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Changes of Public Sector Human Resource Management (HRM): Trend in pre and post COVID-19 technological revolution

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ABSTRACT

Public sector human resource management is a way to manage human in a hierarchical activity which acts as the main rotor of efficiency and effectiveness of public-scale growth and development. As our environment changed in 2020 caused by covid-19 pandemic, so does the human resource management. Substantial changes in society impacted the way we shape management activity. This study aims to map the research trend changes of public sector human resource management in pre and post covid-19 period. We conduct bibliometric study to explore the factors and criteria of a toxic leader from open access scopus indexed journals using biblioshiny application limited to pre (2016 to 2019) and post (2020 to 2023) covid-19 periods. The criteria for filtering journal articles are based on PRISMA and JBI standards. Data suggested that covid-19 event ignite the research production. The research domains for pre covid-19 were focused on human resource growth and development, while post covid-19 domains were focused on survival and resilient. Country rank of most published paper related to the locus field also related to worldwide survey of economic growth in pre to post covid-19 pandemic. However, rapid increase of publication in post covid-19 period did not followed by study continuity and relatedness.

Keywords: public sector; human resource management; COVID-19; bibliometric

INTRODUCTION

The public sector is the sector of an economy that includes numerous governmental organizations, agencies, ministries, and public institutions that are responsible for providing basic services and enacting policies for the welfare and development of society as a whole (Ferlie & Osborne, 2002). Depending on the extent and jurisdiction of its responsibilities, it acts

under the authority of the government at the municipal, regional, or national level. The fundamental functions of the government are numerous and directly related to serving the public interest. One of its primary functions is to provide basic services and utilities critical to citizens' well-being, such as healthcare, education, transportation, and public safety (Mc Evoy et al., 2019). The public sector guarantees that fundamental requirements are addressed and that citizens have access to important services regardless of their socioeconomic level through public hospitals, schools, public transit systems, and law enforcement organizations. Furthermore, the public sector is in charge of developing and enforcing rules that control many parts of society, such as economic development, environmental preservation, and social welfare (Dal Mas et al., 2019).

The public sector frequently plays a vital role in every public domain in our society for example such as infrastructure development in promoting economic growth and development, construction and maintenance of roads, bridges, water supply systems, and other critical infrastructure contribute to the creation of an enabling environment for corporate activity and higher living standards (Poister, 2010). Furthermore, the public sector plays an important role in providing assistance and safety nets for vulnerable communities. Social welfare programs, unemployment compensation, and disability support are just a few ways the government addresses socioeconomic inequality and assists individuals and families in coping with difficult situations (Hur & Abner, 2023). In other words, strategic planning is a vital part of public sector management (Bryson & Edwards, 2017). Management issues in the public sector must match to the goals with the larger government vision and mission. Strategic planning entails establishing defined goals, identifying important performance indicators, and devising action plans to attain desired results. The purpose of public sector management is to guide organizations toward their goals while assuring ethical decision-making, openness, and accountability. Strong governance structures aid in the establishment of clear lines of power, the delineation of responsibilities, and the provision of supervision to ensure that public resources are managed responsibly and in the best interests of the public. The public sector places a high value on stakeholder involvement and effective communication. Given the public character of these organizations, it is vital to engage with many stakeholders, such as individuals, interest groups, and other government agencies, to understand their needs and expectations. Effective communication fosters public trust and allows information flow, enabling for better decision-making and policy creation (Carpini, 2020).

To achieve or maintain effectiveness of public sector management, one key factor to be managed is the human resource. The importance of human resource management in the public sector cannot be understated because it has a direct impact on the efficacy, efficiency, and overall performance of government organizations. The public sector is critical in providing important services, enacting policies, and ensuring the well-being of the society it serves. As a result, managing human capital inside these organizations or hierarchy becomes critical to ensuring their successful operation and ability to satisfy the various and changing requirements of citizens (Plimmer et al., 2022). Human Resource Management (HRM) is an important and varied role inside organizations that focuses on efficiently managing human resources in order to achieve strategic goals and objectives. It comprises a wide range of actions relating to workforce acquisition, development, retention, and optimization, ensuring that the appropriate people with the right capabilities are in the right jobs at the right time and at the same time to to increase public motivations. A study in Caribbean revealed that person in organization showed partial mediation to public motivation and turn over (Roach et al., 2022).

