Primljeno/Submitted: 25.02.2026.
Prihvaćeno/Accepted: 17.03.2026.

Prethodno priopćenje
Preliminary Communication

DEMOGRAPHIC INDICATORS AS A TOOL FOR STRATEGIC DECISION-MAKING

DEMOGRAFSKI POKAZATELJI KAO ALAT ZA STRATEŠKO ODLUČIVANJE

Tanja Gavrić*
Sonja Dragičević**

ABSTRACT

Demographic indicators represent an important source of information for strategic decision-making in both public and private sector institutions. Changes in population structure, mortality trends, life expectancy and migration patterns significantly influence economic development, labour market dynamics and the planning of public services. The aim of this paper is to analyse the role of demographic indicators, with a particular focus on mortality trends and life expectancy, as analytical tools that can support strategic management and long-term planning. The research relies on secondary statistical data obtained from official sources such as national statistical offices and international databases. The findings suggest that demographic indicators can provide valuable insights for strategic planning in healthcare systems, insurance companies, banking institutions and public administration. Incorporating demographic analysis into strategic decision-making processes enables organisations to anticipate demographic changes, allocate resources more efficiently and design policies that respond to long-term societal trends.

Keywords: demographic indicators, strategic management, decision-making, mortality, population trends

SAŽETAK

Demografski pokazatelji predstavljaju važan izvor informacija za strateško odlučivanje u javnim i privatnim institucijama. Promjene u strukturi stanovništva, trendovi mortaliteta, očekivano trajanje života i migracijski obrasci značajno utječu na gospodarski razvoj, dinamiku tržišta rada i planiranje javnih usluga. Cilj ovog rada je analizirati ulogu demografskih pokazatelja,

* Prof. dr. sc., Fakultet poslovne ekonomije, Sveučilište/Univerzitet „VITEZ“ e-mail: tanja.gavric@unvi.edu.ba
** MA, Fakultet poslovne ekonomije, Sveučilište/Univerzitet „VITEZ“, e-mail: sonja.dragicevic@unvi.edu.ba

s posebnim naglaskom na trendove mortaliteta i očekivano trajanje života, kao analitičkih alata koji mogu podržati strateški menadžment i dugoročno planiranje. Istraživanje se temelji na sekundarnim statističkim podacima preuzetim iz službenih izvora, poput nacionalnih statističkih ureda i međunarodnih baza podataka. Rezultati istraživanja ukazuju da demografski pokazatelji mogu pružiti vrijedne uvide za strateško planiranje u zdravstvenim sustavima, osiguravajućim društvima, bankarskim institucijama i javnoj upravi. Uključivanje demografske analize u procese strateškog odlučivanja omogućuje organizacijama pravodobno prepoznavanje demografskih promjena, učinkovitiju raspodjelu resursa te oblikovanje politika koje odgovaraju dugoročnim društvenim trendovima.

Ključne riječi: demografski pokazatelji, strateški menadžment, odlučivanje, mortalitet, demografski trendovi

UVOD

Demographic changes represent one of the most significant long-term processes shaping contemporary societies. Shifts in population size, age structure, mortality patterns and life expectancy influence economic development, labour market dynamics, public finance sustainability and the planning of social services. In this context, demographic indicators increasingly serve not only as statistical measures describing population trends, but also as analytical tools that can support strategic decision-making in both public institutions and private organisations. Population ageing, declining fertility rates and changes in mortality patterns have become particularly prominent in many European countries during the last decades. These demographic transformations have important implications for economic growth, social security systems and the organisation of healthcare and social services. Previous studies have shown that demographic trends can significantly affect the availability of human capital, the structure of labour markets and the long-term sustainability of welfare systems (Bloom, Canning, & Fink, 2011; Lee & Mason, 2011). Consequently, understanding demographic processes has become an essential element of strategic planning and policy development.

