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Forecasting Market Shares in Wellness Economy Sectors

Abstract

Wellness, an element of health tourism, has emerged as a rapidly expanding sector due to postmodernism. In the 21st century, wellness has become a global economic market. The Global Wellness Institute has delineated eleven areas comprising the wellness economy, along with market sizes from 2019 to 2022. Assessing Türkiye's current circumstances alongside those of the nations with the largest market share will provide guidance for the actions to be undertaken by tourism stakeholders. This study seeks to estimate the market shares of 20 prominent countries in the sectors "Mental Wellness, Wellness Tourism, and Thermal/Mineral Springs". To fulfil this objective, the study employs the Grey Model (1,1), grounded in Grey System Theory (GST). The study estimates that the most significant growth in 2023 and 2024 will occur in the Mental Wellness sector in Mexico, in the Wellness Tourism sector in Spain and India, and in the Thermal/Mineral Springs sector in Türkiye.

Keywords: wellness economy, mental wellness, wellness tourism, thermal/mineral springs, grey system theory

1. Introduction

The significance of wellness in economic life began to rise in 2000. A defining event of the 21st century is the wellness revolution (Kickbusch & Payne, 2003; Pilzer, 2002; Voigt & Pforr, 2013). The expansion of the wellness sector is attributable to heightened consumer awareness, innovative health technology, and concepts of holistic well-being (Anttiroiko, 2018). The global wellness economy is anticipated to account for 6.6% of global GDP by 2027, up from 5.6% in 2022. Regional wellness sector size as a share of GDP is higher in North America (6.9%) and Europe (5.8%), where Türkiye is situated, and exceeds the global average. In 2022, global per capita wellness expenditure amounted to $706 (Global Wellness Institute [GWI], 2023). Due to its geographical location at the heart of Europe, the Middle East, and the Commonwealth of Independent States (CIS) countries, Türkiye is well-positioned to capitalise on significant regional demand. This is attributable to its advanced healthcare infrastructure, experienced healthcare personnel, affordable healthcare services, rich cultural heritage, and public and private sector investments in the country. It is therefore unsurprising that these factors combine to position Türkiye as an attractive healthcare hub (Büyük, 2023) and a strategic player in the growth of the European wellness market.

Various hypotheses exist about the factors that contribute to the expansion of the wellness sector; it is predominantly attributed to the anomie prevalent in Western capitalist cultures, the waning of traditional faiths, and societal fragmentation (Smith & Kelly, 2006). Giddens (1990) describes these elements as a disintegration of the fundamental attributes of modern civilisation. The lifestyle of several contemporary visitors can result in health degradation and the onset of diseases (Andrijašević & Bartoluci, 2004). Consequently, tourists regard tourism activities as a substitute for social, psychological, and physical well-being (Chen & Petrick, 2013). In parallel, the increasingly hedonistic lifestyle of industrialised nations has further stimulated the growth of the wellness economy in recent years (Smith & Puczkó, 2014).

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These advancements have stimulated wellness tourism, wellness real estate, the adoption of wearable wellness goods, and other sectors of the wellness economy. All these aspects are attuned to local populations, in that there is significant variance in the function of wellness sectors function across different locales. In certain spa and resort towns, the wellness sector can exert considerable influence, whereas in larger industrialised areas, its impact may be diminished. In all instances, there are signs that the overall influence of wellness on the economy is escalating, as demonstrated by several worldwide trends (Global Wellness Institute [GWI], 2017). In globally recognised 'Blue Zones', essential behaviours, attitudes, and lifestyles that contribute to a long, healthy, and fulfilling life exist independently of the wellness industry. Nonetheless, there are signs that the total influence of wellness on the economy is on the rise, as demonstrated by numerous worldwide trends (GWI, 2023).

The wellness economy, akin to all economic sectors, is influenced by global changes. The COVID-19 pandemic, the Russia-Ukraine war, and the Brexit process have profoundly impacted numerous aspects of the wellness industry. The alterations in the centre of gravity of industry, trade, and the economy after these circumstances are noteworthy. The analysis of these transformation processes highlights the long-wave hypothesis established by economists. Kondratieff asserted that the capitalist economy advances consistently through 50-year cyclical fluctuations and proposed that sectors can illuminate future trends by utilising these statistics. The health and wellness sector is posited to represent the sixth Kondratieff wave, with the holistic wellness economy's development perhaps grounded in this theory (Nefiodow & Nefiodow, 2014).