Today, human resource management (HRM) has expanded in relevance in this changing era of rapid technological breakthroughs, altering demographics, globalization, and developing work habits. HRM plays a critical role in driving success, promoting innovation, and assuring

sustainability as firms negotiate difficult problems and dynamic settings (Ammirato et al., 2023). Technology has revolutionized the way we work, communicate, and do business in this changing day. Traditional employment roles have been challenged by automation, artificial intelligence, and digitalization, creating a demand for new skills and abilities. Human resource management becomes critical in detecting skill gaps and allowing continuous learning and upskilling efforts to equip the workforce with the capabilities needed to flourish in a tech-driven society. Human resource professionals must adopt digital HR solutions to streamline recruitment, performance management, and employee engagement procedures, allowing for data-driven decision-making and increasing organizational agility (Fenech et al., 2019).

One key event that revolutionize our technology utilization is Covid-19 pandemic that pushed our social into conservative mode, limiting distances, strict rules and surveillance, and the most important is the technological revolution as media to keep us connected in many sectors (Hantrais et al., 2021; Sarfraz et al., 2021). The impact of the technology revolution on the public sector was most visible in the field of human resource management. As remote work became the norm, human resource professionals were forced to quickly adjust their tactics and procedures to accommodate a scattered workforce. To ensure that public sector organizations continued to attract and onboard new talent while complying to social distancing norms, virtual recruitment and onboarding processes were vital. In this study we will examine the changes of public sector human resources management in pre and post covid. Finding out the trends will help us to improve our sight on both literature and actual implementation regarding HRM.

METHOD

As shown in figure 1, we searched Scopus Indexed Journals for papers containing the phrases 'public AND 'sector' AND 'human' AND 'resoure' OR 'resources' AND 'management'. We were able to incorporate papers published in journals from a variety of areas, including economics, management, and business, by searching across the databases.

The analysis undertaken by using Biblioshiny application based on R. The results then selected based on inclusion and exclusion criteria. The inclusion criteria are: 1.) study related to the concept of public sector human resources management; 2.) study that discuss about human resources; 3.) Study of human resources on public sector or military or health or infrastructure or any public domains; and 4.) Study after the year of 2016. While the exclusion criteria are: 1.) human resources management in non-public sector; 2.) restricted access articles (paywall); 3.) articles that only covers private sector; 4.) research older than 2016; and 5.) non-English written articles. The criteria first filtered on scopus filter menu then selectively filter the articles by abstract fitness.

Selection criteria are based on PRISMA and JBI categories which in general divide the process into four stages: 1. Identifications; 2. Screening; 3. Eligibility; 4. Included. Firstly, we identify all documents uploaded on the database. Then, the documents screened by its full text availability. Next, the eligibility criteria selected according to inclusion and exclusion criteria. Last, included documents then imported to biblioshiny for further analysis. The document date filter for pre and post covid are in 4 years period (2016 to 2019 for pre and 2020 to 2023 for post).

