or public officials, in addition to the general public. Politicians might establish public companies, for instance, in order to employ their people or seize control of important sectors of the economy for their own political advantage.
- Operations: Because government agents have self-interest, public businesses may be vulnerable to inefficiency, rent-seeking behaviour, and corruption, according to public choice theory. These bodies may prioritise political goals over economic efficiency, leading to suboptimal outcomes.

The paradigm of property rights highlights the significance of well-defined and upholdable property rights in facilitating effective distribution of resources. It implies that property rights issues may arise for public companies, which are owned by the government and may have an impact on how they do business.

- Rationale: Public enterprises may be appropriate from the standpoint of property rights when the nature of the products or services offered renders private ownership and administration impracticable. For instance, government involvement may be necessary to ensure the efficient provision of public goods or natural monopolies.
- Operations: The absence of distinct ownership and control rights may provide difficulties for public enterprises that follow the property rights paradigm. This may result in inefficiencies since political factors rather than economic ones may have an impact on decision-making.

The property rights paradigm and public choice theory provide important insights into the goals and workings of public businesses. Even though public companies are frequently founded to further the interests of the public, these theories draw attention to the possibility of inefficiencies and less-than-ideal results because of issues with property rights and the self-interest of government players (Ali, 2016).

Conclusion

While big public enterprises are getting privatised (Phuntsok, 2021) and closing down (Katoch, 2021), interest in research in the field of public enterprises has not waned. For example, Chinese Town and Village Enterprises play an important role in the Chinese economy (Phuntsok & Kumar, 2022). There is also interest in integration of human values in management of PSEs (Umesh et al., 2021). In this paper an SLR was conducted using PRISMA flow model for studying the features, foundations and concepts behind public enterprise. The study initiated with 105 research papers and after following the research flow, finally included fourteen papers for qualitative analysis. Five core areas of research gaps were identified and research questions formulated. Following this, RQ-RG analyses of the five core areas were conducted in which some of the best practices, strategies, initiatives, and influencing factors were discussed. Furthermore, the paper offered clarifications to the public enterprise rationale and operations through public choice theory and property rights paradigm both of which play important roles in the mechanisms of public businesses.

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Determinants of Cultural Intelligence of Public Enterprise Executives

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Abstract

Cultural intelligence (CQ) has emerged as a crucial competency for public enterprise executives navigating culturally diverse environments. This study aims to explore the determinants of CQ among public enterprise executives in Namibia. A survey was conducted with 55 respondents, and data were analysed using confirmatory factor analysis and ordinary least squares regression. The findings reveal that age and experience are positively associated with CQ, while gender and languages spoken are not significant predictors. Visits to countries outside Africa and residence abroad, both within and outside Africa, are positively related to CQ. The study highlights the importance of exposure to culturally distant countries in enhancing executives' CQ. The results have implications for the selection, training, and development of public enterprise leaders. Further research is needed to establish external consistency and examine the longitudinal effects of various factors on CQ development. This study contributes to the understanding of CQ determinants in the context of public enterprises and offers insights into fostering this essential competency among executives.

KEYWORDS: Cultural intelligence, Multiple intelligences, CI, CQ.

Introduction

In today's increasingly globalized business environment, the ability to effectively navigate and adapt to diverse cultural contexts has become a critical competency for organizational leaders. This is particularly true for executives in public enterprises, who often face the challenges of managing a workforce and serving stakeholders from various cultural backgrounds. Cultural intelligence (CQ) has emerged as a crucial attribute that enables individuals to function effectively in cross-cultural settings. CQ refers to an individual's capability to understand, adapt, and thrive in culturally diverse environments (Earley & Ang, 2003).

The importance of cultural intelligence for public enterprise executives cannot be overstated. These leaders are responsible for guiding their organizations through complex

cultural landscapes, both internally and externally. They must be able to foster inclusive work environments, build relationships with diverse stakeholders, and make strategic decisions that consider cultural nuances. Consequently, understanding the determinants of cultural intelligence among public enterprise executives is of paramount importance.

This paper aims to explore the key factors that influence the cultural intelligence of public enterprise executives. By examining the individual, organizational, and environmental determinants of CQ, we can gain valuable insights into how to cultivate and enhance this essential competency. The findings of this study will have significant implications for the selection, training, and development of public enterprise leaders, as well as for the overall effectiveness of public organizations in navigating cultural diversity.

Multiple intelligences

Nineteenth century attempts by English polymaths like Herbert Spencer and Francis Galton to classify people into intelligence groups did not meet with success and attempts to make a standardized test were abandoned. When French Alfred Binet, Victor Henri, and Théodore Simon released the Binet-Simon test in 1905, they had more success (Wolf, 1973). William Stern (1912) coined the abbreviation IQ for the German term *Intelligenzquotient*, which he used to refer to a method of assessing intelligence tests.

A number of meta-analytic evaluations have shown that general intelligence tests are reliable indicators of work performance across a wide range of occupations. IQ tests have evolved over time and IQ testing has developed into a huge enterprise. Now the tests are easy to administer and some experts claim to do it in minutes over the telephone or online (Richardson, 2022). The idea of IQ measurement being so easy seems unconvincing when even laypersons would recognize that intelligence is bound to be complex, enigmatic and perhaps indescribable, being probably the most intricate mental function ever evolved.

While scientists were working to improve IQ tests, Howard Gardner (1983) published his renowned book *Frames of Mind: The Theory of Multiple Intelligences*, which generated much controversy. Gardner distinguished several types of intelligence, including linguistic, logical-mathematical, musical, spatial, kinesthetic, interpersonal, intrapersonal, and naturalistic intelligence, rather than viewing intelligence as a single, all-inclusive capacity. The theory has been subject of criticism by mainstream scholars (e.g., Waterhouse, 2006) for its lack of empirical evidence, and reliance on subjective judgement. Psychometric studies have consistently discovered high correlations between different elements of intelligence, rather than the modest correlations predicted by Gardner's hypothesis, bolstering the general intelligence theory over multiple intelligences. Gardner has been defending his theory through

rebuttals in academic journals (Gardner & Moran, 2006) and sequels to his book (Gardner, 1993; 2000).

Another book that upended the IQ theory was published twelve years after Gardner's well-known work. The subtitle of Daniel Goleman's (1995) book, *Emotional Intelligence: Why it can matter more than IQ*, suggests that he had a negative opinion of the entire psychometric tradition. According to the author, the set of skills and aptitudes that deal with people and emotions has mainly been ignored. Goleman placed special emphasis on the value of being aware of one's own emotional life, controlling emotions, comprehending others' emotions, cooperating with others, and having empathy for others. The author explains how to improve these abilities. With its hopeful message, the book turned out to be an international sensation that spent over a year on the New York Times bestseller list and sold millions of copies around the world. It is perhaps the best-selling social science book of all time. The author contends that the world would be a better place if we deliberately nurtured emotional intelligence (EQ) as we do cognitive intelligence.

The idea of social Intelligence (SQ), which dates back to Edward Lee Thorndike's (1920) study, was revived as a result of research on multiple intelligences. Thorndike described it as the capacity to understand others and act and behave sensibly in relationships with them. Social intelligence (SQ) as a concept had sporadic development and turned out to be a late bloomer. SQ is the capacity to get along with others, social knowledge, ease with others, empathy for others, and insight into others' viewpoints. The term SQ refers to a broad category of social interaction abilities. In essence, high SQ symbolizes a person's ability to take action, such as collaborating and problem-solving with others.

Cultural intelligence

The term cultural Intelligence (CQ) is a relatively new concept. The concept has its roots in Gardner's concept of Interpersonal intelligence (ability to recognize and respond adequately to other people's moods, motives, and desires) and EQ and takes self-awareness and other-awareness further ahead referring to one's ability to adapt to new cultural environments depending on a variety of factors such as cognitive, motivational, and behavioral characteristics. Intending to expand the understanding of intercultural interactions, P. Christopher Earley (2002) introduced CQ as an intellectual construct that represents adaption to various cultural situations. He further refined it with Soon Ang, giving a conceptual framework for examining the connection between organizational behavior, culture, and human intelligence. According to Earley and Ang (2003), people participate cross-culturally with varying degrees of success depending on their level of CQ. David Thomas and Kerr Inkson

(2004) worked on a complementary framework of (CQ) during the same time period, outlining a three-stage method for improving one's CQ. The process entails learning the fundamentals of cross-cultural interactions, such as what cultures are, how they differ, and how they affect behavior; engaging in mindfulness practices and paying attention to cues in a reflective and creative way; and building a behavioral skill set that can be applied to a variety of contexts (Thomas & Kerr, 2017). Moreover, people with high CQ tend to be open, empathetic, supportive and positive and to understand equality in fostering communication with students from various cultural backgrounds (DeVito 2021).

It is important to recognize that CQ is not an adaptation of EQ or SQ. While EQ researchers do not explicitly limit their models to being culture bound, they do not provide a comprehensive understanding of cross-cultural context and how the notion could be expanded to encompass it (Putranto et al., 2018). The formulations of SQ are relatively void of cultural richness and SQ demonstrates an ability to assess and manage others presuming universality of content and processes. Since ecological and social forces impact thought process, emotion and behavior, the universalist stance of SQ could seem unwarranted. This is not to say that all psychological processes are culture-bound. However, etic aspects of CQ reflect general cognitive abilities that can be used in a variety of situations (Toves, 2022). CQ is distinct from stable personality traits which describe what a person typically does across time and across situations (Costa and McCrae, 1992). As an individual difference capability, CQ refers to what a person can do to be effective in culturally diverse settings (Ang & Van Dyne, 2008). CQ refers to one's competence for effective adaptation to new cultural settings, that is, for unfamiliar settings in new cultural context and to deal with people whose cultural background is different.

Metacognition, cognition, motivation, and behavior are the four components that make up CQ (Ang & Van Dyne, 2008). Metacognitive CQ, reflects the level of conscious cultural awareness of an individual during cross-cultural interactions. Cognitive CQ reflects the degree to which an individual knows and understands norms, practices, and conventions in different cultures. Motivational CQ reflects an individual's interest, confidence, and drive to adapt cross-culturally. Behavioral CQ entails developing a versatile repertoire of behavioral responses that are suitable in several situations, as well as the ability to change both verbal and nonverbal actions depending on the people involved in a particular interaction or cultural context. CQ is an aggregate multidimensional construct; its four dimensions being qualitatively different facets of the overall capability to function and manage effectively in culturally diverse settings (Earley and Ang, 2003). Since temperament influences choice of behaviors and experiences,

some personality traits are related to CQ (Asthana, 1997). Consistent with this premise, Ang et al. (2006) have shown discriminant validity of the four dimensions of CQ after comparing them with the big five personality traits.

These four dimensions of CQ are suited to the structure of present-day intelligence models that have multifaceted, and individual characteristics (Ang et al., 2020). Frameworks and measures that includes subdimensions for each element also exist, but they have not received much attention to far (Anathuri et al., 2022; O'Donnell, 2023).