Wellness economy sectors have novel economic prospects for nations. To capitalise on these prospects and influence competition, it is essential to concentrate on data pertaining to wellness sectors, formulate strong and robust projections to guide future policies, and identify sectors with significant market potential for destinations. Numerous studies in the literature (Cao & Chen, 2018; Fan et al., 2019; Hu et al., 2019; Huang, 2012; Javed et al., 2021; Ko et al., 2014; Nguyen & Tran, 2019; Nguyen et al., 2020; Pirthee, 2017; Wang, 2004; Wang & Pei, 2014; Wu et al., 2008; Yu, 2015; Zhang & Qin, 2017) employ the Grey Model (GM), a forecasting model derived from Grey System Theory, within the tourism sector. Nevertheless, there is an absence of forecasting research on wellness economy sectors utilising this technique. Furthermore, there is a paucity of research in the literature that examines the wellness economy by quantifying the proportion of Türkiye's core wellness sectors and assessing the growth trajectories of destinations. Policymakers' utilisation of forecasting studies has been demonstrated to facilitate the identification of priority investment areas, the attainment of a sustainable competitive advantage (Santos, 2023), the development of sector-specific infrastructure, and the planning of accommodation (Hassani et al., 2017; Kourentzes & Athanasopoulos, 2019). In addition, the implementation of support programs, the generation of employment opportunities, and the conducting of international comparisons have been identified as additional potential benefits. Forecasting research has the capacity to make significant contributions to the systematic execution of tourism activities and the prevention of waste in resource distribution, particularly in countries with high tourism potential such as Türkiye (Soysal & Ömürgönülşen, 2010). This study has been conducted to address the following questions.

- RQ 1. What will Türkiye's market share be, in conjunction with the top 20 nations, in the relevant sectors for 2023 and 2024?
- RQ 2. What are the growth trajectories of the countries in the pertinent industries during these periods?
- RQ 3. In what manner should forthcoming research concentrate on the wellness economy?

It is evident that the allocation of resources to health sectors will positively influence the long-term economic growth of underdeveloped or developing nations (Ramesh, 2013; Yang, 2020). A report published by the Brookings Institution posits that investments in health in developing countries could generate a total economic gain of $4.4 trillion by 2040, with a return of between $2 and $4 for every $1 spent (Remes et al.,

2020). However, for countries aspiring to attain macroeconomic benefits, the prioritisation of health tourism (Pourkhaghan et al., 2013) and, consequently, the development of wellness economy sectors, is imperative. As such, the wellness economy is a significant contributor to a nation's economic growth, primarily through the creation of employment opportunities. It has been demonstrated that wellness economy sectors contribute to reducing the current account deficit and increasing GDP by providing foreign exchange inflows to countries (Johnston et al., 2010). Indeed, according to Global Wellness Institute (2023) data, the global wellness economy represented 5.6% of global GDP in 2022, and by 2027, it will represent 6.6% of global GDP, as discussed. This circumstance necessitates accurate forecasting of present actions to effectively plan and shape the future. This study seeks to quantify expenditure in the Mental Wellness, Wellness Tourism, and Thermal/Mineral Springs sub-sectors, in which Türkiye, a developing nation, holds a significant proportion. Consequently, forecasts will be provided for Türkiye to facilitate sustainable future planning within the global wellness economy sector.

2. Significance of the study

Practices focusing on holistic and natural approaches, self-healing, and preventive care form the basis of today's wellness approach. Since the 1960s, wellness has evolved into a healthy living movement and has become a global economic market in the 21st century, thereby shaping practices such as personal care, fitness, nutrition, diet, and spirituality (GWI, 2023). Especially for developing countries like Türkiye, increasing their market share in wellness economy sectors presents new opportunities to boost growth rates, promote development, and attract investors. Furthermore, estimating market shares in sectors related to the wellness economy will provide critical information for countries, decision-makers, industry representatives, scientists, and all tourism stakeholders. Moreover, by comparing market share estimates in wellness economy sectors, it will be possible to identify differences in development and areas for improvement in the relevant sectors in different countries. The increasing importance of the wellness economy for countries, the presence of numerous sectors within the wellness economy, the limited timeframe covered by the data available for these sectors, and the methods used for market share estimation all contribute to the complexity of the analysis conducted in this study, thereby enhancing its value.

3. Literature review

3.1. Wellness theory

Health tourism is one of the fastest-growing parts of international and local tourism. The notion of wellness, a crucial element of health tourism, was initially presented by Dunn (1959) and characterized as a distinct state of health encompassing an overall sense of well-being, acknowledging that humans comprise body, soul, and mind, and are influenced by their environment. Emphasising the concept of good health beyond the absence of illness and mortality, it is noted that well-being is not a static, disconnected "disease-free" state, but rather a dynamic landscape of existence that requires exploration of every dimension (Dunn, 1959). Myers et al. (2000) characterise wellness as a lifestyle focused on fostering health and well-being via the integration of body, mind, and spirit. As such, wellness is a multifaceted notion rooted in equilibrium and spirituality, integrating physical and mental health with social and environmental factors (Robledo et al., 2023; Steiner & Reisinger, 2006).

GWI defines wellness as the proactive engagement in activities and decisions that contribute to a comprehensive state of health. Most wellness frameworks encompass a minimum of six dimensions: physical, mental, emotional, spiritual, social, and environmental (GWI, 2023). The World Health Organisation defines wellness as an endeavour to sustain and enhance the condition of the body, mind, and soul. Consequently, wellness, which embodies a holistic concept, encompasses a blend of enjoyment and hedonism, benevolent activities,

and significant experiences (Smith & Diekmann, 2017). Wellness tourists embracing a hedonistic lifestyle are categorised into two groups. Primary wellness tourists are those for whom 'well-being' serves as the sole purpose or principal driving factor for travel and location selection, whereas secondary wellness tourists are individuals who seek to maintain a healthy lifestyle or engage in wellness experiences during any journey (GWI, 2023).