Among the various demographic indicators, mortality rates and life expectancy are particularly important because they reflect both the health status of the population and broader socioeconomic conditions. Improvements in life expectancy often indicate progress in healthcare, living standards and technological development. However, at the same time, longer life expectancy contributes to population ageing and creates additional challenges for pension systems, labour markets and healthcare infrastructure (Vaupel, 2010; Börsch-Supan, 2013). For this reason, analysing mortality trends can provide valuable insights for anticipating future demographic developments and their potential economic and organisational implications.

In addition to national policy considerations, demographic indicators are increasingly relevant for strategic management within organisations. Institutions operating in sectors such as healthcare, insurance, banking and public administration must anticipate long-term demographic trends in order to adapt their strategies, allocate resources efficiently and respond to evolving

societal needs. Demographic analysis can therefore support evidence-based decision-making and contribute to more sustainable strategic planning.

The aim of this paper is to analyse demographic indicators, with particular emphasis on mortality trends and life expectancy, as analytical tools that can support strategic decision-making. Using selected demographic data and descriptive statistical analysis, the study examines long-term demographic patterns and discusses their potential implications for strategic management and public policy planning.

1. LITERATURE REVIEW

Demographic changes and population dynamics have long been recognised as important factors influencing economic development, social policy and institutional planning. Numerous studies have examined the relationship between demographic processes, such as fertility, mortality and migration, and broader socio-economic transformations. One of the most comprehensive analyses of mortality trends in Croatia was conducted by Mrđen (2000), who examined the development of mortality patterns in Croatia from the second half of the twentieth century. The author analysed mortality according to age and gender structure and highlighted the significant decline in infant mortality that occurred during the 1960s due to improvements in healthcare and medical treatment. At the same time, the study noted that mortality trends among older age groups became increasingly important as population ageing intensified.

Research by Akrap and Živić (2001) further emphasised the complexity of demographic processes in Croatia. Their work demonstrated that demographic development in the country is characterised by several unfavourable trends, including depopulation, population ageing and regional demographic disparities. The authors also highlighted the impact of migration flows and socio-economic changes on population dynamics. The long-term demographic development of Croatia has also been analysed extensively by Wertheimer-Baletić (2003, 2004, 2005). Her studies focused on the interaction between fertility decline, population ageing and mortality trends. According to her findings, the decline in fertility after the post-war baby boom and the gradual increase in life expectancy significantly contributed to structural demographic changes.

These processes have led to an ageing population and increasing pressure on social and healthcare systems. In addition to these empirical analyses, Nejašmić (2005) provided a theoretical framework for understanding mortality and its determinants. His work discusses the biological, economic and social factors that influence mortality rates and emphasises the importance of mortality indicators in demographic analysis. The author also stresses the significance of life expectancy as a key indicator used for international comparisons and long-term demographic assessments. The demographic consequences of the Croatian War of Independence have also been examined by several scholars. Živić and Pokos (2004**)** analysed demographic losses and concluded that migration played a much more significant role in population decline than war-related mortality. Their research indicated that migration accounted for the majority of demographic losses in the observed period.

Similarly, Živić, Pokos and Turk (2005) analysed broader demographic processes in Croatia and concluded that depopulation and population ageing represent the most significant demographic challenges for the country. Their research highlighted the combined effects of declining fertility, increasing mortality among older age groups and migration trends.

Despite the significant body of research on demographic trends in Croatia, relatively few studies have explored the direct relationship between demographic indicators and strategic decision-making. Most existing research focuses on demographic analysis itself rather than its application in management and institutional planning. This gap in the literature suggests a need for further research on how demographic indicators can support strategic management processes and long-term planning in both public and private sector institutions.

1.1. Demographic indicators as an instrument of managerial decision-making

Demographic indicators have traditionally been used in demographic and statistical analyses to describe population structure and dynamics. However, contemporary research increasingly emphasises their relevance for economic planning and strategic management. Several authors argue that demographic variables such as fertility, mortality and migration represent key determinants of long-term economic development and therefore constitute an important analytical basis for managerial decision-making (Bloom, Canning, & Sevilla, 2003; Lee & Mason, 2011). From the perspective of development economics, demographic change has often been analysed through the concept of the demographic dividend, which refers to the economic growth potential that arises when the share of the working-age population increases relative to dependent age groups. Bloom et al. (2003) highlight that demographic structure significantly influences labour supply, productivity and savings behaviour, suggesting that demographic indicators can serve as valuable inputs for macroeconomic and strategic policy decisions. In contrast, Lee and Mason (2011) emphasise that the benefits of demographic change are not automatic and depend heavily on institutional capacity, labour market policies and education systems.