CQ is a culture-free etic construct not linked with academic intelligence (Ng and Earley, 2006). CQ is conceptualized as a set of competencies that can be increased over time and independently from the situation (Earley and Peterson, 2004). There is some evidence that practice of yoga may improve CQ (Asthana & Asthana, 2012). Though there is not yet any meta-analytic research on training interventions specifically for improving CQ, such interventions have been tried on experimental basis (e.g., Azevedo & Shane, 2019; Desai et al., 2018). General recommendations are that the training should focus on competencies in all four aspects of CQ, using methods that are aligned with the desired outcomes (Earley & Ang, 2003). Though there is preliminary evidence that CQ can be improved through deliberate instruction, more extensive research is required to show whether the results are ephemeral (e.g., useful for preparing people for the forthcoming trip abroad) or long lasting.

This research focusses on public sector executives in Namibia. The country gained independence from South Africa in 1990 and the public sector was expanded to control the commanding heights of the economy. Several executives were trained at International Center for Public Enterprises in Ljubljana, Slovenia. Notwithstanding recent efforts towards privatisation, public enterprises still play an important part in various sectors of country's economy including transport, telecommunications, and energy.

Research Methods

Public sector executives in Namibia were given a survey to complete in order to gather the data for this study. Total number of respondents was 55 (female = 25; male = 30; others = 0). 24 respondents were from the country's capital. Mean age and working experience (in years) were 48.5 (sd 11.8) and 18.5 (sd 12.9) respectively. Mean of languages spoken by the respondents was 4.0 (sd 0.7).

The Cultural Intelligence Scale, a 20-item scale, is most frequently used to measure it (Ang et al., 2007). Thinking about thinking, or metacognition, is the awareness and comprehension of one's own intellectual processes. It pertains to ideas around the acquisition and application of cultural knowledge in this setting. Examples of statements like these are "I

am aware of the cultural knowledge I apply to cross-cultural relationships" and "I verify the veracity of my cultural knowledge as I interact with people from different cultures". Item types like "I know the legal and economic systems of various cultures" and "I know the rules (e.g., vocabulary, grammar) of other languages" are used to measure cognition, which is more specialized cultural knowledge. The motivational component is the readiness to explore and participate in cross-cultural encounters. The statements "I enjoy engaging with individuals from diverse cultures" and "I am confident that I can communicate with locals in a culture that is unknown to me" are examples of response choices. The behavior element, which focuses on acting appropriately, is evaluated using questions like "I vary my facial expressions when a cross-cultural contact necessitates it" and "I change my vocal behavior (e.g., accent, tone) when it is necessary".

Confirmatory factor analysis (CFA) was performed where the specified model consisted of metacognitive CQ, cognitive CQ, motivational CQ and behavioral CQ items loading onto their corresponding CQ components, and all CQ components loading onto an overall CQ construct. This second order CQ factor model had sufficient fit with $\chi^2 = 449$, $p=0.000$, comparative fit index = 0.884 and root-mean-square error of approximation = 0.079. All unadjusted Variance inflation factor values were below the proposed cut-off of 2.4, indicating that collinearity is unlikely to have influenced the results.

The reliability of the CQS overall in this study was high ($=0.91$), as were the reliability of each of its four components: the metacognitive CQ ($=0.83$), the cognitive CQ ($=0.84$), the motivational CQ ($=0.78$), and the behavioral CQ ($=0.81$), all of which had values above the Paul Kline's (2000) recommended cut-off point of 0.7. To guarantee equitable weighting when computing the total CQ score, an average score was produced for each CQ component. Table 1 displays the means from this study for overall CQ and each of the four CQ components.

Table 1

CQ component scores

CQ Component	Mean (SD)
Metacognitive	5.32 (0.95)
Cognitive	4.24 (1.01)
Motivational	5.27 (0.93)
Behavioral	4.93 (0.94)

Various factors hypothesized to influence these components of CQ, i.e., the independent variables are defined in Table 2.

Table 2

Description of independent variable

Variable	Description
Location	Employed at capital city = 1; otherwise = 0
Gender	Female = 1; otherwise = 0
Age	In years
Experience	Working experience in years
Languages	Number excluding native language
VisitAfr	Visited other countries of Africa= 1; Otherwise = 0
Visit Abr	Visited countries outside Africa= 1; Otherwise = 0
ForeignRes	Residence outside the country in years

Correlations are in Table 3. OLS regression was employed to examine the associations between the various CQ scores employed in the study were estimated in the following model:

$$CQ = b_0 + b_1*Location + b_2*Gender + b_3*Age + b_4*Experience + b_5*Languages + b_6*VisitAfr + b_7* VisitAbr + b_8* ResidenceAbr + e$$

To test how proxies for higher exposure to different cultures are associated with different components of CQ, five separate models were run: with Total CQ, Metacognitive CQ, Cognitive CQ, Motivational CQ and Behavioral CQ as dependent variables.

Results and discussion

The results of the regression are in Table 4. In all five models, gender independent variable is insignificant in the model. This is in accordance with previous research on young students (Engle & Crowne, 2014; Harrison, 2012) as also on mature management students (MacNab & Worthly, 2012). Gender did not turn out to be significant variable in any of the regressions. It appears that “Men are from Mars; Women are from Venus” type of distinction does not seem to apply in the management education sector. Age is positive and significant in all five models. This could be because older academics have had more opportunities to broaden their cultural experiences Arguably, for the same reason, Experience is also positive and significant.

Table 3

Correlations between variables

	Metacogn- itive CQ	Cognitive CQ	Motivati- onal CQ	Behavi- oral CQ	Total CQ	Location	Gender	Age	Experi- ence	Langu- ages	Taught- Balkan	Taught- Abroad
Cognitive CQ	.623**											
Motivational CQ	.599**	.593**										
Behavioral CQ	.661**	.465**	.540**									
Total CQ	.867**	.828**	.820**	.794**								
Location	-0.061	-0.115	-0.054	-.135*	-0.112							
Gender	0.052	-0.008	-0.036	0.102	0.032	-0.012						
Age	0.078	0.078	.126*	0.061	0.103	-0.122	-0.064					
Experience	-0.039	-0.038	-0.021	-0.027	-0.038	-0.072	-.180**	.535**				
Languages	0.097	.199**	0.021	.126*	.139*	0.035	-0.006	-.240**	-.200**			
VisitAfr	0.112	.192**	.170**	0.106	.178**	-.129*	-.213**	.267**	.396**	-0.063		
VisitAbr	0.011	.180**	0.064	-0.012	0.08	-.281**	-.125*	.219**	.252**	-0.102	.245**	
ResidenceAbr	0.212	.239**	0.123	.148*	.222**	-0.005	-0.054	-0.037	-0.065	0.419	0.012	.226**

Table 5*Regression results*

	Metacognitive CQ		Cognitive CQ		Motivational CQ		Behavioral CQ		Total CQ	
	β	t	β	t	β	t	β	t	β	t
Constant	4.990	20.006***	3.650	12.933***	5.028	20.453***	4.936	20.101***	4.651	22.2444***
Location	-.169	-.861	-.201	-.909	-.071	-.371	-.411	-2.135**	-.213	-1.299
Gender	.140	1.134	.081	.584	-.025	-.202	.229	1.888*	.106	1.030
Age	.267	1.764**	.315	1.826**	.351	2.334**	.204	1.355*	.284	2.221**
Experience	-.237	-1.575*	-.400	-2.348**	.354	-2.383***	-.145	.977	-.284	-2.249**
Languages	.027	.191	.382	2.434***	-.027	-.199	.158	1.154	.135	1.159
VisitAfr	.295	2.209**	.471	3.121***	.367	2.785***	.277	2.104**	.352	3.148***
VisitAbr	-.185	-1.139	.328	1.782**	-.029	-.179	-.222	-1.390*	-.027	-.199
ResidenceAbr	.434	3.144***	.307	1.966	.235	1.728**	.265	1.950**	.310	2.681***
Adjusted R ²	.087		.122		.044		.056		.095	

*p < 0.10, **p < 0.05, ***p < 0.01

In learning another language, a parallel learning of its culture, along with its similarities and differences, normally tends to occur (Harrison, 2012). Yet, in this study Languages turned out to be an insignificant independent variable. This result could be due to historical and geographical reasons. Harrison's research was in UK and foreign languages in the English context are obviously quite different from English. This is not the case in Africa where tribal languages are often similar. Data obtained on languages could be inaccurate. This confounds statistical analysis. Arguably for the similar reasons VisitAfr also turned out to be insignificant variables.

VisitAfr, unlike VisitAbr may have come out positive and significant because of higher cultural distance. People's pre-existing schemas are tested when they are exposed to a culture that is substantially dissimilar from their own (i.e., one with a high degree of cultural distance). Schemas are mental models of particular stimuli, such the institutional setting (Fiske & Taylor, 1991). People are challenged by prominent contrasts and counterpoints to their existing understanding of the institutional environment when they experience cultural distance, especially by their implicit assumptions about people, their habits, and their motivations. When these cultural differences are overt and significant, they are difficult for people's existing cognitive schemas to accommodate. As a result, people are forced to reconcile their pre-existing beliefs with the fresh perspectives provided by the culturally distant nation in order to form more sophisticated cognitive schemas (e.g., Black et al., 1992; Kharkhurin, 2011).

While internal consistency has been checked, external consistency remains a problem in much of empirical research. Similar studies in other countries would be required to understand the determinants of CQ of public enterprise executives in different contexts. Furthermore, longitudinal research into how people's CQ levels change over time would clarify the factors that contribute to its improvement. Future studies could incorporate several metrics of global experience to better understand its multifaceted effects. The finding from this study that foreign excursions are positively connected to CQ only when those visits happened in culturally more distant countries offers a foundation for future research.

Conclusion

Companies today compete in a setting that is substantially different from that of only a few years ago. Public sector enterprises have had to modify their usual processes as a result of rapid changes brought on by a globally networked environment, the Internet, big data analytics, technological advancements, and sustainability imperatives. These enterprises need to take measures to raise CQ

of their executives the determinants of which have been delineated in this research. Specifically, work visits to countries outside Africa and residence abroad both within and outside Africa can help.

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Why Public Enterprises fail to provide basic needs in developing countries: The case of rural water supply

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Abstract

This paper examines the role of public enterprises in providing safe drinking water in developing countries and analyses the factors influencing households' water source choices using a revealed preference model. The study, conducted in rural Nepal, reveals a substantial willingness to pay for convenient access to safe water, challenging the notion that rural households, especially women, do not value time savings from improved water access. The findings suggest that the predominant supply-driven, heavily subsidised approach of public water utilities warrants reconsideration. The paper argues that the willingness to pay exists but the willingness to charge is stymied. This policy creates a vicious cycle of poor service and poor cost recovery. The paper suggests a paradigm shift towards a more demand-responsive approach, allowing households to choose and pay for their desired service levels while ensuring a minimum level of safe water for all. This could enhance sustainability, welfare, and financial viability of public water utilities. The study concludes that public enterprises have a critical role in ensuring universal access to safe water but should adopt a more dynamic, accountable, and service-oriented approach, incorporating user preferences and contributions while retaining their core public mandate.

KEYWORDS: Public provision; public utilities; demand-driven approach; pricing structure

Introduction

In many developing countries, public enterprises play a crucial role in providing basic needs to the population. These state-owned entities often focus on delivering essential services such as healthcare, education, housing, water supply, and electricity. By prioritizing these fundamental necessities, public enterprises aim to improve the living standards of citizens, particularly those in low-income and marginalised communities. One critical area where public

enterprises can make a significant impact is in the provision of safe drinking water which is essential for maintaining health and preventing waterborne diseases. Public enterprises can invest in water treatment plants, distribution networks to ensure that communities have a reliable and safe water supply. By prioritizing water infrastructure and management, these entities can reduce the burden of water-related illnesses and improve the overall quality of life for millions of people in developing countries.