To fully evaluate the documents, we emphasize the dimensions which explain human resource management (HRM) especially in public sector. Those dimensions that need to do as components of HRM that HR professionals must address to support the workforce's optimal performance, such as recruitment and selection progress (Huang et al., 2023), training and development of human resource (Kim et al., 2023), fair compensation and benefit (Cidro et al., 2023), engagement, hierarchal relations, and strategic planning (Bryson & Edwards, 2017). Those dimensions then become a judgemental standard for abstract evaluation.
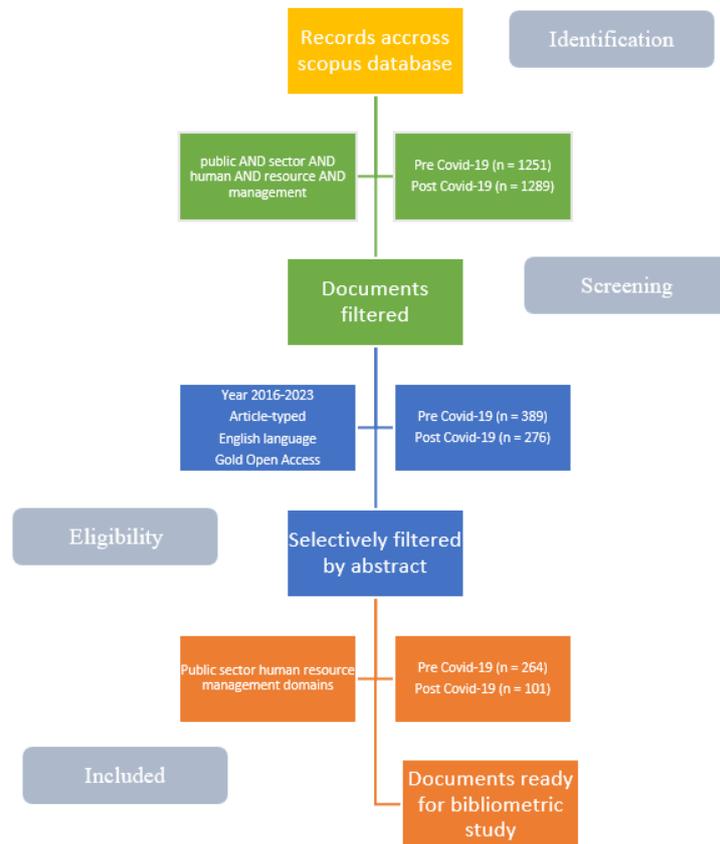
Figure 1. Conceptual filtering from database based on PRISMA and JBI standards

RESULT AND DISCUSSION

Result

Article about public sector human resource management were fewer in pre covid condition. We traced only 100 articles included based on criteria that published in pre covid-19 pandemic. In 2020 at the time when covid-19 spread worldwide, the published article spiked nearly threefold to 264. Article authors rose quadruple from 447 in pre covid to nearly 1500 in post covid-19. The rapid growth of publication in this scope also marked by the average document age which is a half-decade in pre to only 1.25 years in post covid-19. However, the decline of international co-authorship from 47% in pre to 39.39% post covid-19 and average citations per document about 15.9 in pre to 2.9 in post covid-19 explained the rapid growth of publication about human resource management in public sector without proper continuous work (see Figure 2).

Timespan 2016:2019	**Sources** 54	**Documents** 100	**Annual Growth Rate** 13.4 %
Authors 447	**Authors of single-authored do** 9	**International Co-Authorship** 47 %	**Co-Authors per Doc** 4.54
Author's Keywords (DE) 411	**References** 1	**Document Average Age** 5.28	**Average citations per doc** 15.9
Timespan 2020:2023	**Sources** 131	**Documents** 264	**Annual Growth Rate** 14.08 %
Authors 1481	**Authors of single-authored do** 13	**International Co-Authorship** 39.39 %	**Co-Authors per Doc** 5.7
Author's Keywords (DE) 1066	**References** 1	**Document Average Age** 1.25	**Average citations per doc** 2.894

Figure 2. Main info of bibliometric study about public sector human resources management in pre (above) and post (below) covid-19 pandemic

Publication on pre covid era were decreased from 24 to 15 in period 2016 to 2017 but rocketing to 35 in 2018. On post covid time, slight increase was seen in 2020 to 2021 and rapidly jumped to more than 125 in 2022. However, the increase was not sustained and fall to only 50 publications in 2023 (up to July at the time this study written). The latest publication recorded on 2023 is higher than the top frequency in 2019.
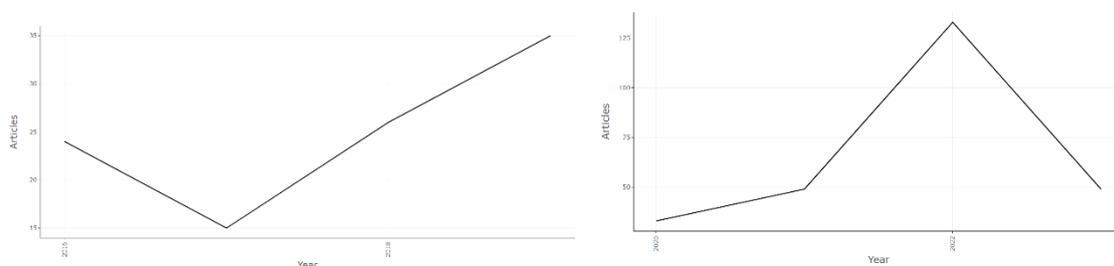
Figure 3. Annual publication growth (left: 2016-2019; right: 2020-2023)