Wellness methods that enhance travelers' satisfaction by fostering equilibrium among body, mind, and spirit have existed since antiquity. Indian Ayurvedic methods are believed to originate around 5000 BC, Egyptian and Babylonian bathing traditions around 3000 BC, and Chinese medical practices around 1000 BC. The earliest mention of therapeutic hot waters originates around 1700 BC. The proliferation of ancient Greek steam baths was influenced by the veneration of Laconia and subsequently Roman Tepidarium baths. The pilgrimages undertaken by the Greeks and Romans in the Middle Ages for spiritual rejuvenation (Smith & Kelly, 2006); the massage, yoga, meditation, herbal remedies, and other healing and spiritual practices of ancient Asian and Middle Eastern civilizations; the massage techniques employed by the Siamese (Thai) before 100 BC; the natural therapeutic resources utilized by the Japanese in 737 AD; and the Ayurvedic treatments administered by Indians in their ashrams are significant. In Western Europe, spas experienced stagnation during the Second World War, whereas in Eastern European nations, they received official assistance during the Communist era. As such, numerous European nations specialized in spa-based medical treatments and altered their professional perspectives post-1990 (Koncul, 2012).

Wellness, which is increasingly prevalent in the postmodern era, is firmly rooted in many religious and medical traditions that evolved alongside traditional medicine, particularly in 19th century Europe and the United States. Wellness-focused and holistic approaches gained increased prominence under the guidance of American physicians and intellectuals such as Halbert Dunn, Jack Travis, Donald Ardell, Bill Hettler, and others, during the 1960s and 1970s (GWI, 2023). At the end of the 20th century, wellness was seen as a global phenomenon involving the maintenance of health in the face of stress, hunger and emerging disease threats; and in the 21st century, it has become a necessity for the successful development of health tourism destinations (Milićević & Jovanović, 2015).

While in practice, wellness is often reduced to encompass anything that contributes to an individual's health and well-being, Ardell's (2004) wellness theory suggests a more nuanced differentiation among its multiple interpretations. He characterizes this as a distinction between quasi-spiritual wellness and secular wellness. Between these two extremes of the contemporary wellness movement, numerous implementations of wellness concepts exist (Stará & Peterson, 2017), which also signify the industries that comprise the wellness economy.

3.2. Wellness economy

Wellness, which is crucial for economic growth, is linked to health practices that reestablish traditional health approaches and support mental well-being. Moreover, wellness contributes to the preservation of natural and cultural resources, facilitates environmental conservation, and fosters sustainable tourism (Andreu et al., 2021). Although well-being may encompass activities independent of financial exchanges, such as specific spiritual, emotional, mental, and social pursuits, numerous wellness activities also involve monetary transactions. These represent a nation's wellness economy, which is defined as the economic activities associated with wellness (Consing et al., 2020).

The wellness economy encompasses enterprises that assist individuals in integrating wellness activities into their daily routines across eleven distinct sectors: Wellness Real Estate, Physical Activity, Mental Wellness, Workplace Wellness, Wellness Tourism, Spas, Thermal/Mineral Springs, Healthy Eating, Nutrition & Weight Loss, Personal Care & Beauty, Traditional & Complementary Medicine, and Public Health, Prevention & Personalised Medicine (GWI, 2023). The components used to assess wellness economic sectors as defined by GWI are outlined in Table 1.

Table 1
Global wellness economy sectors

Sectors	The elements of measurement
1. Wellness real estate	Certifications, physical wellness, social wellness, mental/ emotional/ spiritual wellness, environmental wellness, community wellness, economic wellness
2. Physical activity	Participation in recreational physical activities, fitness, and consumer spending on recreational physical activities
3. Mental wellness	Senses, spaces, & sleep; brainboosting nutraceuticals & botanicals; self-improvement; meditation & mindfulness
4. Workplace wellness	Healthy food offerings at company cafeterias; wearable fitness trackers; health fairs, educational programming, and counselling services for wellness, etc.
5. Wellness tourism	Primary wellness travel, secondary wellness travel
6. Spas	Day/club/salon spas; destination spas and health resorts; hotel/resort spas; thermal/ mineral springs spas; medical spas; other spas
7. Thermal/ mineral springs	Primarily recreational, primarily wellness, primarily therapeutic or curative
8. Healthy eating, nutrition, & weight loss	Healthy-labelled foods and beverages; vitamins and supplements; weight loss products and services
9. Personal care & beauty	Personal hygiene and beauty items
10. Traditional & complementary medicine	T&CM services & practitioners; T&CM medicines & products
11. Public health, prevention, & personalised medicine	Primary prevention; secondary prevention; personalised medicine

Source: GWI, 2023.

4. Methodology and method

There are already many studies on the wellness industry, which has eclipsed big industries such as manufacturing, retail and financial services. Nevertheless, there is a paucity of research examining the wellness business and assessing Türkiye's contribution to the prominent wellness sectors in which it excels. In this respect, we have incorporated the sectors of "Mental Wellness, Wellness Tourism, and Thermal/Mineral Springs," in which Türkiye holds a significant market share, into our methodology, along with the relevant data. Accordingly, we concentrated on assessing Türkiye's market share in various industries, thereby determining growth trends and analysing the outcomes.