However, the effectiveness of public enterprises in meeting basic needs varies across countries. Some face challenges such as limited resources, inefficient management, and corruption, which hinder their ability to deliver quality services. One problem often overlooked is pricing the services. Without addressing this issue, public enterprises cannot address the basic needs of developing countries.

Safe drinking water has long been recognised as a 'basic need' (e.g., ILO, 1976). At the end of the International Drinking Water Supply and Sanitation decade, Global Consultations were held in New Delhi, India in September, 1990. In the field of drinking water, while delineating policies for achievement of universal coverage by the year 2000, the New Delhi Declaration calls for "some for all rather than more for some" (Asthana, 1997). Coming, as it did, at a time when neo-classical counter-revolution was in ascendance, it is somewhat surprising that an egalitarian declaration, achieved a broad consensus at the Global Consultations. Inevitably, when policy initiatives emerged out of this declaration, the neo-classical economists of the World Bank and some donor countries found the "welfare state" connotations of the Delhi Declaration disconcerting and criticised these initiatives as the "first standard paradigm" (World Bank Water Demand Research Team 1993).

World Bank's criticism of "free drinking water", however, has had little influence on the rural water supply program in poor countries, where water supply programmes continued to be a supply-driven program. The recognition of demand for drinking water as an economic good has been marginal in policy making.

Earlier literature on rural water supply in the developing countries is mainly descriptive in nature (e.g., Saunders and Warford, 1976; White et al., 1984) and the new studies in villages of developing countries concentrate on analysis of water vending activities (e.g., Whittington et al., 1990; Whittington et al., 1991). This paper proposes to analyse the demand for safe drinking water in rural areas of Nepal; the 'demand' in this case meaning the ability to pay and the willingness to

pay. While "some for all rather than more for some" has been adopted the United Nations General Assembly as the "strategy for the nineties", it had already become clear that this strategy was leading nowhere towards the then objective of "Water for all by 2000". People were already viewing water as an economic private good though the policy makers are loath to change their paternalistic approach. There is a need to see if a policy of 'some for all *and* more for some' could be a better policy from the point of view of universal coverage and sustainability.

The government is committed to bring safe water nearer homes by installing hand pumps. Under the government sponsored programs, first priority is given to those villages where no source of drinking water exists. Next, those habitations are covered where the people have to walk more than 1.6 kilometres (1 mile) to fetch safe water. Thereafter, those habitations are covered where the distance to the nearest source of safe water is 1 kilometre. Piped water supply is provided only to those habitations where population is comparatively dense.

The model

Contingent valuation studies are being used in developed economies primarily to value public goods and other untraded commodities. An open-ended question asking people how much they would be willing to pay for commodity under consideration does not produce useful results. Some improvement is possible through a double-bounded dichotomous choice approach and other innovations (Cummings et al., 1986; Whittington et al., 1992). This approach has now been applied in the analysis of water policy of developing countries also (e.g., Altaf et al., 1993; Briscoe et al., 1990; Singh et al., 1993; Whittington et al., 1990) with variable results. Despite these innovations in survey methods, contingent valuation approach could include the following biases in the answers of the respondents: (1) Hypothetical bias due to the hypothetical nature of the question; (2) Strategic bias because the respondent may perceive an opportunity to manipulate the outcome; (3) Compliance bias because the respondent attempts to anticipate responses the interviewer wants; and (4) Starting point bias with bids being influenced by interviewer's suggestions. These biases could be more pronounced in populations with low rates of literacy. Accordingly, this study uses revealed preference method rather than contingent valuation approach. The dependent variable is the choice decision and *not* the maximum willingness to pay.

Choosing a source of water is an economic decision that involves choice among discrete alternatives. Accordingly, for this research, a discrete choice probabilistic model will be appropriate. Since the utility is not directly observable, an indirect utility function will be used.

Assumptions

For the simplicity of analysis, an individual household is considered as a single rational decision-making unit; intra-household conflicts, if any, are being ignored. In other words, though the composition of the household is being taken into account, the utility function is for the household as a whole and not for individual members. It is assumed that consumers would demand access to cheap safe water at the shortest possible distance for two reasons: (a) perceived health benefits; and (b) saving of time/effort in bringing water from a distance.

Water is classified either as safe or unsafe. U.N. organisations, viz., UNICEF and WHO, follow this classification and leave it to the individual countries to decide chemical, biological, or other characteristics that classify water as safe. In this study, water has been classified as 'safe' or 'unsafe' as per government norms, i.e., water from hand pumps and piped water supply schemes was considered safe whereas water from dug-wells was classified as unsafe. Thus, we have three types of water-unsafe water (subscript u), safe water from public sources (subscript s) and safe water from private yardtap (subscript t). In the habitations without piped water supply, the choice is between the first two types whereas in habitations with piped water supply, the choice is between the last two types.

Model specification

Conditional indirect utility function of households h :

$$U_{ih} = U_{ih}(X_{ih}, Z_{ih}) \tag{1}$$

where i indicates the water source

h denotes the household;

X is a vector source characteristics; and Z is a vector of household characteristics.

According to random utility theory, such unobservable or unmeasurable influences are assumed to be captured in a random term, which for operational purposes is usually assumed to be added to the systematic term:

$$U_{ih} = V_{ih} + e_{ih} \tag{2}$$

where V is the systematic term and e is the random term. Let the variable y_{jh} indicate household h 's choice decision on source j such that

$$y_{ih} = \begin{cases} 1 & \text{if } V_{jh} + e_{jh} > V_{ih} + e_{ih} \text{ for } i, j = 1, \dots, J \text{ and } i \text{ not equal to } j \\ 0 & \text{otherwise} \end{cases} \quad (3)$$

The expected value of y_{jh} is thus

$$\begin{aligned} E(y_{jh}) &= P(y_{jh} = 1), \\ &= P(U_{jh} > U_{ih}), \\ &= P(V_{jh} + e_{jh} > V_{ih} + e_{ih}), \end{aligned} \quad (4)$$

In habitations without piped water supply, the dependent variable is the choice decision between bringing unsafe water (subscript u) from a lesser distance and safe water (subscript s) from a larger distance. The price is not a relevant variable because water from both the sources is free. In habitations with piped water supply the dependent variable is the Choice decision between bringing safe water from yard tap (subscript t) and safe water from a public standpipe (subscript s). The source specific independent variables are taken to be time for collection in person—hours per day and the price for domestic water connection in rupees per day.

The independent variables in vector X_{jh} vary across sources. The standard statistical method of dealing with them is a logit model. The independent variables in vector Z_{jh} do not vary across sources. The standard approach for them is the polychotomous model. Our data structure will include both types of independent variables. However, since source characteristics do not influence household characteristics and vice versa, the household's utility function may be assumed to be additive:

$$V_{ih} = BX_{ih} + \alpha_j Z_h \quad (5)$$

According to McFadden (1981) and Maddala (1983), the following conditional logit model can be used to deal with the data structure which includes both groups of independent variables:

$$P_{hj} = \frac{e^{BX_{ih} + \alpha_j Z_h}}{\sum_{i=1}^J e^{BX_{ih} + \alpha_j Z_h}} \quad (6)$$

The estimation procedure for this conditional logit model is essentially the same as for a standard logit model because the household-specific vector Z_h can be transformed into a choice-specific vector. Therefore, the maximum likelihood method will give a consistent estimate of the parameter vector B.

Habitations without piped water supply

The probabilities of a household choosing safe water $P_h(s)$ and choosing unsafe water $P_h(u)$ are given by substitution s and u respectively for i in equations (5) and (6). The two

resulting equations allow a ready interpretation of the selection probabilities in terms of the relative representative utilities of alternatives and are relatively amenable to computation.

Unlike linear models, this model does not permit direct computation of effect of change in an independent variable on a dependent variable. However, within the parameter vector, the marginal rate of substitution of coefficients can be calculated. If the value of time is defined as marginal rate of substitution between the time spent collecting water and the money paid for the water, it can be calculated from two of the estimated parameters by a simple division.

Sampling frame and survey methodology

Previous studies relating to water supply have used a sample of 50 to 60 observations. Whittington et al. (1990) in their study in Kenya cover a cross-section of 59 households. McFadden (1973) has shown that maximum likelihood estimator is well behaved in samples of sizes 50 and greater. This study covers 480 households — half the Observations (30 households from each of the 8 villages) are from habitations without water supply and the other half from the villages that have piped water supply.

Survey was conducted on the basis of schedules of inquiry. A stratified two stage sample was adopted for survey—the first stage units are census villages—16 in all; the second stage units are the households—30 from each first stage unit. The time for collecting water includes travel time and queue time but does not include fill time and time taken in using water at (or near) the source itself. Accordingly, collection time for use of water from a yardtap can be considered as zero. The households who had applied for private connection but were not able to get it on account of various reasons like distance from the main pipeline or lack of political clout are deemed to have exercised their choice in favour of private connection. In this study, household consumption has been used as a surrogate for household income. The household income divided by the household size is the per capita income.

4. Interpretation of regression results

Maximum likelihood estimation of the conditional logit model can be shown under very general conditions to provide estimators that are asymptotically efficient and normally distributed. Examples suggest that the approximation is reasonably good, even in small samples. The problem of selection of independent variables in logit models is more acute than in linear regression. The selection has to be on the basis of economic theory and intuition rather than a

computer dictated algorithm where forward or backward selection depends on Wald statistic or change in likelihood ratio.

Since the sample size is large, the test of significance of a coefficient can be based on Wald statistic, which has a chi-square distribution. When a variable has single degree of freedom, the Wald statistic is equal to the square of the ratio of the coefficient to its standard error. An alternative-set specific constant is included for regression. As explained by Train (1986), this is not a restriction on the model but only a normalisation. Results of successive regressions based on the conditional logit model of the households' water choice in habitations without piped water supply have been summarised in Table 1.

Table 1

Maximum likelihood parameter estimates of safe water decision model^a.

Independent variable	Regression				
	1	2	3	4	5
Distance travelled extra in kilometres	6.04 ^b (0.86)	-	-	-	-
Household size	0.02 (0.11)	-	-		
Time extra in hours per day	-	-0.84 ^b (0.24)	-0.60 ^b (0.12)	-0.60 ^b (0.12)	-0.60 ^b (0.12)
Proportion of women in household	12.37 ^b (2.03)	7.37 ^b (1.61)	7.37 ^b (1.61)	7.37 ^b (1.61)	7.07 ^b (1.61)
Proportion of men in household	2.24 (1.74)	2.14 (1.64)	2.24 (1.74)	2.14 (1.64)	2.24 (1.74)
Female educational level	0.35 (0.10)	0.32 (0.09)	0.35 (0.10)	-	0.35 (0.10)
Household educational level	-0.09 (0.11)	-0.09 (0.08)	-	-0.09 ^b (0.04)	-
Income per capita in rupees per day	0.56 ^b (0.09)	0.56 ^b (0.09)	0.56 ^b (0.09)	0.56 (0.09)	-
Intercept	-9.61 (2.04)	-7.51 (2.00)	-9.63 (2.04)	-7.51 (2.00)	-7.52 (2.01)

Notes: Standard errors in parentheses. ^aDependent variable is choice of source (Safe = 1, Unsafe = 2). ^bWald statistic significant at 1% level.