On annual citation data, we saw increase citation from 2016 to 2017 from 2.1 to 2.6 and rapid increase citation in 2018 to 2019 period from 2.1 to 3.5, with slightly

decreased in 2017 to 2018 period. In contrast, the annual citation was steeply declined in 2020 to 2022 from above 2 to below 1 and sloop increase on 2022 to 2023.
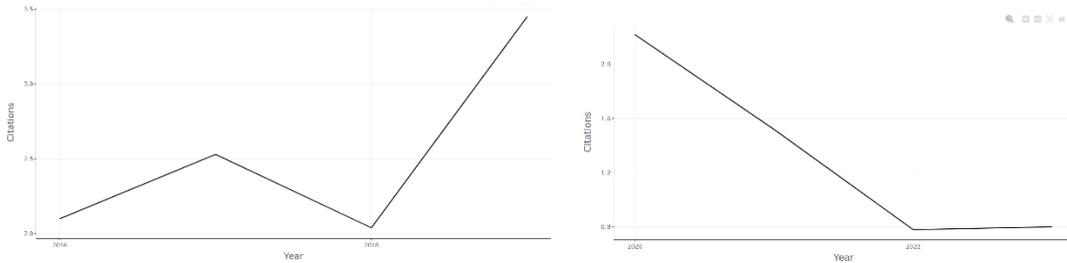
**Figure 4. Publications Annual citation on pre (left) and post (right)**

Connectivity and specialization studies about particular subject is necessary to growth and develop our understanding and pushed beyond the latest understanding. Generalist and finance-based efforts in publication is a continuous hot issue among scientists. At the time of recession where many jobs were cut, publication 'businesses' growth, where scientists discussed the correlation of generalist publishers or congresses strengthening. One indicator that ensure research field's growth is the study continuity that hardly proved by data we gather specifically for public sector human resource management in pre and post covid conditions (Ayeni & Adetoro, 2017; Boltá Chumillas, 2021; Narimani & Dadkhah, 2017).

Based on authorship of published articles, we saw different structure of author to the number of documents they published. There is no repeated author on pre and post covid-19 period of publication. However, the author in pre covid-19 time was unevenly distributed which Martineau T published 4, followed by Purohit B with 3 articles, then Lombard C and Valickas A with 2 papers each and so on. Even distribution of published paper by author frequency can be seen on the right figure which denotes the authorship in post covid-19 period. As seen, top 10 authors of articles published in post covid-19 pandemic had 2 documents.
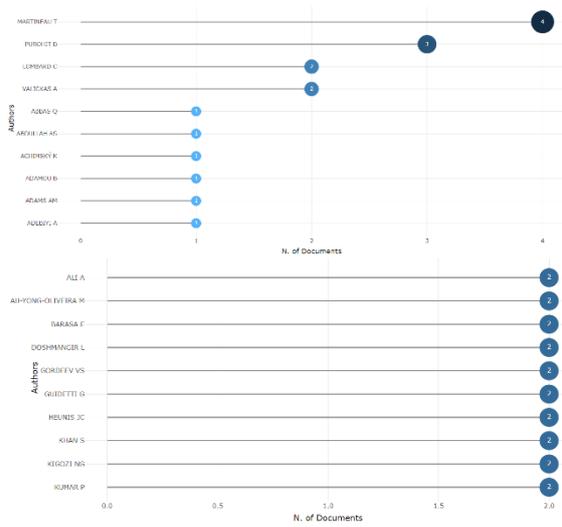
Figure 5. Authors with most published articles in pre (lefi) and post (right) covid-19 period

