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ASPECTS OF WESTERN EUROPEAN INFLUENCE ON BULGARIA AND THE BULGARIANS DURING THE THIRD CRUSADE

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ABSTRACT

The passage of the Crusades across the Balkan Peninsula represents a significant moment in the medieval history of both the Byzantine Empire and the Bulgarian population under its influence. The cultural impact of the passing crusaders on the local populace is often underexplored, yet it is essential for a nuanced understanding of the historical processes in Bulgarian lands during this period. The years 1189-1190 mark the time when the knights of the Third Crusade, led by Holy Roman Emperor Frederick I Barbarossa (1152-1190), crossed the Balkan Peninsula.

This topic is complex and can be analyzed from multiple angles. For example, we can assess the fate of the Bulgarian population in the Paristrion theme in contrast to those living south of the Stara Planina Mountain. Additionally, we can investigate whether the crusaders traversed Bulgarian or Byzantine territory and determine which regions the Latin chroniclers referred to as "Bulgaria." Lastly, it is important to consider the Latin influence on the art, culture, clothing, and customs of medieval Bulgarians that the knights left behind.

Key words: *crusaders, crusades, Bulgarians, influence, culture, exchange, Latins*

INTRODUCTION

At the end of the 12th century, two significant historical events happened in the Balkan Peninsula, shaping the future of Southeast Europe. These were the Bulgarian liberation movement led by the brothers Peter (1185 – 1197) and Asen (1190 – 1196), and the concurrent passage of the knights of the Third Crusade across this region. The uprising organized by the Asenevians was a response to the emperor's refusal to address the escalating demands of his vassals, who decided to take matters in their own hands and direct their discontent toward Byzantine authority. This revolt culminated in the establishment of the Second Bulgarian Kingdom in 1187. Both the Byzantine Empire and the Bulgarians were driven by their own political objectives, and each successfully sought to leverage the presence of the passing Germanic knights and their leader, Frederick I Barbarossa (1152 – 1190), in their respective plans against each other.

Emperor Frederick's objectives primarily focused on ensuring the smooth and swift movement of his troops through the Balkans, as well as securing adequate provisions for them (Fig. 1). However, it was the actions of the Byzantine administration and Emperor Isaac II Angelus that precipitated the subsequent events of looting, violence, and atrocities committed by the knights. These incidents accompanied the Crusaders from the moment they entered Bulgarian territory, continuing through Thrace and extending all the way to Adrianople and Dimotika.

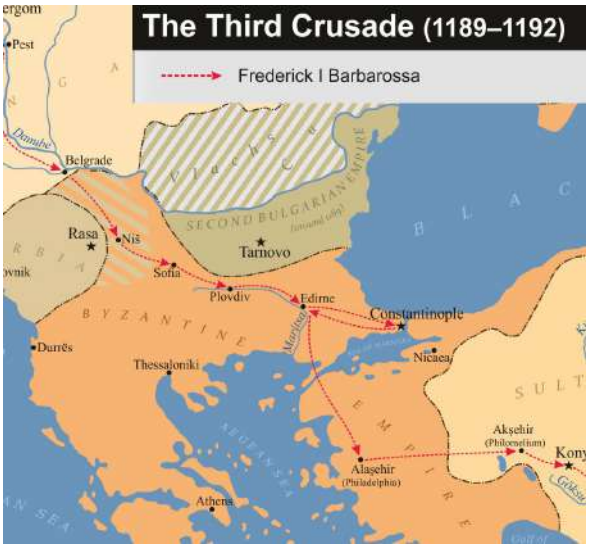

Fig.1 Crusaders' route across the Balkans

What are the sources that help us reconstruct the events of the 11th and 12th centuries? Unfortunately, the Bulgarian sources are quite limited; they primarily consist of three biographical texts, all dedicated to St. Ivan Rilski. From these, we