4.1. Grey System Theory and grey prediction

Grey System Theory, developed by Julong Deng in 1989, examines issues characterised by limited sampling and partial information. It is a novel methodology that addresses uncertain systems with partially known information, with the objective of deriving valuable insights from the available data. In this way, such systems' operational behaviour and formation rules can be precisely characterised and successfully monitored (Liu & Lin, 2006). Uncertain systems characterised by limited sampling and inadequate information are prevalent. This demonstrates that Grey System Theory possesses extensive applicability (Andrew, 2011; Hipel, 2011; Vallée, 2008).

Grey System Theory derives its name from the interpretation of black and white colours. The colours presented here are used to signify the clarity of information. In this system, unknown data is denoted by black and known data by white. The data that is both partially known and somewhat unknown between these two colours is depicted in grey (Liu & Forrest, 2010). Grey System Theory distinguishes itself from fuzzy mathematics and statistics in that it was formulated to address issues arising from limited sampling and minimal knowledge. Furthermore, Grey System Theory allows for modelling based on existing data and information, or the creation of series (Liu & Lin, 2006). Grey Systems Theory and its applications also serve as a nexus between the social sciences and natural sciences (Deng, 1982). It is employed to examine systems that analyse interrelations, develop models, provide predictions, and facilitate decision-making by modelling uncertainty (Tsai et al., 2005). The domains of research and application for Grey System Theory can be categorised as "grey production, grey relationship, grey control, grey decision making, grey modelling, and grey forecasting."

Grey forecasting is a significant aspect of Grey System Theory and is utilised across various domains (Xie & Liu, 2009). It generates scientific and quantitative forecasts regarding future system states based on a specific comprehension. Constructing grey system models and forecasting future outcomes relies on comprehending the uncertainty attributes of systems. The original data set employs series operators (Liu & Forrest, 2010). The critical phase in grey estimation applications is problem modelling. In the modelling phase, grey relationship equations and grey differential equations are created. This technique is termed the whitening process. In the grey model predicated on the GM (n,h) hypothesis, n denotes the number of variables, and h signifies the order of the differential equation (Mei, 2007). The whitening technique facilitates the prediction of new data from a limited dataset (Tsai et al., 2003). A multitude of grey models can be developed for the modelling of a grey system.

4.2. Motivation for selecting the GM (1,1) model

Grey forecasting models are employed to anticipate the future behaviour of variables in systems characterised by limited sample sizes (Liu et al., 2013). The GM (1,1) model is the basic model of grey forecasting theory. High precision results can be obtained with the univariate first-order grey model created with a small number of data (four or more positive values). The GM (1,1) model has been effectively utilised across multiple domains, yielding satisfactory outcomes. It is favoured in various domains of social and scientific disciplines, including finance, economics, engineering, and meteorology (Xie & Liu, 2009). This study favours the GM (1,1) estimation model because it is suitable for issues involving a single variable and a first-order differentiable equation (Liu & Forrest, 2010).

4.3. GM (1,1) model

One of the fundamental issues addressed by Grey Systems Theory is the search for a mathematical relationship among factors based on behavioural data from social, economic, or environmental systems. In non-deterministic systems, probability and statistics, fuzzy mathematics, and grey systems are commonly used methods and theories for determining this relationship. Probability and statistics require specific distributions and a reasonably sized sample to make realistic predictions, while fuzzy mathematics makes inferences using past experiences and membership functions (Köse et al., 2015). Grey Systems Theory, on the other hand, has a distinct extension and an indeterminate internal characteristic among the factors being examined, and it can make predictions with a small amount of data (Liu & Lin, 2006).

The Grey System Theory, an interdisciplinary approach, is an alternative method for quantifying uncertainty. One of the prediction models of grey system theory, GM (1,1), essentially analyses time series. This forecasting model, which does not require prior knowledge of the probability distribution of the data, investigates the changes in a system. It reveals the relationships between the series and the data, and then performs a forecasting operation for the system. The GM (1,1) model consists of a first-order differential equation. In the first stage of producing forecast values, the data is collected cumulatively, and then the grey differential equation is solved to obtain the predicted values. Because these predicted values are cumulative, the actual results of the prediction are obtained by performing a reverse accumulation process on the data to convert them back to their normal values (Bayramoğlu, 2012; Deng, 1989; Liu et al., 2013). The GM (1,1) model is based on three basic processes: Accumulative Generating Operator (AGO), Grey Modelling (GM), and Inverse Accumulative Generating Operator (IAGO). The implementation steps of the model are given as in Liu and Lin (2006).

Step 1. Creating a data set,

A time series $X^{(0)}$ is created with the help of non-negative, sequential and equal time interval initial data.

$$X^{(0)} = \{x^0(1), x^0(2), x^0(3), \dots, x^0(n)\} = \{x^0(k) |\, k = 1, 2, 3, \dots, n \ , \ n \geq 4\} \quad (1)$$

Step 2. Obtaining the accumulated production series,

An accumulated time series $X^{(1)}$ is created by applying the AGO to the $X^{(0)}$ time series. In this way, a monotonically increasing series is obtained.

$$X^{(1)} = \{x^1(1), x^1(2), x^1(3), \dots, x^1(n)\} = \{x^1(k) |\ k = 1, 2, 3, \dots, n\ ,\ \ n \geq 4\} \tag{2}$$

Step 3. Creating the grey model,

A first-order grey differential equation is created with the accumulative time series $X^{(1)}$.

$$x^1(k) + az^1(k) = b\ , \qquad k = 2, 3, \dots, n \tag{3}$$

$$z^1(k) = \alpha x^1(k) + (1 - \alpha)x^1(k-1)\ , \qquad k = 2, 3, \dots, n \tag{4}$$

α in Equation (4) is the horizontal adjustment coefficient. It is used to determine the weight of the consecutive neighbor sequence and is usually taken as $\alpha = 0.5$ because an equally weighted whitening function is preferred.