In general, all repeated publishers recorded documents were increased in pre to post covid-19. The most published work by publisher in pre covid-19 period was Human Resources for Health with 11 articles published but changed in post covid-19 period by International Journal of Environmental Research with 40 documents that was in the fourth rank with only 6 documents published. The records for the second publisher with the most published work was BMC Health Services Research followed by Sustainability (Switzerland). In average, the top 10 publishers were increased twice on their recorded published work.
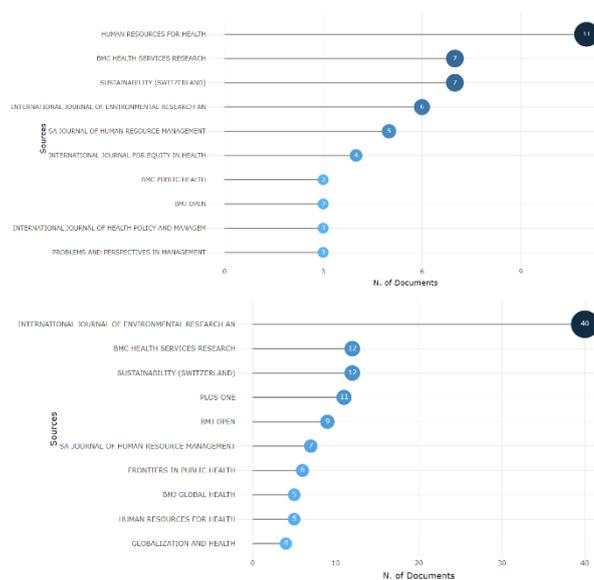
Figure 6. Relevant article publishers in pre (above) and post (below) covid-19 period

Next, we survey the co-occurrence map for both pre and post covid-19 period. As seen, the most domains for both were health sector. In the pre covid-19 period, the most occurrence study design using cross-sectional data with quantitative data analysis and focused on leadership and smaller hierarchical management. As minor co-occurrence were study about public health policy and planning and domains in human resource management such as motivation, decision making, employment, and education. At the same time, post covid-19 co-occurrence works were also focused on healthcare but with different study design which is interviews with qualitative data analysis and focused on bigger hierarchical level of human resource management such as governmental scale. Those occurrences followed by minor occurrences of covid-19 and pandemic. Another minor co-occurrence on post covid-19 published papers were focusing on quality management, workplace, and workforce, followed by financial management co-occurrences.

Post covid-19 period which popular in econometrics as global recession. The pandemic event brought many occupancies into collapse with limited access to every physical activity and people focused to manage everything in order to survive on strictly limited environment. Human resources management in public sector tend to grow differently on pre and post covid-19 situations. Pre covid-19 human resource management tend to focused on growth and development, which conversely different trend in post covid-19 situation where the research concerned more with resilient and survival.
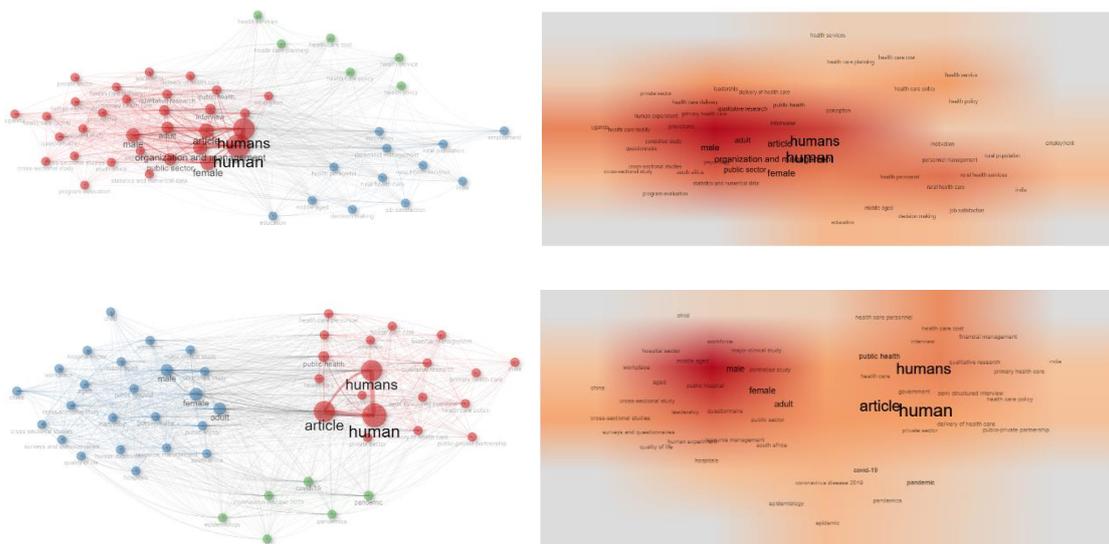
Figure 7. Co-occurence network of pre (above) and post (below) covid-19