In management literature, demographic indicators are often considered an important component of environmental analysis and strategic forecasting. According to Johnson, Whittington and Scholes (2017), demographic trends represent one of the key external factors influencing organisational strategies because changes in population size, age structure and spatial distribution directly affect market demand and workforce availability. Similarly, Wheelen and Hunger (2018) argue that demographic analysis is an essential element of strategic management frameworks such as PEST or PESTLE analysis, where population trends help organisations anticipate future opportunities and risks. At the same time, recent research highlights that demographic indicators have become increasingly important due to global demographic transitions characterised by population ageing, declining fertility and increasing life expectancy. The United Nations (2024) emphasises that population ageing is one of the most significant demographic transformations of the 21st century, with profound implications for economic growth, social protection systems and healthcare planning.

In a similar vein, OECD (2025) reports that demographic change significantly affects labour markets, public finances and regional development, particularly in developed economies facing shrinking and ageing populations. Despite the growing recognition of demographic indicators in strategic planning, many studies remain focused primarily on describing demographic trends rather than analysing their managerial implications. As a result, the integration of demographic analysis into strategic decision-making processes remains insufficiently explored, especially in the context of organisational and institutional management. This indicates a clear research gap and suggests the need for further studies examining how demographic indicators can be systematically incorporated into managerial decision-making frameworks.

1.2. Life expectancy, quality of life and socio-economic development

Life expectancy is widely recognised as one of the most comprehensive indicators of population well-being because it summarises mortality conditions across all age groups and reflects broader social, economic and health-related developments within a population. In demographic research, life expectancy is typically derived from life tables based on age-specific mortality rates and therefore represents a synthetic indicator of survival conditions within a given population (Preston, Heuveline, & Guillot, 2001; Meslé & Vallin, 2012). Compared with crude mortality rates, life expectancy provides a more stable and analytically reliable measure when comparing populations with different age structures or demographic regimes. Numerous studies have demonstrated that improvements in life expectancy are closely related to long-term socio-economic development. According to Cutler, Deaton and Lleras-Muney (2006), the extension of life expectancy in developed countries during the twentieth century was strongly influenced by improvements in living standards, public health infrastructure, education and technological progress in medicine.

Similarly, Bloom, Canning and Fink (2011) emphasise that population health and longevity are closely linked with economic development, productivity and human capital formation. In this context, longer life expectancy is often interpreted as both a consequence and a driver of socio-economic progress. Within the demographic literature, the relationship between life expectancy and quality of life has also been widely discussed. Vaupel (2010) argues that the continuous increase in life expectancy observed in many developed countries reflects long-term improvements in health conditions, medical innovation and behavioural changes. At the same time, several authors emphasise that improvements in life expectancy are not evenly distributed across populations. Differences in education, income, employment conditions and access to healthcare services can create substantial inequalities in survival prospects (Mackenbach, 2019; Chetty et al., 2016).

These findings suggest that life expectancy should not only be analysed as a demographic indicator but also as a measure reflecting broader social inequalities. Croatian demographic literature similarly recognises life expectancy as an important development indicator. Wertheimer-Baletić (2005) and Nejašmić (2005) argue that increases in life expectancy in Croatia were strongly

influenced by improvements in healthcare systems, living conditions and socio-economic modernisation processes. However, Croatian authors also highlight that increasing life expectancy simultaneously contributes to demographic ageing, which creates new pressures on labour markets, healthcare systems and social protection mechanisms (Živić, Pokos, & Turk, 2005).