Step 4. Forecasting parameters a and b,

$$B = \begin{bmatrix} -z^1(2) & 1 \\ -z^1(3) & 1 \\ \vdots & \vdots \\ -z^1(n) & 1 \end{bmatrix} \qquad Y = \begin{bmatrix} x^1(2) \\ x^1(3) \\ \vdots \\ x^1(n) \end{bmatrix} \qquad A = \begin{bmatrix} a \\ b \end{bmatrix} \tag{5}$$

Equation (6) is used to forecast the parameters a and b.

$$A = (B^T B)^{-1} B^T Y = \begin{bmatrix} a \\ b \end{bmatrix} \tag{6}$$

To make a forecast with the GM (1,1) model, it is first necessary to find the values of the parameters defined as "a" the development coefficient, and "b" the grey effect amount.

Step 5. Finding $X^{(1)}$ accumulative time series forecast values,

$X^{(1)}$ accumulative time series forecast values are calculated with the help of the created first-order differential equation.

$$\frac{dX^{(1)}}{dt} + aX^{(1)} = b \tag{7}$$

$$\hat{x}^{(1)}(k+1) = \left(x^{(0)}(1) - \frac{b}{a}\right) e^{-(ak)} + \frac{b}{a} \qquad k = 1,2, \dots \tag{8}$$

Step 6. Obtaining forecasts for future periods,

The forecast values are obtained by performing the IAGO with the $X^{(1)}$ accumulative time series forecast values found.

$$\hat{x}^{(0)}(k+1) = \hat{x}^{(1)}(k+1) - \hat{x}^{(1)}(k) \tag{9}$$

When Equation (8) is substituted into Equation (9), Equation (10) is obtained as follows.

$$\hat{x}^{(0)}(k+1) = (1 - e^a)\left[x^{(0)}(1) - \frac{b}{a}\right] e^{-(ak)} \qquad k = 1,2, \dots \tag{10}$$

Forecasts are obtained using the created GM (1,1) forecast model and future periods.

Step 7. Determining the margin of error of the model,

Many methods can be used to determine the accuracy of forecast models. However, it is assumed that the Mean Absolute Percentage Error (MAPE) method is superior to other methods because it shows the errors of the predictions as a percentage, and therefore it is more preferred (Lin & Hsu, 2002; Witt & Witt, 1992).

Table 2
Forecast degrees according to MAPE values

MAPE value	Forecast degree
MAPE < %10	Excellent
%10 < MAPE < %20	Good
%20 < MAPE < %50	Reasonable
MAPE > %50	Poor

Source: Nguyen, 2021.

The ranges for MAPE values are given in Table 2 for the validity of the error values calculated because of the forecasts made. From here, it can be stated that forecast models with an accuracy of less than 10% are models with a "high accuracy" level (Nguyen, 2021).

$$MAPE = \frac{\sum|x^{(0)}(k)-\hat{x}^{(0)}(k)|/x^{(0)}(k)}{n} \times 100 \quad (11)$$

Here, $x^{(0)}(k)$ represents the actual value, $\hat{x}^{(0)}(k)$ represents the predicted value, and n represents the amount of data. When reassuring results cannot be obtained after error analysis, k and α values should be changed, and error margins for new predictions calculated. This process continues until reliable results are obtained.

4.4. Data source

The wellness economy facilitates the integration of wellness activities into consumers' daily routines across multiple sectors. The GWI (2023) report indicates that Türkiye was among the top 20 markets in the sectors of "Mental Wellness, Wellness Tourism, and Thermal/Mineral Springs" in 2022 (GWI, 2023). This scenario underscores Türkiye's significance in the global wellness economy and highlights the critical role of these industries in the Türkiye economy.

The magnitude of the wellness industry, like other substantial sectors, cannot be quantified by any standard data set produced by governmental or organisational entities due to the industry's structural peculiarities. The GWI commenced quantifying the magnitude of the global wellness business in 2014, subsequently assessing the sectoral aspects of the wellness economy for the years 2015, 2017, 2019, 2020, and 2022. Consequently, the analysis concentrates on the data from the specified sectors for the period 2019-2022. The pertinent data were derived from the "Global Wellness Economy Monitor 2023" report produced by GWI. The top 20 markets in these categories, along with Türkiye's market shares for 2023 and 2024, are projected, and growth trends are analysed.