Top country with most produced article in pre covid-19 period was South Africa, followed by USA then Canada on the third, then Brazil, China, and Australia as the fourth. However, in

post covid-19 period, the USA and South Africa become the top country with most published paper about public sector human resource management followed by Asian mainland countries such as India, China, and Iran. Asian countries produced more than European countries in both pre to post covid-19. However the production growth of Asian countries did not pass the American countries.
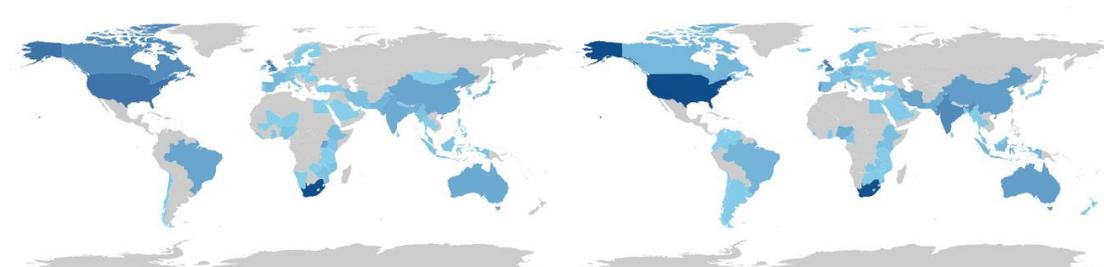

Figure 8. Country article production on pre (left) and post (right) covid-19 period

Covid-19 pandemic brought substantial changes worldwide. In this particular study, the sense of changes in public sector human resources management trends in pre to post covid-19 period reflected through nation's economic growth. Global projected GDP depicts that the highest GDP were South Africa, followed by Russia, Indonesia, Brazil, then biggest economy of European Union then USA. Comparison of GDP growth in pre to post covid-19 shows that Asian countries have better performance which rose to the pre pandemic level than developed countries that negatively grew to the pre pandemic period. The reflection of economic performance through GDP on Figure 9(Buchholz, 2021; Harris & Sinclair, 2023; OECD, 2014) are in line with the top countries that produced public sector human resources management articles. In this sense, the more a country study about that science field, the more advanced and resilient they grow through hard period, such as Covid-19 pandemic.
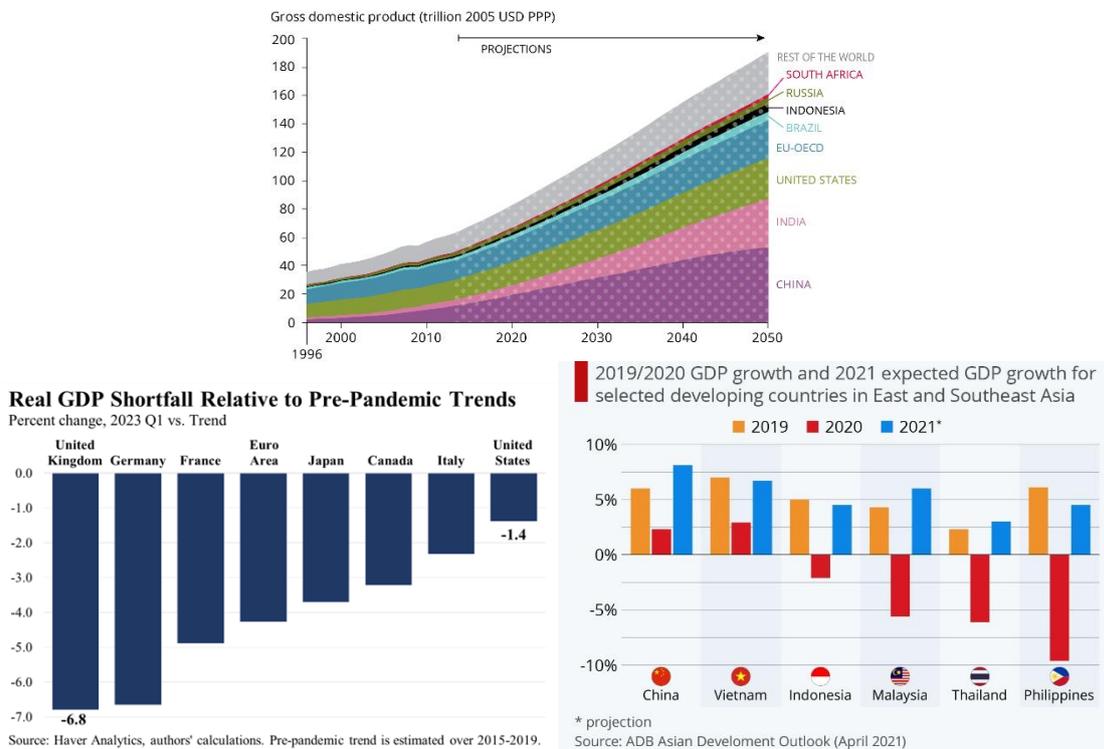
Figure 9. Worldwide economic trends