In this sense, life expectancy has a dual analytical role. On the one hand, it represents an indicator of improved health and living conditions. On the other hand, it signals structural demographic transformations that may significantly influence economic development and institutional sustainability. Harper (2014) points out that ageing populations resulting from increased life expectancy will require substantial adjustments in labour market participation, retirement policies and healthcare systems. Consequently, life expectancy is not only an indicator of demographic progress but also an important parameter for long-term strategic planning. Another important dimension of life expectancy concerns spatial inequalities. Research has shown that territorial differences in economic development, infrastructure, healthcare accessibility and environmental conditions can significantly influence mortality patterns and survival outcomes (Mackenbach, 2019; Chetty et al., 2016).

Croatian studies have similarly demonstrated that regional demographic differences, particularly in age structure and socio-economic development, contribute to variations in mortality and life expectancy across regions (Živić, Pokos, & Turk, 2005). Such findings suggest that national averages may conceal significant internal disparities and that life expectancy should be analysed in relation to regional socio-economic contexts. Taken together, the literature indicates that life expectancy represents a multidimensional indicator linking mortality conditions, socio-economic development and quality of life. It reflects improvements in health and survival, but also signals structural demographic changes that influence labour markets, healthcare demand and long-term institutional planning. For this reason, life expectancy plays an increasingly important role in analyses that attempt to connect demographic trends with strategic decision-making and socio-economic development.

1.3. The relevance of life expectancy for human resource management and service development

Increasing life expectancy has important implications for labour markets, organisational management and long-term service planning. As populations live longer and the proportion of older individuals increases, organisations face significant changes in workforce composition, career trajectories and retirement patterns. In demographic and labour market research, this phenomenon is often associated with the concept of the ageing workforce, which requires adjustments in organisational strategies, human resource management practices and employment policies (Harper, 2014; Bloom, Canning, & Fink, 2011). Several authors argue that longer life expectancy may extend the productive working life and increase the potential return on investment in human capital. According to Lee and Mason (2011), improvements in survival and longevity can enhance economic productivity by enabling individuals to remain economically active for

longer periods. Similarly, Borsch-Supan (2013) highlights that ageing societies will increasingly rely on older workers to maintain labour supply and economic stability. From this perspective, life expectancy becomes an important parameter in workforce planning, succession management and retirement policy design.

At the organisational level, human resource management must adapt to demographic ageing through changes in recruitment, career development and knowledge management. Research suggests that organisations facing ageing workforces often adopt strategies aimed at retaining older employees, promoting lifelong learning and adapting working conditions to different age groups (Kooij, Jansen, Dikkers, & De Lange, 2014; Truxillo, Cadiz, & Hammer, 2015). Such approaches recognise that older workers possess valuable experience, organisational knowledge and professional networks that contribute to organisational performance. However, the extension of life expectancy also raises important challenges for organisations and public institutions. As retirement ages increase and working lives become longer, organisations must address issues related to health, work ability and intergenerational workforce management.

Ilmarinen (2006) emphasises that maintaining work ability throughout the life course requires continuous investment in health promotion, workplace adaptation and skills development. Without such adjustments, ageing workforces may experience declining productivity and increased health-related absenteeism. Beyond human resource management, life expectancy also influences the development of services and market structures. Demographic ageing and increasing longevity have contributed to the emergence of the so-called "longevity economy", referring to economic activities related to the needs of older populations (Scott & Gratton, 2016). As the number of older consumers grows, demand increases for healthcare services, financial planning products, housing solutions and long-term care services. This shift creates new opportunities for service innovation while simultaneously requiring strategic planning in both the private and public sectors. From a strategic perspective, demographic indicators such as life expectancy provide valuable information for anticipating changes in demand for services and infrastructure. Longer life expectancy implies increased demand for healthcare, rehabilitation services, elderly care facilities and age-sensitive financial products. In addition, it influences long-term planning in pension systems, insurance markets and social policy frameworks (Harper, 2014; Scott & Gratton, 2016). In this context, demographic forecasting and life expectancy projections have become increasingly important tools for strategic planning. By analysing trends in longevity and population ageing, organisations and institutions can better anticipate future workforce dynamics, adjust employment policies and develop services tailored to the needs of ageing populations. Consequently, life expectancy should not be viewed solely as a demographic indicator but also as a key analytical variable in managerial decision-making and long-term organisational planning.