5. Results

5.1. Forecasting market shares of wellness economy sectors

Following the favourable advancements in tourism and in-person services post- COVID-19 pandemic, sectors of the wellness industry have exhibited a trend of recovery. This analysis aims to assess Türkiye's standing among the top 20 emerging market economies, examine the current conditions of these sectors,

and identify the sectors exhibiting the most significant growth trends. The GM (1,1) model, a high-precision forecasting tool, has been employed to predict the conditions of the pertinent industries in 2023 and 2024.

5.2. Forecasting market shares of the mental wellness sector

Individuals utilise products and services in the Mental Wellness sector to manage the significant stress encountered in daily life, including elements such as the COVID-19 pandemic, wars, economic crises, and social status issues. These factors have augmented consumer demand for products and services in the worldwide Mental Wellness industry, rendering it one of the few sectors that sustains its growth trajectory among healthy living industries.

Table 3
Mental wellness top 20 markets forecast results

Mental wellness top 20 markets	2022 Dataset values (US $ billions)	2023 Forecast values (US $ billions)	2024 Forecast values (US $ billions)	MAPE values (%)	Average annual growth rate 2022-2023	Average annual growth rate 2023-2024
United States	87.05	98.8	111.69	0.92	11.89	11.54
China	19.43	21.97	24.49	2.5	11.56	10.29
Canada	8.54	10.09	11.7	3.65	15.34	13.76
Germany	5.88	6.44	6.98	1.86	8.72	7.66
Japan	5.07	5.34	5.53	2.03	4.97	3.61
India	3.92	4.37	4.84	0.96	10.23	9.78
United Kingdom	3.81	4.22	4.61	2.7	9.82	8.3
France	3.19	3.62	4.04	2.54	11.81	10.54
Italy	3.09	3.4	3.73	0.56	9.15	8.9
South Korea	2.86	3.12	↓3.34	3.38	8.44	6.36
Brazil	2.7	3.06	↑3.55	3.79	11.75	13.73
Australia	2.35	2.67	3.01	1.45	11.91	11.26
Russia	2.14	2.49	2.96	3.05	14.14	15.74
Spain	1.89	2.2	2.52	2.64	13.97	12.81
Mexico	1.57	1.93	2.35	2.34	18.58	17.95
Netherlands	1.35	↓1.46	↓1.55	2.47	7.42	5.89
Indonesia	1.32	↑1.52	↑1.74	0.75	13.02	12.8
Türkiye	1.1	1.27	1.46	0.61	13.14	12.99
Saudi Arabia	1.08	1.21	1.33	1.99	10.48	9.45
Poland	1.08	1.16	1.23	0.73	6.57	6.14

The MAPE values for the projections in the Mental Wellness sector, as indicated in Table 3, are below 10%. As such, it is evident that the anticipated values exhibit exceptional precision. The United States is recognised as the market leader in the Mental Wellness sector. Brazil is projected to possess a greater market share in Mental Wellness than South Korea in 2024, while Indonesia is expected to surpass the Netherlands. It is contended that Mexico will exhibit the most significant growth trajectory in the sector. Türkiye is projected to be one of the countries with the fastest growth trajectory.

5.3. Forecasting market shares of the wellness tourism sector

Wellness Tourism is characterised as travel undertaken by individuals to sustain or enhance their personal well-being (GWI, 2023). Wellness Tourism, significantly impacted by the COVID-19 pandemic, has emerged as a priority industry for those seeking to safeguard their health and alleviate the adverse effects of the pandemic once travel prospects normalise.

Table 4
Wellness tourism top 20 markets forecast results

Mental wellness top 20 markets	2022 Dataset values (US $ billions)	2023 Forecast values (US $ billions)	2024 Forecast values (US $ billions)	MAPE values (%)	Average annual growth rate 2022-2023	Average annual growth rate 2023-2024
United States	255.9	333.44	436.92	1.15	30.3	31.03
Germany	70.2	101.81	150.52	2.28	45.03	47.85
France	35.5	44.71	56.33	1.24	25.95	25.99
Austria	19.5	↓24.47	↓32.81	13.51	25.47	34.09
Switzerland	17.7	↓23.85	↓33.73	7.8	34.76	41.41
Japan	17.6	↓22.6	↓30.77	11.26	28.41	36.15
Italy	15.7	↓22.13	↓31.86	1.69	40.98	43.94
United Kingdom	15.6	↑25.31	↑40.72	13	62.22	60.93
Australia	14.4	↓19.12	↓26.13	3.81	32.78	36.67
Mexico	13.8	↑20.27	↓29.84	5.41	46.88	47.21
Spain	11.4	18.85	↑33.86	6.43	65.36	79.64
China	11.2	↓13.08	↓13.31	17.28	16.78	1.75
India	11	↑17.52	↑34.08	17.67	59.27	94.55
Canada	11	↑13.39	↑17.3	12.12	21.68	29.23
Thailand	7.8	10.3	17.26	↓50.83	32.06	67.58
Denmark	6	↓7.03	↓8.33	1.71	17.14	18.55
South Korea	5.4	↓6.01	↓6.64	1.1	11.24	10.58
United Arab Emirates	5.4	↑8.27	↑13.74	8.38	53.21	66.03
Portugal	5.3	6.96	↑9.18	1.33	31.28	31.99
Türkiye	4.8	↑7.84	↑13.02	8.97	63.43	66.02