Discussion

Before and after the Covid-19 epidemic, there were substantial shifts in research patterns in the public sector HRM. Prior to Covid-19, the primary focus of public sector HRM research was on traditional subjects including recruiting and selection, employee training and development, performance management (Purohit & Martineau, 2016), and employee engagement (Fahim, 2018; Poisat et al., 2018). Prior to the Covid-19 pandemic, public sector HRM research concentrated mostly on fundamental problems such as recruiting, training, performance management, remuneration, leadership, and strategic planning. While these themes remained essential, the pandemic prompted a shift in research patterns with a greater emphasis on remote work, employee well-being, digital HR solutions, diversity and inclusion, and workforce resilience in public sector human resource management (Fahim, 2018; Fenech et al., 2019; Poisat et al., 2018; Poister, 2010; Purohit & Martineau, 2016). The shifting research landscape in public sector HRM reflects the changing problems encountered by HR professionals in the aftermath of the global crisis of covid-19, as well as the necessity to adapt HR strategies to new realities. Researchers investigated most in government organizations-scale with a focus on increasing efficiency, effectiveness, and service delivery. In addition, the Covid-19 outbreak caused a paradigm shift in the landscape of public sector HRM research (Azizi et al., 2021). The extraordinary worldwide crisis compelled governments and public institutions to quickly alter their human resource strategies to meet the problems provided by distant work, social distancing policies, and changing worker dynamics. As a result, research trends in public sector HRM have changed dramatically (Carnevale & Hatak, 2020).

The study of remote work and its impact on the public sector workforce was one of the primary research areas that developed following Covid-19. Researchers investigated more on the problems and opportunities associated with managing distant teams, as well as the efficacy of virtual collaboration tools and communication technology (Bouri et al., 2021). They looked into how public-sector businesses dealt with the abrupt move to remote work, addressing issues such as productivity, employee well-being, and work-life balance in a virtual setting. Employee well-being and mental health were also elevated to the forefront of public sector HRM studies because of the epidemic (Carnevale & Hatak, 2020). The psychological impact of the crisis on public sector personnel was studied, with stress levels, burnout, and coping techniques assessed. HR researchers evaluated firms' tactics for supporting employee well-being, such as the deployment of wellness programs, mental health support services, and flexible work arrangements (Ambarwati et al., 2022).

The epidemic also highlighted the significance of digital HR solutions in government organizations. Human Resource Information Systems (HRIS), AI-powered technologies, and data analytics were examined by researchers to expedite HR processes and enable evidence-based decision-making. As it facilitated efficient communication, data administration, and talent acquisition in a remote work environment, the study of HR technology integration in the public sector became a key subject of research (Frinaldi et al., 2023; Gumbie et al., 2023). Furthermore, as firms tried to establish agile and adaptable workforces capable of responding to future crises, studies on workforce planning and resilience gained significance. To assure continuity and sustainability in the face of uncertainty, HR researchers investigated ways for identifying important skills, succession planning, and improving employee competencies (Fanaei et al., 2023).

CONCLUSION

Public sector human resource management had changed in pre to post covid-19 pandemic. We see tendency of uncontinual study in which the research on public sector human resource management, noted by the rapid increase of article published without better growth of international collaboration. Another substantial changes is noted in domains of public sector human resource management which focused on human resources upgrading and development in pre covid-19 period to survival and resilient in post covid-19 period.

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