gain only a partial understanding of the period encompassing the restoration of the Bulgarian kingdom. These texts include the "Prologue Life in the Draganov Holiday Minei" (also referred to as the Second Prologue Life according to Y. Ivanov) [27], the "Prologue Life of St. Ivan Rilski from the Silent Prologue" (known as the First Prologue Life or Turnovo Prologue Life), which was composed in the first half of the 13th century by an unknown author of the Tarnovo literary school [15], and the "Life of St. Ivan Rilski by Evtimiy Tarnovski" [27]. A common feature of these sources is their mention of Ivan Asen I and the restoration of the Bulgarian kingdom. Additionally, the "Saying of Prophet Isai," also known as the "Bulgarian Apocryphal Chronicle," serves as another essential source that points to the enduring concept of a Bulgarian kingdom, despite periods of foreign rule [37].

Among the Byzantine sources, the account provided by Nikitas Choniat in his "History" holds significant importance for our study [3]. Subsequent authors such as Theodore Scutariot in his "Review Chronicle" [6] and George Acropolitus in "History" [2] mainly reiterate previously established facts. Nikitas Choniat's narrative is particularly valuable as it is the closest to the events of 1186-1190. In 1189, he served as the governor of the theme of Philippopolis (modern-day Plovdiv) and was involved in the negotiations with Emperor Frederick I Barbarossa, the leader of the Third Crusade. Additionally, two major Western literary sources that detail the Third Crusade are noteworthy: the anonymous "Historia peregrinorum" [7] and Ansbert's "History of the Campaign of Emperor Frederick I" [1].

When examining the issue of the Bulgarians in the Byzantine Empire and the involvement of Western knights in the Balkans, it becomes clear that this topic is not new to Bulgarian historical scholarship. Konstantin Irechek (1854-1918) addressed it in his 1876 work "History of the Bulgarians," where he analyzed the state of Byzantium in the 12th century, the events in Tarnovo, the course of the uprising, and the establishment of the new Bulgarian kingdom in Mysia [28]. Two years after Irechek, Fyodor Uspensky (1845-1928) published "The Establishment of the Second Bulgarian Kingdom" [40] in Odessa in 1879. In this book, he shared his insights on the origins of the two brothers, the political situation of Byzantium, the progression of the uprising, and the borders of the restored kingdom. Uspensky was the first scholar to reflect on the affairs of the Bulgarians during Frederick I's campaign and to consider the attitudes of the Serbs and Hungarians toward the Asenevian liberation movement [41]. Vasil Zlatarski, a prominent figure in Bulgarian medieval studies, authored the three-volume work "History of the Bulgarian State in the Middle Ages" [26]. The second volume is dedicated to the Byzantine rule in our lands, the uprising of 1186, and the circumstances of the Bulgarian population which, by 1187, remained outside the borders of the restored kingdom. This issue is also addressed by Mikhail Andreev [9]. Among the array of researchers in this field, Krasimira Gagova stands out. She focuses not only on the history of the Crusades but also on the fate of Thrace and the historical geography of Bulgaria. Gagova has written several significant monographs, including "Thrace during the Bulgarian Middle Ages: Historical Geography" [16], "The Crusades and Medieval Bulgaria" [17], and "Medieval Europe: 10th - 13th Century" [18]. Additionally, research on the Third Crusade and the interactions between the knights and the Bulgarian population has been published by Borislav Primov [38] and Elena Koycheva [30]. Among the notable figures in Western historiography, James Ludlow has contributed significantly to the field with his book "The Age of the Crusades" [32]. Additionally, Dan Jones has made a mark with his trilogy, which includes "The Crusaders" [32], "Power and Thrones," and "The Templar Knights: Origin and Demise of the Order of Christ’s Warriors" [24].