According to Table 4, the majority of the MAPE values for projections in the Wellness Tourism sector are below 10%, with a minority ranging from 10% to 20%. Consequently, it is evident that the prediction values exhibit high and commendable accuracy. The MAPE value of the forecast for Thailand exceeds 50%, indicating low accuracy. The prevailing belief is that Thailand's Wellness Tourism levels suffered a significant decrease during the pandemic, followed by a swift recovery due to the resurgence of travel opportunities. The United States is the preeminent market leader in Wellness Tourism, particularly in the Mental Wellness sector. It is contended that the United Kingdom, India, Spain, Canada, and the United Arab Emirates will emerge as nations expanding their market share in Wellness Tourism. Meanwhile, Austria, Switzerland, Japan, and Italy are anticipated to experience a decline in market share. Simultaneously, it can be asserted that India, Spain, and Türkiye will exhibit the most significant growth trajectory in the Wellness Tourism sector. Türkiye is anticipated to have augmented its market share in Wellness Tourism in 2023 and 2024, surpassing countries like Portugal, Denmark, and South Korea.

The projected growth rates of Türkiye can be attributed to various factors, including the country's abundant thermal and spa resources, its strategic geographical location, the diversity of its transportation options, and its competitive pricing compared to Western European countries. Moreover, ongoing government initiatives to diversify tourism beyond conventional, *'Sea, Sand, and Sun' 3S tourism*, coupled with the emphasis on international standards, are contributing to Türkiye's strengthening position in the global Wellness Tourism market.

5.4. Forecasting market shares of the thermal/mineral springs sector

The Thermal/Mineral Springs sector, utilising waters with unique qualities including thermal, mineral, and seawater for wellness, recreation, and therapeutic purposes, was among the most rapidly expanding segments of the wellness economy before the COVID-19 pandemic (GWI, 2023).

Table 5
Thermal/mineral springs top 20 markets forecast results

Thermal/mineral springs top 20 markets	2022 Dataset values (US $ billions)	2023 Forecast values (US $ billions)	2024 Forecast values (US $ billions)	MAPE values (%)	Average annual growth rate 2022-2023	Average annual growth rate 2023-2024
China	10.17	10.28	9.47	9.89	1.08	-7.89
Japan	8.59	8.18	↓7.89	1.53	-4.73	-3.55
Germany	6.79	7.61	↑8.8	5.23	12.1	15.55
Russia	4.46	6.04	7.79	12.09	35.38	29.09
Italy	1.49	1.82	2.18	3.53	21.97	20.15
United States	1.04	1.3	↓1.59	4.26	24.86	22.77
Hungary	0.93	1.21	↑1.62	2.47	30.56	33.35
Brazil	0.81	↓1.06	↓1.43	5.12	30.6	35.02
Taiwan	0.79	↓0.81	↓0.84	2.38	2.5	4.17
Türkiye	0.75	↑1.08	↑1.51	9.41	43.63	40.62
Austria	0.75	↓0.77	↑0.83	6.38	3.05	7.26
Czechia	0.72	↑0.93	↑1.21	1.52	29.63	29.91
Poland	0.7	↑0.85	↑1.04	0.45	21.28	22.06
Spain	0.67	↑0.85	↑1.09	3.3	26.17	29.07
South Korea	0.58	↓0.66	↓0.75	2.43	14.47	12.99
Iceland	0.55	↓0.66	↓0.79	2.08	20.46	19.54
Switzerland	0.54	0.66	↑0.83	2.83	22.78	25.15
France	0.53	↑0.74	↑1.01	7.64	39.54	37
Slovakia	0.46	↓0.52	↓0.6	4.93	12.49	15.76
Slovenia	0.44	↑0.55	↑0.69	0.58	24.38	25.29

The MAPE values for forecasts in the Thermal/Mineral Springs sector, as shown in Table 5, are below 10%, except for Russia, which has a value of 12.9%. Consequently, the forecasts are highly accurate. Despite a declining market share, China remains the Thermal/Mineral Springs sector's leader. Japan's market share is expected to decline alongside China's, while Germany's market share is projected to exceed that of Japan in the near future. Countries including Hungary, Czechia, Poland, and Spain are expected to increase their market share in the thermal and mineral springs industries. Countries including the United States, Brazil, Taiwan, and Austria are expected to see a decline in market share. Türkiye is expected to have the most significant development trajectory in the Thermal/Mineral Springs market.

6. Conclusion and research implications

The wellness economy emerges as a prominent sector within the global economy. Changes and disruptions in the sector have led to different economic outcomes in different parts of the world. This has resulted in variations across multiple sectors of the wellness economy. Consequently, it is essential to assess the market shares of nations and identify development trends. Accordingly, this study estimated and evaluated the market shares of Türkiye and the top 20 countries in the healthy living economy in the "Mental Wellness, Wellness Tourism, Thermal/Mineral Springs" sectors. The study predicts that the most significant growth in 2023 and 2024 will occur in the Mental Wellness sector in Mexico, in the Wellness Tourism sector in Spain and India, and in the Thermal/Mineral Springs sector in Türkiye. Estimating and comparing the market shares of different countries in wellness economy sectors will help in understanding inter-sectoral connections and identifying opportunities for international cooperation.