No. of observations is 240.

The results in respect of households in the habitations with piped water supply are in Table 2.

Table 2

Maximum likelihood parameter estimates of Yardtap decision model^a

Independent variable	Regression				
	1	2	3	4	5
Price in rupees per day	-8.73 ^b (1.35)	-8.73 ^b (1.35)	-8.73 ^b (1.35)	-8.73 ^b (1.35)	-8.53 ^b (1.29)
Household size	0.29 (0.38)	-1.17 ^b (0.20)	1.10 ^b (0.17)		
Time extra in hours per day	-8.05 ^b (2.76)	-	-	-9.71 ^b (1.80)	-9.60 ^b (1.20)
Proportion of women in household	-2.61 ^b (1.74)	-2.13 ^b (1.61)	-2.10 ^b (1.61)	-2.73 ^b (1.35)	-2.73 ^b (1.35)
Proportion of men in household	7.99 (2.40)	7.78 (2.35)	7.87 (2.35)	7.58 (2.56)	7.77 (2.50)
Female educational level	0.02 (0.10)	0.02 (0.09)	-	0.02 (0.09)	-
Household educational level	-0.09 (0.11)	-0.09 (0.08)	-	-0.09 (0.08)	-
Income per capita in rupees per day	0.56 ^b (0.09)	0.56 ^b (0.09)	0.56 ^b (0.09)	0.56 ^b (0.09)	0.56 ^b (0.09)
Intercept	-9.63 (2.04)	-7.51 (2.00)	-9.63 (2.04)	-7.51 (2.00)	-7.51 (2.01)

Notes. Standard errors in parentheses. ^aDependent variable is choice of source (Yes=1, No=2). No. of observations is 240.

^bWald statistic significant at 1% level.

Habitations without piped water supply

The time spent in collection of water is highly correlated to the distance of the water source as also to the household size. In Table 1, regression no. 1 shows that if distance and household size are included, and time excluded, the distance is significant but the household size is not. Better results in terms of likelihood chi-squares are obtained by including time as a variable rather than distance and household size as variables. In either case, income is not significant as a determinant variable. This is acceptable because both sources of water are free. Since the income

is correlated to the educational levels, better results are obtained by removing this non-significant variable in later regressions.

Female educational level is correlated with the household educational level. If both these variables are included in the equation, only the female educational level is found to be significant. Only when we remove the female educational level in regression no. 4, do we find household educational level significant, and then the results are not as good as those obtained by removing the household educational level. It may be concluded that the female educational level rather than the educational level of the household is significant. The parameter estimate of female educational level is consistently positive and highly significant. We conclude that the determinants of the choice of safe water are as follows:

- (1) Distance of the source from home is highly significant with a negative sign. Lesser the difference between the distance from home to the safe source and that from home to the unsafe source, higher the probability of choosing safe water.
- (2) The proportion of women (above the age of 15 years) in the household is a significant factor in choosing a safe source. Considering that 79% of water is hauled by women, a household with a higher proportion of women among its members has a higher capability of hauling water from larger distance.
- (3) The proportion of adult men in the household and their educational level are not significant.
- (4) Household size is not a significant factor. Though bigger households need more water, they also have more person-hours available for hauling water and it appears that the two effects cancel out.

Habitations with piped water supply

In Table 2, regression no. 1 is an uninformed regression with all relevant independent variables. We find that price, time, proportion of men in the household and income are significant. However, not much credence can be given to this regression because time is highly correlated to household size.

In regression no. 2, we remove time variable but keep all other independent variables including household size. This is an informed regression and we find that Price, Household size and Income and proportion of men in the household are significant variables, whereas proportion of women, educational level of women and educational level of the household are not significant.

Educational level is correlated to income. Since the price is a significant factor, it was to be expected that income will also be a significant variable. There is no reason to expect significance of educational level because the choice is between two sources of water, both of which are safe. In regression no. 3, when we remove the two variables indicating the educational level, the significance and signs of other parameters remain unaffected.

In regression no. 4, we include time and remove household size. Again, we find that the two variables indicating educational level are not significant. All other variables viz., price, time, proportion of women and men in the household and income are significant. Removing the two educational level variables in regression no. 5 does not alter the signs and significance of other variables.

We conclude that the determinants of choosing private household connection (yardtap) are as follows:

- (1) Price of water has a negative effect on the choice variable. Higher the price, lower is the probability of households opting for private connection.
- (2) Income has a positive effect on choice of yardtap. In other words, economically better off households prefer private connection whereas poorer households make do with public standposts.
- (3) Household size has a positive effect on the choice variable. Controlling for other household characteristics, bigger households prefer to pay for a yardtap rather than obtaining free water from a public standpipe. This could be due to the fact that in absence of metering, the tariff for yardtap is the same and the bigger households can get more water for their money.
- (4) Households with higher proportion of men prefer a yardtap, whereas households with higher proportion of women prefer to spend time at the public standposts. This could be so due to the fact that hauling water is mainly women's work.
- (5) Neither the educational level of women nor of men is significant. This could be due to the fact that the choice is between two sources of safe water and therefore it is the economic status rather than educational level that determines the choice.

Value of time

Since the value of time is the marginal rate of substitution between the time spent in collecting the water and the money paid for the water, it can be calculated from two of the

estimated parameters as mentioned earlier. We use maximum likelihood parameter estimates from regression no. 5 of the yardtap decision model for this purpose.

The minimum wage rate for unskilled labour in the study area in Nepal as fixed by the government is 89 rupees per hour. Because of problems of implementation, it could be assumed that the going market rate would be a little less than that. Our study finds that on the average people value time savings resulting from improved access at 49 rupees per day which is a little less than half the market wage rate for unskilled labour in the local economy. Willingness to pay is significant.

Policy implications

While theoretical adequacy and empirical validity are important to any economic analysis; in this research, policy effectiveness is also a major consideration. The conventional wisdom that water research and planning in developing countries is not very different than that in industrial countries is slowly giving way to interest in country-specific problems especially where the planning process is often flawed (Brookshire and Whittington, 1993).

It appears that notwithstanding occasional dissenting voices from the neo-classical economists of the World Bank and some donor countries (e.g., Churchill, 1987; Feder and Le Moigne, 1994), the U.N. agencies focus on cost reduction, appropriate technology and advocacy as means of progress. Cost recovery and demand analysis are peripheral issues.

The problem caused by the paternalistic approach to basic needs is that of sustainability. In the push towards the universal coverage, the operations and maintenance gets neglected. Moreover, the government coffers can sustain the heavy drain only to an extent and the level of service cannot be improved any further.

Table 1 indicates that the variables distance and time are highly significant. In other words, people are traveling larger distances and spending more time to fetch safe water even when unsafe water is near at hand. Apparently, people's perception of benefits of safe water is significant. We find that female education is an important determinant in choosing safe water while income is not important.

A perusal of Table 2 indicates that variables price and time are highly significant indicating that the people are ready to pay cash instead of spending time in water collection. On the average, the amount they are willing to pay for saving in time is equal to half the wage for unskilled rural labour. The hypothesis that in view of involuntary unemployment in rural areas,

time, especially women's time, has no value is incorrect. We find that the important determinant in this case is the income, as in case of most economic goods.

1980's, onwards, there has been a decline in the level of rural poverty in in the developing countries, though the extent and the reasons for this decline are as yet a matter of academic dispute. If this trend continues, people will ask for a higher level of service and will be even more willing to pay for it, because income is a significant variable for choosing higher level of service. A case exists for review of the present policy rooted in egalitarianism. People could be allowed to choose the level of service they want.

In view of externalities relating to health, there could be no controversy in the matter of minimum service to all. Beyond this level, the people should have the right to demand a higher level on payment. Some thought has been given to the cost recovery by the egalitarian school of social scientists who feel that the people should pay for water for the following reasons:

- By having a financial stake in water facilities, a sense of ownership is created which contributes to better operation and maintenance.
- The original sense of dependence, both financial and psychological, on the government is replaced by a feeling of partnership.
- A sense of confidence is created in the community about the ability to make important financial decisions based on a complete understanding of the outcome of these decisions.

The factors mentioned above cannot be quantified. But this policy denies the people's right to choose. The critical ingredient in effecting a change is a change in perceptions about the financing and purpose of a rural water supply system. Rather than trying to provide a free or heavily subsidised minimum-service-to-all system, the policy makers need to consider an improved service to all and higher level of service to those who are willing to pay more.

Conclusion

The results of this study have important implications for the role and approach of public enterprises in meeting the basic need of safe water supply in developing countries. The revealed preference model employed demonstrates that both source characteristics (distance, time, price) and household characteristics (income, household composition, education levels) significantly influence water source choices in rural areas. In habitations without piped supply, the key determinants are distance to the safe source and the proportion of adult women. Interestingly, income and male education are not significant factors, suggesting that public provision of

accessible safe water is valued across socio-economic strata. For habitations with piped supply, price, income, household size and gender composition are the main drivers, while education is not influential.

Importantly, the analysis reveals substantial willingness to pay for convenient access to safe water, with the value of time saved being around half the unskilled wage rate. This challenges the notion that rural households, especially women, place little value on time savings from improved water access. These findings suggest that the predominant supply-driven, heavily subsidised approach of public enterprises in the drinking water sector warrants reconsideration. While public enterprises have contributed significantly to expanding access in rural areas, the study indicates that households are willing to contribute financially for higher service levels that match their preferences.

Moving forward, a more demand-responsive approach that allows households to choose and pay for their desired service level, while still ensuring a minimum level of safe water for all, could enhance both sustainability and welfare. As incomes rise, the willingness to pay for higher service levels will likely grow. Adopting a service orientation that recognises water as an economic good, at least beyond the basic level of provision, could improve cost recovery and financial viability of public water utilities. However, this does not imply a full-scale privatisation of rural water supply. Rather, public enterprises could leverage the demand-side information to provide differentiated service levels that balance efficiency, equity and sustainability considerations. Community consultation, participatory planning and innovative public-private partnerships could be explored to complement core public provision.

In conclusion, while public enterprises have a critical role in ensuring universal access to safe water, a paradigm shift towards demand-responsive provision is needed. Incorporating user preferences and contributions, while retaining the core public mandate, could lead to more sustainable and welfare-enhancing outcomes. As the custodians of this vital public good, public water enterprises should adapt to the changing landscape and adopt a more dynamic, accountable and service-oriented approach. Empowered by information on user demand, public utilities are well-positioned to pioneer this transition towards a more sustainable and equitable water future.