2. METHODOLOGY AND EMPIRICAL RESULTS

This chapter represents the empirical part of the paper based on selected demographic indicators relevant for strategic decision-making. The analysis is based on secondary data taken from official statistical sources, primarily the Croatian Bureau of Statistics, previous official

statistical publications and the Eurostat database. In methodological terms, the paper applies descriptive statistical analysis with the aim of identifying long-term demographic patterns and assessing their potential importance for management and planning. The empirical framework of the analysis focuses on three dimensions. First, the long-term relationship between the number of live births and deaths in Croatia is analyzed in order to identify broader trends in natural population change.

Second, mortality patterns by age group are investigated to determine which population groups are most affected by mortality and how these patterns have changed over time. Thirdly, a comparative overview of infant mortality in selected European countries is given as an indicator of the health status of the population and differences in the level of socioeconomic development. To interpret the results, the arithmetic mean, the standard deviation, and the coefficient of variation are used. These measures make it possible to assess not only the average level of observed indicators, but also their relative stability and variability over time. In addition to the statistical description, the results are also interpreted from the perspective of strategic management, with special emphasis on the implications for health system planning, human resource management, public service development and long-term resource allocation.

2.1. Data sources and analytical approach

The analysis is based on official demographic and vital statistics related to the number of live births, the number of deaths and infant mortality. Historical data for Croatia were collected from national statistical publications, while comparative data on infant mortality were taken from the Eurostat database. In order to provide a clear and concise empirical presentation, the calculated descriptive statistical indicators were synthesized in summarized tables that show the central tendencies, variability and comparative patterns of selected demographic indicators. Instead of presenting each statistical measure separately for each indicator, the empirical results are organized into synthetic tables that allow for a clearer interpretation of long-term demographic trends. Such an approach allows for a more focused discussion on the managerial relevance of demographic changes and avoids an overly technical presentation of the statistical process.

2.2. Descriptive indicators of natural population change in Croatia

The first part of the empirical analysis focuses on the long-term trends in the number of live births and deaths in Croatia, using selected representative years in the period from 1960 to 2023. The aim of this analysis is to determine the relative stability of mortality in relation to more dynamic changes in the birth rate and to estimate the general direction of natural population change.

Table 1. Descriptive indicators of natural population change in Croatia (based on selected representative years 1960–2023)

Indicator	Average (M)	Standard deviation (SD)	Coefficient of variation (CV, %)	Min	Max
Liveborn	55.045,76	11.759,17	21,4	36.556	76.156
Deaths	49.059,69	3.869,81	7,9	39.936	54.205

Source: author's work based on CBS data and previous official statistics.

Descriptive indicators indicate a significant difference in the stability of the observed demographic components. The number of deaths shows significantly less variability compared to the number of live births, which is confirmed by a lower coefficient of variation. In other words, mortality was relatively more stable throughout the observed period, while the birth rate was exposed to stronger changes. This is particularly important for strategic planning, as more stable mortality patterns allow for more reliable estimates of future needs in health and social services, while the decline and higher volatility of live births signal long-term pressure on the renewal of the workforce, the education system and demographic sustainability.

2.3. Mortality patterns by age groups

The second analytical dimension focuses on the analysis of mortality by age groups. The aim of this part of the analysis is to determine whether mortality is concentrated in certain segments of the population and to estimate the relative variability of mortality among different age cohorts. For greater analytical clarity, the results were synthesized into wider age intervals.

Table 2. Synthetic overview of mortality by age groups in Croatia (based on selected years 1960, 1980, 2000 and 2020)

Age group	Average number of deaths	Standard deviation	Coefficient of variation (%)	Assessment of variability
0–4	2.052,5	2.002,2	97,6	very high
5–14	108,0	69,8*	64,6*	high
15–39	331,7*	125,9*	38,0*	moderate
40–64	2.016,3*	349,0*	17,3*	lower
65–79	6.556,8*	1.132,0*	17,3*	lower
80+	15.108,0	5.637,0	37,3	moderate to higher

Source: author's work based on CBS data and previous official statistics.