Table 6
Forecast results by sectors

	2022 Dataset values (US $ billions)	2023 Forecast values (US $ billions)	2024 Forecast values (US $ billions)	MAPE values (%)	Average annual growth rate 2022-2023	Average annual growth rate 2023-2024
Mental wellness	180.5	203.95	228.87	1.35	12.99	12.22
Wellness tourism	650.7	871.62	1,189.96	1.45	33.95	36.52
Thermal/mineral springs	46.3	50.52	54.27	2.42	9.11	7.43
Wellness economy	5,611.6	6,328.08	7,074.73	1.61	12.77	11.8

The estimated market shares of countries in these sectors are as important as their contribution to the wellness economy. From Table 6, the MAPE values of the predictions given for the wellness sectors are below 10%. Consequently, it is evident that the predicted values exhibit exceptional accuracy. The expansion of the "Mental Wellness, Wellness Tourism, and Thermal/Mineral Springs" sectors is anticipated to persist alongside the wellness economy. Wellness Tourism is projected to be the primary driver of growth in the wellness economy. The proportion of Wellness Tourism within the Wellness economy was 11.6% in 2022 (650.70/5,611.60), and it is anticipated to rise to 13.8% in 2023 (871.62/6,328.08) and 16.8% in 2024 (1,189.96/7,074.73). Moreover, the growth trajectories of other sectors are anticipated to decelerate in 2024, although Wellness Tourism is projected to expand. However, factors such as economic stagnation, geopolitical tensions, global health crises, climate change, and regulatory changes have the potential to exert a negative influence on international travel and, consequently, wellness economies. Consequently, the projected growth trends for the wellness economy sectors may vary. As with all emerging nations, the wellness industry is significant for the Turkish economy. It is contended that Türkiye will augment its market share in the areas examined in the study. Table 7 is provided to elucidate this circumstance.

Table 7
Türkiye's market share sizes by sectors

	2022 Market share to real dataset (%)	2023 Market share to forecast data (%)	2024 Market share to forecast data (%)
Mental wellness	0.0061	0.0062	0.0064
Wellness tourism	0.0074	0.009	0.0109
Thermal/mineral springs	0.0162	0.0213	0.0279
Wellness economy	0.0012	0.0016	0.0023

Table 7 has been derived by allocating Türkiye's shares in the specified sectors relative to the sector's market size. Türkiye's proportion of the wellness economy is determined by the ratio of the aggregate shares of the three sectors to the overall size of the wellness industry. Table 7 indicates that Türkiye will experience a sustainable growth trajectory across all sectors, including the wellness economy. The Wellness Tourism and Thermal/Mineral Springs sectors are projected to expand more rapidly than the Mental Wellness sector. According to this data, it can be inferred that Türkiye is and will continue to be favoured in the Thermal/Mineral Springs sector among wellness sectors. Having market share data not only for developing countries like Türkiye but for all countries involved in the wellness economy sectors will lead to increased awareness of consumer demand, encourage new business opportunities, and promote more scientific research in these sectors.

The fact that individuals' desires, needs, and demands differ today, coupled with deepening global competition and prevailing uncertainties, necessitates various measures to maintain and increase market shares in the wellness economy sectors and sub-sectors. This study emphasizes that destinations should consider measures such as investing in wellness infrastructure (Schwartz et al., 2020), diversifying wellness services (Dini & Pencarelli, 2022), strengthening destination branding (Kim et al., 2024), developing innovation and collaboration in

wellness sectors (Phuthong et al., 2023), adopting supportive policy frameworks (Putrevu & Mertzanis, 2025), employing expert personnel in the sectors and following a balanced pricing policy (Dimitrova, 2019), and encouraging the participation of scientific communities in health and tourism fields (Costa et al., 2014) is also crucial. These measures will increase the competitiveness of destinations and lead to the growth of their market share in the wellness economy.

Consequently, assessing market shares and identifying growth trends within the wellness industry significantly impacts several factors. The acquired values provide insight into the prospective condition of the wellness industry. In addition, the estimated values assist in increasing the profile of the sector among the stakeholders of the wellness economy (consumers, entrepreneurs, governments and researchers, etc.). Moreover, possessing projected data on the magnitude of market shares and growth trajectories enhances understanding of consumer demand within the sectors. This results in novel and inventive commercial prospects. It indirectly elucidates the connectivity of sectors, enhances inter-sectoral cooperation, and identifies potential for integration.

7. Limitations and future agendas

This study offers valuable insights for future research; however, it possesses certain limitations. These also facilitate research proposals that will allow for a more comprehensive assessment of the subject area. Subsequent research questions are presented to provide suggestions for future investigations.

- RQ 1. What will be the future market share proportions of underdeveloped and emerging nations within the wellness economy sectors?
- RQ 2. What will be the future market share sizes of wellness economy sectors and sub-sectors at the regional levels?
- RQ 3. What other approaches can be employed to assess the market share sizes of wellness economic sectors?
- RQ 4. What measures should destinations implement to enhance their market share in wellness economy sectors and sub-sectors?

Research investigations may concentrate on the advancement of destinations alongside the wellness economy sectors.

Declaration of Competing Interests

The authors declare that they have no known competing interests that could have appeared to influence the work reported in this paper.

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