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Integrating Slovenian enterprises into a model of IDC with UNIDO to achieve Sustainable Development Goals

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Abstract

In this paper, the author presents the achievement of the seventeen Sustainable Development Goals (SDGs) in the context of the adoption of the 2030 Agenda for Sustainable Development, through Slovenia's international development cooperation (IDC) system, integrating public and private enterprises. The SDGs combine three dimensions of sustainable development in a balanced way: economic, social and environmental. The legal framework of the international development cooperation of the Republic of Slovenia with the United Nations Industrial Development Organisation (UNIDO) is presented. Based on the implementation of the seventeen SDGs goals, the long-term strategic plan of cooperation is given, with a presentation of the renewed basic agreement between the two partners. The history of Slovenia's active and fruitful cooperation with UNIDO in the field of IDC is presented. The author devotes special attention to the Long-Term Cooperation, so called Roadmap with UNIDO and the priority areas and regions of cooperation where Slovenia can offer services, knowledge and technologies that are competitive in the developed world. The cooperation presented is based on dialogue between the recipient countries of development cooperation, UNIDO and Slovenia, and is based on the transfer of technology and knowledge that Slovenia, as an open economy, offers to countries and regions in need.

KEYWORDS: Sustainable Development Goals, SDGS, international development cooperation, IDC, Slovenia, UNIDO

Introduction

Slovenia is a small, open, export-oriented economy. Like all other developed countries, it provides substantial resources in the form of funding for international development cooperation projects and direct funding for humanitarian aid in the event of natural disasters (famine, drought, floods, outbreaks of severe infectious diseases, volcanoes, wars and other similar events) to countries

in need. The policy of the Republic of Slovenia in the area of IDCs is based on three important strategic documents on International Development Cooperation and Humanitarian Aid adopted by Slovenia (law on IDCHA of RS): The Resolution, the Law and the Strategy. The Law and the Resolution represent the legal framework for cooperation, while the Strategy represents the framework for Slovenia's action at the multilateral level and provides for the focus of development cooperation and humanitarian aid on geographical and thematic priorities, as well as general criteria for government development cooperation.

The partnership with UNIDO is formally based on the Cooperation Agreement between the Government of the Republic of Slovenia and UNIDO on Special Dedicated Contributions to the Industrial Development Fund, adopted and ratified by the National Assembly in October 2023, and the Cooperation Plan between the Government of the Republic of Slovenia and UNIDO, signed in August 2022. It is based on dialogue between the recipient countries of development cooperation, UNIDO and Slovenia. Slovenia has development advantages where it can successfully participate in IDC projects because, as an open economy, Slovenia can offer knowledge and technology transfer to countries and regions in need.

Slovenia and IDC

Slovenia's strategic goal since independence in 1991 has been to join the European Union (EU) and thus become one of the most developed countries in the world. With its accession to the EU on 1 May 2004, Slovenia became a provider of IDC aid rather than a recipient of it. This represented a major change in policy formulation in the country. It was no longer a question of how Slovenia was going to receive development funds and help from more developed countries, but how it was going to offer and provide part of the funds (as a donor country) and services (to provide benefits) to those countries and international organisations that needed them (partner countries).

Slovenia is considered an economically developed country and has been a donor since independence, but more intensively since Slovenia's accession to the EU in 2004. As a member of the United Nations, Slovenia has adopted the 2030 Agenda for Sustainable Development, through which it aims to achieve the 17 universal goals for peace and security, prosperity and a life of dignity for today and future generations. It recognises that sustainable development in all three dimensions - social, economic and environmental - is a shared responsibility for all of us. Through the SDGs in the Agenda, Slovenia aims to contribute to overall economic progress, poverty eradication, women's empowerment and the reduction of inequalities between countries. As a member of the EU and the international donor community, Slovenia is working to address the major challenges of less

developed and developing countries and to achieve a more equitable global development (MFEA, 2020a). As a developed, responsible and active country, co-designs policies and measures to address global development challenges.

Together with partners, it contributes to a sustainable, just, inclusive and secure future for all. It contributes to a more balanced and equitable global development and thus takes co-responsibility for achieving sustainable development not only in partner countries but also more widely. By regularly sending international humanitarian and development aid, Slovenia expresses its solidarity with affected countries and individuals facing emergencies, whether as a result of major natural and other disasters or armed conflicts (MFEA, 2020b). This saves lives, prevents and alleviates suffering and preserves human dignity. It also contributes to building resilience to crises and their prevention.

Development aid, often also called Official Development Assistance (ODA), represents one of the most important mechanisms for the redistribution of wealth in the world. ODA is an instrument of IDC for the promotion of human, sustainable, and gender-equitable development (Sachs, 2012; Ayers & Huq, 2009). One of the modalities of ODA and international cooperation in education for sustainable development is as an agent of change, towards more environmentally conscious citizenship (Oikawa, 2016; Chung & Par, 2016). It is widely accepted that rich countries should help poor ones, and the most common way to do so is through development aid policies.

Over the past 15 years, countries have made serious efforts to reform the development aid system. They have established a shared agenda of minimum social standards; they have revised their practices to improve the effectiveness of aid (the Paris Agenda); they have brought innovation to the governance architecture of the system (the Global Partnership and Development Cooperation Forum); and they have launched a process of reviewing ODA and creating a new and wider complementary concept: Total Official Support for Sustainable Development (TOSSD). While most of these changes move in the right direction, they still fall short of what is needed to face the development challenges of today's world because the international reality is changing more deeply and rapidly than development aid has been able to do (Alonso, 2018).

Since becoming a donor in 2004, Slovenia has managed to establish a relatively sustainable volume of development and humanitarian aid and to develop expertise and a functioning institutional system. It involves government and implementing institutions, the non-governmental sector, civil society and the private sector. Within the IDC system, Slovenia has established itself as a credible and reliable partner, taking into account the development needs of partner countries, which it has been meeting by allocating a large share of its resources and other forms of development assistance,

given its economic strength, since 2004 (accession to the EU). As an EU Member State, Slovenia committed itself in the context of the negotiations for the New Development Agenda in 2015 to work towards increasing ODA to 0.33% of GDP by 2030 (MFEA, 2022).

The OECD's position is also important, as Slovenia has been identified as a valued and credible partner, which takes into account and adapts to the development needs of partner countries. Table 1 shows Slovenia's ODA between 2010 and 2023 in millions of euros (current prices) and as a share of Gross Domestic Product (GDP). In 2022, at the peak, Slovenia allocated almost €160 million to ODA, representing 0.29 per cent of gross domestic product (GDP), while in 2023 it had allocated €150.67 million, representing 0.24 per cent of GDP.

Table 1

Slovenia's ODA in millions of euros (current prices) and as a share of GDP

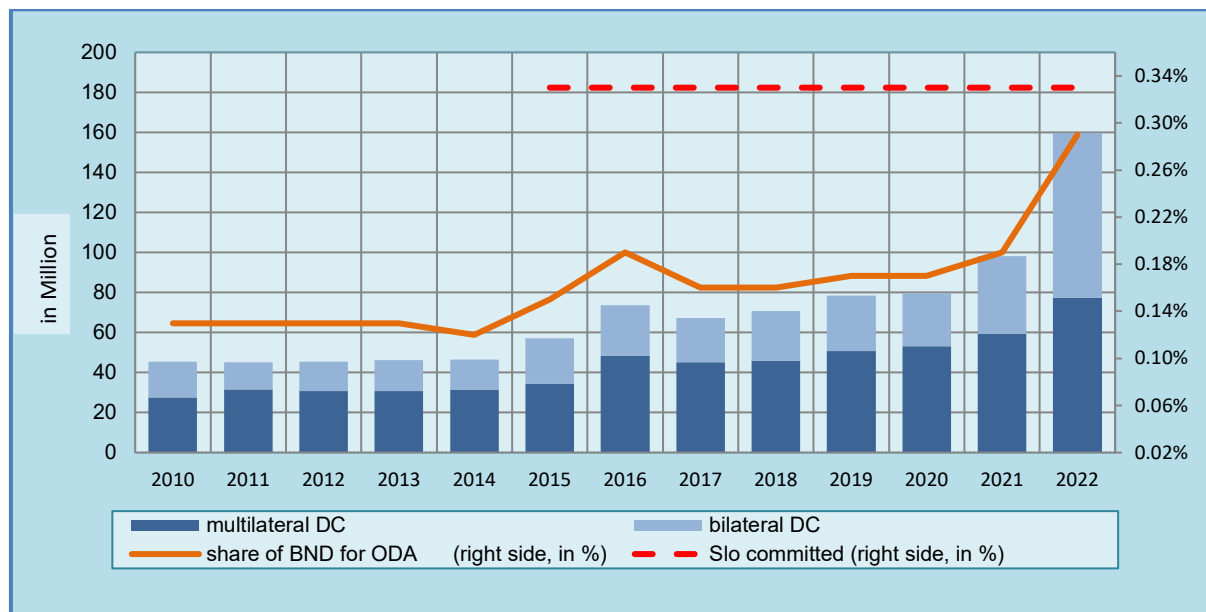
Year	Bilateral Development Assistance - BDA	Multilateral Development Assistance - MDA	Total	Slovenia's ODA in GDP (in %)
2010	17.87	27.47	45.34	0.13
2011	13.53	31.58	45.11	0.13
2012	14.86	30.62	45.48	0.13
2013	15.35	30.87	46.22	0.13
2014	15.19	31.19	46.38	0.12
2015	22.62	34.43	57.15	0.15
2016	25.22	48.33	73.55	0.19
2017	22.11	45.12	67.23	0.16
2018	24.81	45.95	70.76	0.16
2019	27.76	50.61	78.37	0.17
2020	26.49	53.12	79.61	0.17
2021	38.96	59.29	98.25	0.19
2022	82.32	77.34	159.66	0.29
2023	62.67	88.00	150.67	0.24

Source: Author's calculation based on Government data

Slovenia conducts bilateral and multilateral development cooperation following international rules and standards and in line with the strategic documents on IDC adopted by the country. The basis for the preparation of IDC projects is cooperation with IDC organisations, viz., UNIDO, the European Development Fund and other international organisations. In Slovenia, such cooperation is taking place with the Slovenian Export Bank and a specialised development agency, the Centre for International Cooperation and Development. Figure 1 shows Slovenia's ODA volume between 2010 and 2022 in millions of euros (current prices), share of gross national income (GNI) and international commitments of the Republic of Slovenia

Figure 1

Slovenia's ODA volume and international commitments



Note. Left vertical axis shows ODA volume between 2010 and 2022 in millions of euros (current prices)., Right column shows its share of Slovenia's gross national income (GNI) Dotted red line shows the country's commitment.

Source: Author's calculation based on Government data

UNIDO and SDG goals

UNIDO's core mission is to achieve the SDGs goals, as set out in the 2030 Agenda adopted at the United Nations in 2015. Agenda is a plan of action for people, planet and prosperity. It also seeks to strengthen universal peace in larger freedom. It is the greatest global challenge and an indispensable requirement for sustainable development. All countries and all stakeholders, acting in collaborative partnership, will implement this plan. The 2030 Agenda, adopted by all UN Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. Contains the commitments of all the UN members, collected in 17 SDGs, which are an urgent call for action by developed and developing countries in a global partnership. They recognise that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth - all while tackling climate change and working to preserve our oceans and forests.

SDG goals are universal, integrated and indivisible, and seek to balance the three dimensions of sustainable development: the economic, social and environmental dimensions. The breadth and

scope of the SDGs reflect the complexity and scale of challenges to be addressed in the modern era.

The seventeen Sustainable Development Goals are as follows:

Goal 1: No poverty. Eradicate poverty in all its forms everywhere in the world.