The results clearly show that mortality is most pronounced in older age groups, especially among people aged 80 and over, where by far the highest average number of deaths was recorded. On the other hand, the lowest values were recorded in the child and adolescent groups. It is particularly interesting that the youngest group of 0–4 years shows the greatest relative variability, which can be associated with a long-term and marked decrease in early mortality over the observed period. In contrast, middle-aged and older age groups show more stable patterns. This structure

confirms that mortality in Croatia is increasingly concentrated in the elderly population, which has direct implications for the planning of health capacities, geriatric services and long-term care.

2.4. Comparative review of infant mortality

The third part of the empirical analysis provides a comparative overview of infant mortality in Croatia and selected European countries. Infant mortality was selected as one of the most sensitive indicators of the quality of the health system, the level of preventive protection and the general living conditions of the population. In addition to the average values, the analysis also considers the relative stability of this indicator over time.

Table 3. A Comparative Review of Infant Mortality in Selected Countries (1991–2022)

Country	Average (M)	Standard deviation (SD)	Coefficient of variation (CV, %)	Overall rating
Austria	4,58	1,4	30,0	low level, relatively stable
Belgium	4,86	1,4	29,5	low level, relatively stable
Bulgaria	11,42	3,9	33,8	high level, higher volatility
Denmark	4,74	1,4	28,9	The most stable pattern
Croatia	6,60	2,4	35,8	medium level, highest heterogeneity

Source: author's preparation according to Eurostat, *Infant mortality rates [demo_minfind]*.

The comparative analysis shows that according to the average value of infant mortality, Croatia occupied the middle position between the more developed Western European countries and the less favorable pattern present in Bulgaria. Although the level of infant mortality in Croatia is significantly lower than in Bulgaria, it is still higher than in Austria, Belgium and Denmark. In addition, Croatia shows the highest coefficient of variation among the observed countries, which indicates greater heterogeneity and less stability of the observed indicator over time. From a management perspective, this may indicate the need to further strengthen preventive health care, especially in the segment of maternal and early childhood health.

2.5. Summary of key governance implications

In order to connect the descriptive statistical results with the main goal of the paper, the final part of the empirical chapter synthesizes the main implications of the observed demographic trends for management and strategic planning.

Table 4. A brief synthetic overview of key management results

Analytical dimension	Main results	Governance implication
Live births vs. deaths	Live births fall strongly, dead remain relatively stable	long-term risk to population and labour reconstruction
Age structure of mortality	Mortality predominantly concentrated at the age of 65+, especially 80+	Increased need for health and social services for older people
Infant mortality	Croatia is better than Bulgaria, but weaker than Austria, Belgium and Denmark	Room for further improvement of public health
Variability of indicators	Highest volatility in early age and live births	the need for caution in projections and planning
Trending	Natural decline and demographic ageing continue	The need for long-term planning of capacities and resources.

The synthetic representation confirms that the observed demographic indicators are not only important as statistical facts, but also as an operational basis for management. Their interpretation shows that Croatia is entering a phase of pronounced population aging, with a continuous decline in the birth rate and a consistently high level of mortality. Such patterns have a direct impact on the planning of health, social, educational and human resources, which is why demographic analysis is becoming an important tool for strategic decision-making.

3. DISCUSSION AND CONCLUSION

The results confirm that demographic trends represent an important framework for understanding long-term social and economic changes. The analysis of the natural population change in Croatia shows that during the observed period there is a clear difference between the relative stability of mortality and a significantly more pronounced variability in the birth rate. The decline in the number of live births, along with a relatively stable number of deaths, indicates a long-term trend of natural population decline. Such a pattern is confirmed by earlier demographic research, which emphasizes that declining fertility is one of the key features of contemporary European populations (Wertheimer-Baletić, 2005; Lutz, Butz, & KC, 2014).