Goal 2: Zero hunger. End hunger, achieve food security and better nutrition, and promote sustainable agriculture.

Goal 3: Good health and well-being. Ensure healthy lives and promote well-being for all at all ages.

Goal 4: Quality education. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

Goal 5: Gender equality. Achieve gender equality and empower all women and girls.

Goal 6: Clean water and sanitation. Ensure access to and sustainable management of water and sanitation for all.

Goal 7: Accessible and clean energy. Ensure access to affordable, reliable, sustainable and modern energy for all.

Goal 8: Decent work and economic growth. Promote sustainable, inclusive economic growth, full and productive employment and decent work for all.

Goal 9: Industry, innovation and infrastructure. Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.

Goal 10: Reduce inequalities. Reduce inequalities within and between countries.

Goal 11: Sustainable cities and communities. Ensure inclusive, safe, resilient and sustainable cities and human settlements.

Goal 12: Responsible consumption and production. Ensure sustainable consumption and production patterns.

Goal 13: Climate action. Take urgent action to combat climate change and its impacts.

Goal 14: Life under water. Conserve and sustainably use oceans, seas and marine resources for sustainable development.

Goal 15: Life on land. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification.

Goal 16: Peace, justice and strong institutions. Promote peaceful and inclusive societies for sustainable development and build effective, accountable and inclusive institutions at all levels.

Goal 17: Partnership for the Goal. Strengthen means of implementation and revitalise the Global Partnership for Sustainable Development.

(United Nations, n.d.)

The UNIDO is contributing to the achievement of the goals of the 2030 Agenda through its mandate to support Member States in achieving inclusive and sustainable industrial development (hereafter "ISID"). The actions outlined below exemplify how UNIDO contributes to specific SDGs. Due to the interlinked nature of the SDGs, many of UNIDO's activities contribute to more than one SDG.

While UNIDO contributes to all goals of the 2030 Agenda, SDG 9 takes a special position for the Organization, as it recognizes the role of industry, innovation and infrastructure for sustainable development. UNIDO is a custodian agency for six industry-related indicators under SDG 9, collecting and compiling data for the global database of SDG indicators. There is broad evidence for industrialization as the driver of sustained prosperity. Inclusive and sustainable industrialization is a primary source of income generation, and allows for rapid and sustained increases in living standards.

The industrial sector has strong linkages to the other parts of the economy, and serves as an integrator also between agriculture and the service sector. Such linkages ensure that the economic dynamism and growth in one sector spreads to another. The interrelations between industry, innovation and infrastructure are strong, as the industry is an important source of innovation, providing the technological solutions for environmentally sound development and the achievement of green objectives, such as increased resource and energy efficiency, low-carbon production, circular economies and climate action. The cooperation between Slovenia and UNIDO serves as an example to other member states in the field of development cooperation. Slovenia is an example of how a small, developed, open economy can make a significant contribution to the international community. The cooperation of the two partners is based on the following internationally accepted documents which they have committed themselves to implement:

- UNIDO (2013) Lima Declaration of 2 December 2013 for inclusive and sustainable industrial development;
- United Nations General Assembly Resolution A/RES/70/1 of the United Nations (United Nations, 2015a);
- The Paris Agreement under the UN Framework Convention on Climate Change (United Nations, 2015b);

- United Nations General Assembly (UNGA) resolution A/RES/70/293 (United Nations, 2016);
- UNIDO (2019) Abu Dhabi Declaration of 5 November 2019; and
- UNIDO (2021) Medium-Term Programme Framework 2022-2025 with the objective of integration and scaling-up to build back better.

According to UNIDO, Slovenia is one of the most active members. Among UNIDO Member States ranks as the main donor (largest per capita donor) in terms of per capita voluntary contributions. Between 2012 and 2018, Slovenia ranked 6th among more than 170 Member States in terms of the per capita development assistance indicator. The cooperation with UNIDO started with the signing of the Cooperation Agreement between the Government of the Republic of Slovenia and the UNIDO on 11 June 1992 in Vienna. A new, updated Cooperation Agreement was signed on 16 March 2023 in Vienna and ratified by law in the Republic of Slovenia. Under this Agreement, the Government of the Republic of Slovenia makes special earmarked contributions to the Industrial Development Fund of UNIDO for the implementation of joint development projects. Slovenia has financed and implemented most of the projects implemented so far through UNIDO. The Cooperation Agreement between the Government of the Republic of Slovenia and the UNIDO contains, in addition to the preamble, the following elements:

- technical specifications on the method of mutual communication, the holder and address of the account for voluntary donations of the Republic of Slovenia, the amount of payment in euros for their services for each project (commission);
- a commitment to programme cooperation based on the UNIDO Basic Principles and in line with the substantive priorities of the Republic of Slovenia;
- the modalities of exchange of project documentation and mutual information,
- Method of validation of jointly agreed projects;
- Provisions that UNIDO shall, until the final act of handover of the project to the recipient country, be the owner of all equipment, buildings, infrastructure and other items procured with the funds of the Republic of Slovenia;
- the documents (financial and implementation reports) that UNIDO is obliged to send to the Republic of Slovenia on a regular basis on the financial situation of the account, by project, and the annual and final financial report in the event of termination of the Agreement;
- a commitment that the two parties will meet bilaterally at least once a year to review the financing and implementation of ongoing projects and the proposal and preparation of new joint projects;

- a commitment to publish major matters of mutual cooperation on the websites of each of the parties;

The conclusion of the renewed Agreement means a renewed basis for longer-term and deeper cooperation in the area of IDCs. This will only be based on the demand of partner countries, especially those most in need of development support. In the long term, the new agreement will further strengthen the role of the Republic of Slovenia (a small, open economy) in the international development cooperation environment and its importance within UNIDO.

In addition to the updated Agreement, the partners agreed and adopted a Long-term agreement on mutual cooperation - Roadmap. The Roadmap is an updated version of Annex I of the previous Cooperation Agreement from 1992 between the Government of Slovenia and UNIDO. The Roadmap identifies the thematic and geographical priority areas for which Slovenia is considered a suitable and competitive partner, and the criteria for selecting joint projects. The content priority areas include the following content areas:

- Economic competitiveness through productive employment and quality education
- Innovation and digital transformation through technology development and transfer
- Circular economy and environmental protection in industry
- Clean and efficient energy-related programmes.

The geographical priority areas are defined in line with the geographical priority areas defined in the Resolution and the Strategy on IDCHA of Slovenia. Three priority regions (Western Balkan countries, European Neighbourhood countries and Sub-Saharan African countries) are defined, with exceptions if agreed by both parties. The proposed international cooperation is in line with the Strategy on IDCHA of RS until 2030, as:

- Contributes to achieving sustainable development in third countries by strengthening capacities and creating development models in the biopharmaceutical and other related technologies and IT sectors, which will enable the economic development of the whole sector,
- Strengthen the visibility of Slovenia and its role in the donor community as a development partner and enhance the participation of its contractors/participants,
- Support the development of an enabling business environment and the transfer of good business practices, knowledge and technologies from Slovenian development partners (Universities, Institutes, private sector) to partner countries.

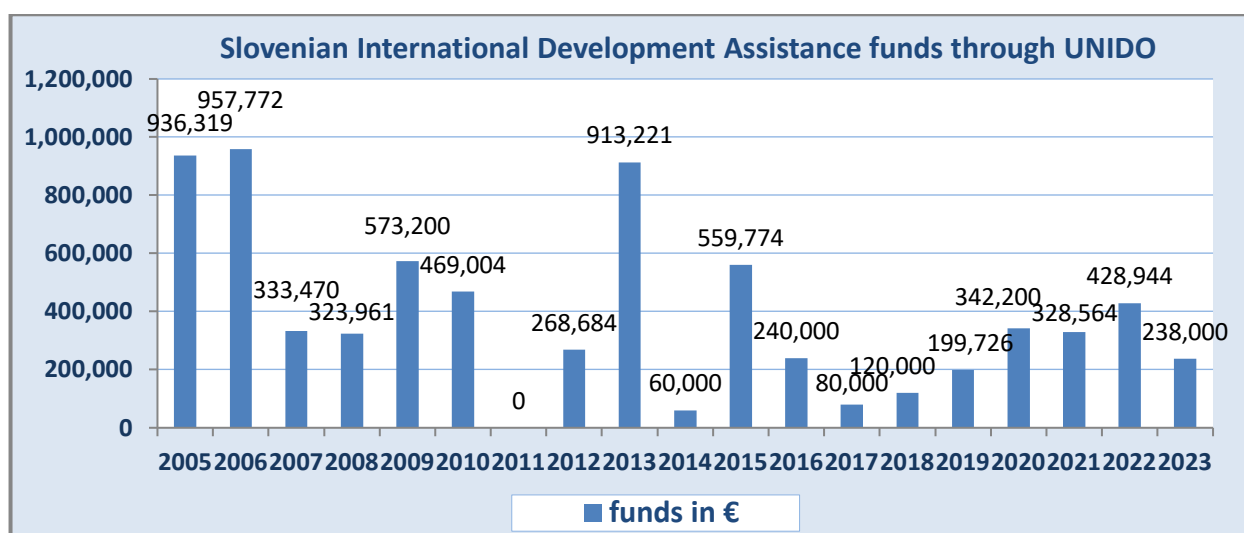
The cooperation plan states that the joint cooperation between UNIDO and the Government of the Republic of Slovenia will be based on the demand of the partner countries, especially those

most in need of development support and most willing to receive it. Both sides will work to promote development cooperation activities by partner countries and beneficiary entities. It is underlined that both Parties understand that only needs-driven development efforts, rooted in local needs, can foster sustainable impact and tangible results in the long term.

Figure 2 shows the volume of funding for Slovenia's MDG projects with UNIDO between 2005 and 2023 in euros at current prices. Between 2005 and 2022, Slovenia allocated a total of €7.1 million to UNIDO for IDC projects; between 2012 and 2022 the allocation was €3.5 million. Since 2011, 23 international projects have been jointly prepared with UNIDO and the partner countries, mostly involving Slovenian institutions, universities, individual researchers and experts, private companies, and other legal entities, in cooperation with experts from UNIDO.

Figure 2

Funding for Slovenia's projects with UNIDO



Note. Figures are in Euros at current prices. Data for 2023 is provisional.

Source: Author's calculation based on the data from Ministry of Economic Development and Technology, Government of the Republic of Slovenia.

International Development Cooperation

The funding is exclusively earmarked for development cooperation projects with partner countries. The projects financed from Slovenia's contributions are selected, monitored and approved by UNIDO and the Government of the Republic of Slovenia on the basis of priority criteria and are consistent with UNIDO's mission and the fulfilment of the SDG goals. In this way, support to the development efforts of partner countries is ensured. At the same time, for Slovenia, the IDC also

represent one of the general and systemic measures to improve internationalisation through the involvement of the public and private sectors in development cooperation.

Both partners wish to continue their cooperation in the future. Since the first signing of the Agreement Slovenia has been and continues to be an important development partner and donor to UNIDO, contributing financially to technical cooperation activities worldwide. In Slovenia, the Ministry of Foreign and European Affairs (MFEA) is responsible for IDC and humanitarian aid. IDC may be implemented by ministries, bodies attached to ministries or government departments participating in bilateral technical assistance programmes in the field of IDC. Accordingly, the Ministry of Economy, Tourism and Sport (METS) has full competence for the implementation of IDC projects in the economic field.

The IDCs focus, according to mandatory and strategic criteria, mainly on priority content areas and geographic areas where official Slovenian development assistance can be effective. Aid is geared towards supporting the development efforts of partner countries.

In the context of bilateral cooperation, the METS manages the economic policy of the IDC. It is a financier or co-financier of IDC projects or other types of development activities in the partner country where the development projects are being implemented. The Ministry has a specific budget line in the budget of the Republic of Slovenia for this type of financing, from which funds earmarked for development activities (earmarked funds) are drawn.

Development cooperation is guided by a number of criteria, among which the following three are important:

- a clear expression of interest by the country wishing to benefit from the IDC (i.e. the recipient/beneficiary country),
- the implementation of development projects in the context of thematic priority areas where Slovenia has economic and other advantages that enable Slovenia to contribute to the development and other benefits of partner countries,
- countries falling within the geographical priority areas can receive development assistance (exceptions are possible).

The priority content areas are:

- a. promoting the competitiveness of economies through productive employment and quality education

In this area, Slovenia can offer partner countries the opportunity to build inclusive, sustainable and economically competitive industries based on the principle of equal opportunities for all,

including the most vulnerable groups. This can be achieved by building capacity and promoting decent jobs through knowledge and technology transfer, sharing best practices and supporting quality education programmes, including vocational training and lifelong learning.

Among other things, Slovenia offers the following opportunities:

- Providing business development activities, including direct technical support, technology transfer and upgrading, building business networks and partnerships, and developing start-up and business incubators and accelerators;
- Promoting socially and environmentally responsible investment activities, plans and strategies;
- Developing private sector competitiveness and entrepreneurship programmes with a special focus on micro, small and medium-sized enterprises (MSMEs), including the establishment of technology parks and vocational training centres;
- Providing support for the development of metrology systems and compliance with international quality standards, based on the policy of the Ministry of Economy, Tourism and Sport, written in various documents, which were coordinated with UNIDO;
- Developing pilot programmes based on public-private partnerships and public-private academic partnerships.

b. fostering innovation and digital transformation through technology development and transfer

In this respect, while exploiting the potential of the Fourth Industrial Revolution and taking advantage of the industry transition, Slovenia can offer the development of research and high-tech support programmes and contribute to the advancement and application of new technologies and digital solutions in industry (Industry 4.0, Industry 5.0 and Society 5.0).

Slovenia has well-developed industrial sectors with high development potential, such as automotive and mobility, machinery and metal products, pharmaceuticals and bio-pharmaceuticals, including technology in healthcare and (bio)pharmaceuticals, information and communication technology and telecommunications, sustainable tourism, food production and processing, and wood processing, where it can offer its services to partner countries.

Among others, Slovenia offers the following activities and opportunities:

- Design, planning and implementation of training programmes for technology transfer;
- Research and development of technologies for climate impact management, mitigation and adaptation;

- Development and deployment of technologies for smart cities and communities and public institutions;
- Development of smart manufacturing and smart factories;
- Development and application of nanotechnologies and bionics and biotechnological processes in industry;
- Development and application of artificial and virtual intelligence and robotics;
- Development and application of blockchain technologies;
- Creation of technology parks, innovation hubs and clusters for the development of modern high-tech solutions and technological upgrading.

c. promoting circular economy activities and environmental protection in industry

From a development perspective, it is of the utmost importance for Slovenia to improve resource efficiency and waste management by applying circular economy principles and achieving the Sustainable Development Goals on climate change, biodiversity, ecosystem services, including water resources and other environmental resources.

To this end, Slovenia offers the following opportunities and activities:

- Development of industrial products according to the principles of the circular economy;
- Design and implementation of training programmes for the circular economy, transfer of environmentally friendly technologies, safe handling of hazardous chemicals, green chemistry, natural solutions for industrial waste water treatment, transformation of industrial parks into eco-industrial parks;
- Promoting new technologies for air, water and soil protection;
- Promoting the adoption of resource-efficient and environmentally friendly technologies and processes, including metal recovery;
- Providing cost-effective ways to reduce environmental pollution, including persistent organic pollutants and toxic substances;
- Providing support for the development of plastic recycling technologies;
- Advancing the development of biomass technologies.

d. promoting economic activities in the field of clean energy and energy efficiency

Slovenia has an active policy on energy efficiency and clean technologies and can offer such development services to partner countries. It has a good track record in promoting knowledge and the use of technologies to harness access to clean energy, reduce industry-related emissions and promote energy security.

To this end, Slovenia offers the following opportunities and activities:

- Developing green, clean and renewable energy with a focus on ecology and environmental protection;
- Promoting energy efficiency in small and medium-sized enterprises (SMEs) and their technological solutions;
- Promoting the construction of small hydroelectric power plants;
- Promoting technologies and methods for energy-efficient metal processing.

Geographical priority areas

In the area of IDC, Slovenia has identified the following three priority regions where it is ready to pursue development projects actively, based on the emerging needs in the global development environment: the Western Balkans, the European Neighbourhood and Sub-Saharan Africa. Exceptions may be made to the geographical areas if agreed with the partner country. While joint development support from UNIDO and the Government of the Republic of Slovenia can be provided at both country and regional levels, special emphasis is given to the least developed countries, taking into account, inter alia, their levels of development, stability, security and their preferences for development assistance.

Conclusion

Slovenia, like all other developed countries, allocates significant resources to countries in need in the form of funding for international development cooperation projects and direct funding for humanitarian aid in the event of natural disasters. This paper presents Slovenia's model of development cooperation, which is based on three criteria: a clearly expressed interest of the recipient country, implementation of development projects within the framework of thematic priority areas involving public and private enterprises and institutions, and targeting of geographic priority areas. Most of the development projects implemented so far have been financed and implemented by Slovenia through UNIDO. All these projects involved public and private enterprises and institutions.

According to UNIDO, Slovenia is one of the most active members and a model of IDC of small Member States and ranks among the largest per capita donors of IDC projects implemented by UNIDO in terms of voluntary contributions per capita. As a member of UNIDO, Slovenia participates in the formulation of UNIDO's policies and strategic programmes through active participation in the organisation's bodies, the pursuit of common development objectives and the implementation of joint development projects. The cooperation with UNIDO started with the signing

of the Cooperation Agreement between the Government of the Republic of Slovenia and the UNIDO on 11 June 1992 in Vienna. A new, updated Cooperation Agreement was signed on 16 March 2023 in Vienna and ratified by law in the Republic of Slovenia.

In addition to the updated Agreement, the partners agreed and adopted a Long-term agreement on mutual cooperation - Roadmap. The Roadmap identifies the thematic and geographical priority areas for which Slovenia is considered a suitable and competitive partner, and the criteria for selecting joint projects. Slovenia is an example of how a small, developed, open economy can make a significant contribution to the international community. Both partners wish to continue their cooperation in the future. Since the first signing of the Agreement Slovenia has been and continues to be an important development partner and donor to UNIDO, contributing financially to technical cooperation activities worldwide.

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Farsighted Leadership: Long-Term Orientation and Public Enterprise Strategy

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Abstract

This study investigates the relationship between long-term orientation and strategic decision-making processes, specifically decision comprehensiveness, speed, and creativity, among top managers in the public sector. Utilising structural equation modelling, the study tested the hypothesised relationships using a sample of 86 CEOs from public enterprises in Latin America. The findings revealed that long-term orientation was significantly and positively related to decision comprehensiveness and speed, but not to decision creativity. These results suggest that top managers' temporal orientation, particularly their long-term focus, plays a role in shaping certain strategic decision-making processes within the public sector context. The study contributes to the growing body of research on the influence of individual differences, such as temporal orientation, on strategic decision-making and firm outcomes. Moreover, it highlights the importance of considering the cultural and industry context when examining these relationships, as the findings differed in some aspects from previous studies conducted in other settings. The research has practical implications for Public enterprise CEO selection and awareness of the factors influencing strategic decision-making processes.

KEYWORDS: Long-term orientation, Strategic decision-making, Public enterprise, Structural equation modelling, SEM

Introduction

Temporal orientation of public sector top executives, has recently gained significant attention from strategy researchers and scholars (Bou, 2023; World Bank, 2019). This growing interest reflects an increased recognition that temporal orientation plays a crucial role in shaping strategic decision-making processes (Alon, 2005). Temporal orientation is conceptualised as an

individual's tendency to focus on the past, present, or future. Psychological studies have demonstrated that this orientation varies among individuals and correlates with various life outcomes, including academic performance and risk-taking behaviours. In the managerial context, this manifests as differences in how leaders prioritise future versus past considerations. Research suggests that managers' strategic decision-making aligns closely with their temporal orientation. A recent study in China, for instance, found that a long-term orientation positively influenced various aspects of top managers' strategic decision-making, including comprehensiveness, speed, and creativity (Fredrickson, 1984; Menon et al., 1999).

While previous research on temporal orientation in top managers has often relied on indirect measures of CEOs' temporal focus (Nadkarni & Chen, 2014), there is a notable gap in studies examining this relationship among public sector CEOs using direct responses. This gap is significant given that external factors, including cultural context, can substantially influence decision-making processes. The current study aims to address this by investigating the relationship between long-term orientation and strategic decision-making processes in a novel cultural business context. Understanding this relationship is crucial given its potential impact on firm performance and outcomes (Baum & Wally, 2003). Moreover, evidence suggests that long-term orientation varies across cultures, emphasizing the need for cross-cultural research in this area.

This study contributes to the literature in several ways. While previous research in the private sector has examined long-term orientation's relationship to firm performance, few have investigated the underlying temporal value system and its relationship with strategic decision-making processes. Moreover, there is no such research in the public sector. By exploring this relationship among public sector top managers, this study expands the existing research literature. Furthermore, top managers in the public sector increasingly face strategic decisions in a new world order characterised by great uncertainty with call for privatisation (Saxena, 2022). In such environments, managers may rely more heavily on internal value systems to guide their choices. Temporal orientation, particularly long-term orientation, may be one such value system. Understanding how temporal orientation relates to strategic decision-making processes can increase awareness of the factors influencing these processes and their potential implications.

Methods

This study employed structural equation modelling (SEM) to investigate the relationship between long-term orientation and decision-making comprehensiveness, speed, and creativity.

SEM allows for the modelling of both latent and measured variables and their relationships. CEOs were contacted via email, phone, or LinkedIn to participate in the study. They received background information and a consent form through a link, ensuring anonymity and confidentiality to promote honest responses (Angrist & Pischke, 2009). The informed consent form did not mention long-term orientation to avoid biasing responses. Post-survey, participants were debriefed about the study's hypotheses and provided with researcher contact information.

Required sample size is based on a statistical power of .80, significance level of .05, and effect size of .30. The study achieved a 21% response rate, yielding 86 completed questionnaires. This response rate is considered acceptable for CEO-focused research, where smaller rates are common. Given the clearly defined and relatively small population ($N = 401$), this sample size was deemed adequate (Krejcie & Morgan, 1970). Moreover, structural equation modelling can provide sufficient power with at least 80 participants (Crawford & Kelder, 2019).

Each company was represented by one respondent. While some studies use two respondents per company, high interrater reliability suggests that multiple respondents may not significantly improve data quality. The participating companies ranged from 19 to 21,000 employees, with an average of 624.