The results of the analysis of mortality by age groups further confirm the process of demographic aging. The highest average number of deaths was recorded in the oldest age groups, especially among people aged 80 and over. Such a distribution of mortality indicates a shift in mortality towards older age, which is characteristic of developed demographic structures and is associated with an increase in life expectancy (Lee, 2003). Similar patterns are noted by other studies that point out that increasing life expectancy, while an important indicator of social progress, also creates new challenges for health systems, pension systems and the labour market (Bloom, Canning, & Fink, 2011).

A particularly interesting finding refers to the high variability of mortality in the youngest age groups. Although the absolute level of infant mortality has been significantly reduced compared to earlier periods, relative variability remains high, suggesting strong changes in health conditions and the development of medical care over the observed period. Similar conclusions are reached by demographic studies that emphasize that the decline in infant and child mortality is one of the most important indicators of improvement in public health and living standards (Cutler, Deaton, & Lleras-Muney, 2006). A comparative analysis of infant mortality shows that Croatia occupies an intermediate position among the observed European countries. Although infant mortality values are significantly lower than in some countries of Southeast Europe, they are still slightly higher compared to more developed Western European countries. Such a difference can be partly explained by the different levels of development of the health system, the availability of preventive care and general socio-economic conditions. Numerous studies confirm that infant mortality and life expectancy are strongly correlated with the level of economic development, the quality of health infrastructure and the level of education of the population (Preston, Heuveline, & Guillot, 2001).

From the perspective of strategic management, the results obtained have several important implications. First of all, the continuous decline in the birth rate and the aging process of the population can affect the structure of the workforce and the availability of human capital in the long term. In the future, organizations will increasingly face the need to adapt human resource management to the older working population. This includes extending working lives, adapting jobs and strengthening intergenerational knowledge transfer. At the same time, the increase in the share of the elderly population further increases the pressure on the health and social care systems, which requires long-term planning of capacities and available resources.

In this context, demographic indicators, such as mortality, life expectancy and age structure of the population, can serve as important indicators for strategic planning of public policies, as well as business strategies. Demographic analyses enable organizations and public institutions to better understand the future needs of the population and to adapt development strategies in a timely manner. Demographic trends are therefore not only statistical facts, but also an important source of information for long-term management decisions.

Despite the interpretative value of the results obtained, it is necessary to point out certain limitations of this research. First of all, the analysis is based on secondary statistical data taken from official sources, which means that the interpretation of the results depends on the availability and structure of these data. In addition, the analysis used representative years rather than continuous annual data series, which may somewhat limit the accuracy of detecting certain short-term changes or oscillations in demographic trends.

The second limitation relates to the methodology used. The paper uses the approach of descriptive statistical analysis, which enables the identification of basic patterns and trends, but does not allow for more detailed testing of cause-effect relationships between demographic changes and socioeconomic factors. Future research could therefore apply more advanced

statistical methods, such as regression analysis or time series analysis, to examine in more detail the factors influencing changes in mortality, birth rate and life expectancy.

Also, the paper analyzes primarily macrodemographic indicators at the national level. However, a number of studies indicate the existence of significant regional differences in demographic processes. Future research could therefore include regional or local analyses to better understand spatial inequalities in demographic trends and their socio-economic consequences. Finally, further research could expand the analysis to include additional demographic and socioeconomic variables, such as migration, the educational structure of the population, the labour market or health indicators. Such an integrated approach would allow for a deeper understanding of the interlinkages between demographic change and socio-economic development, and provide a stronger analytical basis for shaping effective public policies and long-term development strategies.

LITERATURE

1. Akrap, A., & Živić, D. (2001). Demographic determinants and characteristics of the family structure of the population of Croatia. *Social Research: Journal of General Social Issues*, *10*(4-5), 621-654.
2. Bloom, D. E., Canning, D., & Fink, G. (2011). Implications of population ageing for economic growth. *Oxford Review of Economic Policy, 26*(4), 583–612. https://doi.org/10.1093/oxrep/grq038
3. Bloom, D. E., Canning, D., & Sevilla, J. (2003). *The demographic dividend: A new perspective on the economic consequences of population change*. RAND Corporation.
4. Börsch-Supan, A. (2013). Myths, scientific evidence and economic policy in an aging world. *The Journal of the Economics of Ageing, 1–2,* 3–15. https://doi.org/10.1016/j.jeoa.2013.02.001
5. Chetty, R., Stepner, M., Abraham, S., Lin, S., Scuderi, B., Turner, N., Bergeron, A., & Cutler, D. (2016). The association between income and life expectancy in the United States. *JAMA*, *315*(16), 1750–1766.
6. Cutler, D. M., Deaton, A., & Lleras-Muney, A. (2006). The determinants of mortality. *Journal of Economic Perspectives, 20*(3), 97–120. https://doi.org/10.1257/jep.20.3.97
7. Harper, S. (2014). *How population change will transform our world*. Oxford University Press.
8. Ilmarinen, J. (2006). *Towards a longer worklife: Ageing and the quality of worklife in the European Union*. Finnish Institute of Occupational Health.
9. Johnson, G., Whittington, R., & Scholes, K. (2017). *Exploring strategy: Text and cases* (11th ed.). Pearson.
10. Kooij, D. T. A. M., Jansen, P. G. W., Dikkers, J. S. E., & De Lange, A. H. (2014). Managing aging workers: A mixed methods study on bundles of HR practices for aging workers. *The International Journal of Human Resource Management, 25*(15), 2192–2212. https://doi.org/10.1080/09585192.2013.872169

11. Lee, R. (2003). The demographic transition: Three centuries of fundamental change. *Journal of Economic Perspectives, 17*(4), 167–190. https://doi.org/10.1257/089533003772034943
12. Lee, R. D., & Mason, A. (Eds.). (2011). *Population aging and the generational economy: A global perspective*. Edward Elgar Publishing.
13. Lutz, W., Butz, W.P., & K.C., S. (2014). *World population and human capital in the twenty-first century*. Oxford University Press.
14. Mackenbach, J. P. (2019). *Health inequalities: Persistence and change in modern welfare states*. Oxford University Press.
15. Meslé, F., & Vallin, J. (2012). *Mortality and causes of death in 20th-century Europe*. Springer.
16. Mrđen, S. (2000). Trends in the development of mortality in Croatia from 1950 to 1998 *Croatian Geographical Gazette*, *62*(1), 25-40.
17. Nejašmić, I. (2005). *Demography: population in spatial relationships and processes*. School book.
18. OECD. (2025). *Shrinking smartly and sustainably*. OECD Publishing.
19. Preston, S. H., Heuveline, P., & Guillot, M. (2001). *Demography: Measuring and modeling population processes*. Blackwell Publishers.
20. Scott, A., & Gratton, L. (2016). *The 100-year life: Living and working in an age of longevity*. Bloomsbury.
21. Truxillo, D. M., Cadiz, D. M., & Hammer, L. B. (2015). Supporting the aging workforce: A review and recommendations for workplace intervention research. *Annual Review of Organizational Psychology and Organizational Behavior, 2*, 351–381. https://doi.org/10.1146/annurev-orgpsych-032414-111435
22. United Nations. (2024). *World population prospects 2024*. United Nations.
23. Vaupel, J. W. (2010). Biodemography of human ageing. *Nature*, *464*(7288), 536–542. https://doi.org/10.1038/nature08984
24. Wertheimer-Baletić, A. (2003). Long-term demographic processes in Croatia in the light of the 2001 census. *Proceedings of the Faculty of Economics and Business in Zagreb*, *1*(1), 91-103.
25. Wertheimer-Baletić, A. (2005). *Population and development*. MATE.
26. Wheelen, T. L., & Hunger, J. D. (2018). *Strategic management and business policy: Globalization, innovation and sustainability* (15th ed.). Pearson.
27. Živić, D., & Pokos, N. (2004). *Demographic losses during the Homeland War as a determinant of the depopulation of Croatia (1991–2001)*tag. Social Research, 13(4–5), 727–750.
28. Živić, D., Pokos, N., & Turk, I. (2005). *Main demographic processes in Croatia*. *Croatian Geographical Gazette*, *67*(1), 27–44. F