The study used several measures:

1. Decision comprehensiveness: Five items from Lin et al. (2019), measured on a 7-point Likert scale. Cronbach's α was 0.85.

2. Decision creativity: Three items from Menon et al. (1999) and Lin et al. (2019), measured on a 7-point Likert scale. Cronbach's α was 0.80.

3. Decision speed: Three items from Baum & Wally (2003) and Lin et al. (2019), measured on a 7-point Likert scale. Cronbach's α was 0.69.

4. Long-term orientation: Three items from Lin et al. (2019), measured on a 7-point Likert scale. Cronbach's α was 0.73.

Due to anonymity assurances, direct comparison of responding and non-responding CEOs was not possible. Instead, the sample was split based on response timing. An independent samples t-test showed no significant differences between early and late respondents, suggesting limited systematic bias. To address potential common method variance in the cross-sectional, self-reported data, several steps were taken. These included careful wording of scale items, guaranteeing anonymity and confidentiality and conducting a confirmatory factor analysis and Harman's one-

factor test. The results indicated that common method bias was not a significant concern in this study.

Results

To examine the hypotheses, the study employed structural equation modelling (SEM), a sophisticated statistical technique that has gained prominence in social sciences and behavioral research. This method was chosen for its ability to assess multiple variable relationships concurrently, offering greater flexibility compared to more traditional approaches like regression analysis. SEM's capacity to handle complex, multivariate models made it particularly suitable for this study, which aimed to investigate intricate relationships between various constructs.

Following best practices in SEM, the research team first developed and validated an appropriate measurement model before proceeding to the structural model. This two-step approach is crucial in ensuring the reliability and validity of the constructs being measured. The measurement model focuses on the relationships between observed variables and their underlying latent constructs, while the structural model examines the hypothesized relationships between these latent constructs.

All statistical analyses were conducted using a significance threshold of $p \leq .05$, a commonly accepted level in social science research. This threshold helps to minimize the likelihood of Type I errors, where false positives might be accepted. The initial step involved a confirmatory factor analysis (CFA) to evaluate the latent factors within the measurement model. CFA is a powerful tool that allows researchers to test how well measured variables represent the number of constructs, providing a rigorous assessment of construct validity. Furthermore, SEM's ability to handle latent variables – theoretical constructs that cannot be directly observed – makes it particularly valuable in psychological and social research where many key concepts are not directly measurable. This feature of SEM allows researchers to model abstract concepts and test theoretical models in a way that more closely aligns with the complex nature of human behavior and social phenomena.

The results, presented in Table 1, demonstrate that each item showed significant loading onto its intended factor. This finding is crucial as it supports the construct validity of the measures used in the study. Factor loadings indicate the strength of the relationship between each observed variable and its underlying latent construct. Significant loadings suggest that the observed variables are indeed good indicators of the constructs they are intended to measure.

Table 1*Scale items with factor loadings*

Factors and items	Loadings	SE
Long-term orientation ($\alpha = .72$)		
LTON1	.61	.18
LTON2	.12	.19
LTON3	.52	.18
Decision comprehensiveness ($\alpha = .85$)		
DCOM1	.68	.16
DCOM2	.75	.16
DCOM3	.74	.14
DCOM4	.86	.14
DCOM5	.67	.16
Decision creativity ($\alpha = .80$)		
DCRE1	.73	.20
DCRE2	.61	.22
DCRE3	.57	.21
Decision speed ($\alpha = .69$)		
DSPD1	.70	.17
DSPD2	.73	.21
DSPD3	.55	.14

Note. LTON=Long-term orientation, DCOM=Decision comprehensiveness, DCRE=Decision creativity, DSPD=Decision speed
All p -values ***<.001

The measured scales demonstrated internal consistency with Cronbach's alphas ranging from acceptable to very good. The measurement model showed a good fit to the data, as indicated by the goodness of fit indices: $\chi^2(71) = 98.473$, $p = .017$, CFI = .94, RMSEA = .067 (Peugh & Feldon, 2020). To further assess measure reliability, composite reliability and average variance extracted (AVE) were calculated. All measures exhibited composite reliability above .6 (minimum .71), suggesting acceptable internal reliability. AVE, considered a more stringent measure of internal reliability than composite reliability, exceeded the recommended .5 threshold for all but

one measure (decision-making speed, AVE = .46). However, composite reliability can still accurately indicate convergent validity even when AVE falls below 0.5.

After confirming the measurement model's acceptable fit, hypothesis testing was conducted using the structural model. This model also demonstrated good fit to the data: $\chi^2(216) = 286.707$, $p = .001$, CFI = .91, RMSEA = .062 (Peugh & Feldon, 2020). The model incorporated covariances between several variable pairs (DCRE2 and DCRE3, DCOM5 and DCRE1, LTON3 and DSPD3, LTON1 and LTON3, and DCOM1 and DSPD2). Results revealed that long-term orientation was significantly related to decision-making comprehensiveness ($\beta = .252$, $p = .048$) and decision-making speed ($\beta = .344$, $p = .025$), but not to decision-making creativity ($\beta = .247$, $p = .100$). These findings support hypotheses 1 and 2, which proposed positive correlations between long-term orientation and decision-making comprehensiveness and speed, respectively. However, the results do not support hypothesis 3, which suggested a positive correlation between long-term orientation and decision-making creativity. Table 2 presents a summary of these hypotheses and their outcomes.

Table 2

Test of hypotheses with standardised path estimates

Hypothesis	Relationship	Standardised estimate	<i>p</i> -value	Support
H1	Direct effect LTON->Decision comprehensiveness	.251	.047*	Yes
H2	Direct effect LTON->Decision speed	.344	.025*	Yes
H3	Direct effect LTON->Decision creativity	.247	.101	No

*<.05

The analysis of the hypotheses revealed varying relationships between long-term orientation and different aspects of decision-making. While long-term orientation did not show a significant correlation with decision-making creativity ($\beta = .247$, $p = .100$), it demonstrated significant positive relationships with decision-making comprehensiveness ($\beta = .252$, $p = .048$) and decision-making speed ($\beta = .344$, $p = .025$). These findings provide support for hypotheses 1 and 2, which proposed positive correlations between long-term orientation and decision-making comprehensiveness and speed, respectively. However, the results fail to support hypothesis 3, which suggested a positive correlation between long-term orientation and decision-making creativity. In summary, the model indicates that managers with a long-term orientation tend to

exhibit greater comprehensiveness and speed in their decision-making processes, but this orientation does not appear to significantly influence their decision-making creativity.

Discussion

The current study aimed to explore the connection between long-term orientation and strategic decision-making processes among top managers in the public sector. The findings revealed significant relationships between long-term orientation and both decision-making comprehensiveness and speed, but not with decision-making creativity. This outcome differs from Lin et al. (2019), who found significant relationships across all these decision-making aspects. The reason for this discrepancy is not immediately clear. The alignment between managers' temporal orientation and the external business environment, including cultural factors, can strengthen the relationship between long-term orientation and strategic decision-making processes. While this might explain the differences between the current study and Lin et al. (2019), other cultural factors, such as the emphasis on clock versus event time, could also have influenced the results.

This research contributes to the literature in several ways. It adds to the growing body of work examining managers' individual differences and their impact on firm performance. By directly surveying CEOs, it offers insights into the black box mechanisms connecting manager characteristics to firm outcomes. While strategic decision-making processes are not equivalent to firm outcomes, they provide valuable insight into how top managers make decisions that can significantly impact their companies. The use of structural equation modelling allowed for simultaneous testing of relationships between long-term orientation and decision comprehensiveness, speed, and creativity. This approach offers advantages over more traditional methods like regression analysis, as it can model both latent and measured variables.

From a theoretical standpoint, this study contributes to research highlighting temporal orientation as a crucial factor in strategic decision-making processes and outcomes in the public sector. It helps bridge the gap between micro-level factors and macro-level organisational phenomena. Top managers' temporal orientation may serve as a key micro-level variable influencing macro-level structures through strategic decision-making processes, potentially offering insights into the antecedents of these processes. The differences in results compared to Lin et al. (2019) suggest that cultural context plays a significant role in the relationship between long-term orientation and strategic decision-making processes. National cultural context may exert a stronger influence on the external business environment than organisational cultures or industry

contexts. This implies that national cultures should be considered a key part of the external business environment when studying firm behaviours and performance.

Regarding practical implications, the results suggest that long-term orientation may be related to certain strategic decision-making processes (comprehensiveness and speed) among public sector top managers. This could be a consideration in CEO recruitment for companies interested in these decision-making aspects. Long-term and short-term orientations might also relate to organisational ambidexterity, with long-term oriented managers potentially having a more explorative mindset for new markets, while short-term oriented managers might focus more on exploiting current capabilities.

However, it's crucial to note that while long-term orientation showed significant relationships with decision comprehensiveness and speed, it did not with decision creativity. This suggests that long-term orientation is just one of many factors to consider in CEO recruitment. Previous research has examined other factors such as top managers' narcissism and self-evaluation as predictors of firm performance, indicating that multiple variables should be considered when determining the fit between a CEO and a public enterprise.

Limitations and directions for future research

The study's focus on top managers from specific countries restricts the applicability of its findings to significantly different cultural contexts. Cultures and languages vary in their temporal focus during communication, potentially affecting behaviours related to savings and health. This underscores the importance of cautiously applying results from one cultural setting to another. Additionally, the relatively small sample size of the current study may have limited its ability to detect subtle effects between long-term orientation and strategic decision-making processes among CEOs. Consequently, future research with larger samples would be beneficial to more accurately assess this relationship. Moreover, the cross-sectional nature of the study precludes drawing causal inferences between long-term orientation and top managers' strategic decision-making processes. This leaves open the possibility that other unexplored variables might contribute to the observed results. While structural equation modelling may have aided in establishing a causal model for the data, it's possible that some causal relationships were not captured by the model.

Future research directions should prioritise validating the current findings across diverse cultural contexts to determine if similar relationships exist in other cultures. Additionally, conducting experimental studies could help establish clearer causal links between long-term

orientation and decision comprehensiveness, speed, and creativity. One approach could involve experimentally manipulating long-term orientation, such as by priming an experimental group of managers with a long-term mindset. The public sector management field would generally benefit from more experimental research. Another avenue for future research could explore potential gender differences in the relationship between long-term orientation and decision-making processes. The current study's results have limited generalisability beyond male top managers, representing a significant limitation because the role of mid-level managers in the public sector is very important.

Conclusions

This research aimed to explore the connection between long-term orientation and various strategic decision-making processes among top managers in the public sector, focusing on decision comprehensiveness, speed, and creativity. The findings revealed a significant positive correlation between long-term orientation and both decision-making comprehensiveness and speed. However, no significant relationship was found between long-term orientation and decision-making creativity. These results indicate that while long-term orientation is associated with certain key decision-making processes, it is likely just one of many factors influencing the strategic decision-making of public sector top managers. This underscores the necessity of incorporating a cultural business perspective to gain a comprehensive understanding of the factors shaping top managers' strategic decision-making processes. The study's outcomes suggest that a more holistic approach, considering multiple variables including cultural context, is crucial for fully grasping the complexities of strategic decision-making in public sector management.

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