When the Bulgarian territories were ultimately conquered by Byzantium in 1018, they were incorporated into a new civilizational order known as Byzantinism. Bulgaria became part of the so-called "world empire" of Byzantium, which was characterized by Roman state traditions, Orthodoxy, and the Greek language. Within the confines of this civilization, both the Bulgarian lands and their people lost their political and social independence [30]. Even during the Byzantine conquest at the close of the 10th century, the subdued Bulgarian territories were managed according to the Byzantine theme system. Odon (Odo) de Doy [4], the chief chronicler of the Second Crusade, along with the two main chroniclers of the Third Crusade, Ansber, with his "History of the Campaign of the Emperor Frederick I," and the anonymous author of "Historia peregrinorum", provided accounts of these regions. Subsequent shorter chronicles are large-

ly derivative of these primary works, reiterating the information contained within.

Since the establishment of the individual new themes, the lives of the Bulgarian population in these regions had followed distinct paths of development. Until the early 1070s, all movements aimed at restoring Bulgarian independence were centred in one area: the Byzantine theme of Bulgaria, historically located in the southwestern part of Samuil's kingdom. This region was significant because it served as the centre of the Bulgarian state during the final fifty years of its existence; it housed the royal palaces and the seat of the Bulgarian Patriarchate, which had been downgraded. A strong tradition persisted there that nurtured the Bulgarian spirit [13].

In contrast, the situation in Paristrion was quite different. These territories were the first to fall under Byzantine control and the initial regions incorporated into the Byzantine administrative and tax system. Although the Bulgarians in these lands came under imperial authority two decades before Ohrid, the memory of Pliska and Preslav, the first capitals of Bulgaria, remained alive. This area also experienced invasions by the Pechenegs, Uzis, and Cumans after 1023. The relentless barbarian raids, which continued for decades, resulted in looting, depopulation, and waves of migration, pushing the Bulgarian populace toward the relatively peaceful regions south of Stara Planina Mountain.

What is the fate of the Bulgarians in Thrace? Following the destructive and prolonged wars between Byzantium and Bulgaria, and after the conquest of Bulgaria in 1018, a significant migration from northeastern Bulgaria occurred, with large groups settling in Philippopolis and its surrounding areas. Subsequently, as invasions by the Uzi, Cuman, and Pecheneg tribes began, a second wave of migrants also moved to the Philippopolis region. These settlers sought safety and a degree of peace in the prosperous Byzantine centres located in Thrace. As a result, by the 11th century, the Bulgarian ethnic presence south of the Stara Planina Mountain became increasingly substantial [35].

At the end of the 12th century, specifically in 1185, the dynamic efforts of the brothers Theodore and Ivan Asen-Belgun sparked an uprising in the Bulgarian territories, resulting in the expulsion of Byzantine authority and the restoration of Bulgaria. In the summer of 1186, Byzantine Emperor Isaac II Angel sought to suppress the rebellion and marched against the insurgents with a formidable army. Faced with an overwhelming opposition, Peter and Assen were compelled to withdraw their forces north of the Danube, where they engaged in negotiations with the Cumans, successfully enlisting their support. With the assistance of the Cuman army, the Asenevians swiftly reclaimed their power and advanced southward, aiming to restore the territorial integrity of the state within its ethnic boundaries. In the spring of 1187, the Byzantines crossed the Stara Planina Mountain but failed to reach Tarnovo due to the stronghold of the Loveshka fortress obstructing their path – a fortification that Isaac II Angel besieged for three months. His sole achievement was the capture of Asen's wife, which prompted the initiation of peace negotiations and the establishment of a truce known as the Lovech Peace. During these arrangements, the emperor acknowledged the authority of the Asenians over Mysia, effectively recognizing the restoration of the Bulgarian state. To ensure compliance with the agreed-upon terms from the Bulgarian side, the youngest brother, Kaloyan, was sent as a hostage to Constantinople. After approximately two years, he successfully managed to escape and return to Tarnovo [13].

Newly liberated Bulgaria was established in the former Byzantine theme of Paristrion, located in Northern Bulgaria. By 1189, when knights from the Third Crusade arrived, the lands in Thrace, south of Stara Planina Mountain were still under Byzantine control [35].

Meanwhile, news reached Western Europe about the conquest of the Kingdom of Jerusalem by the Muslim leader Saladin. This information first arrived in Italy around 1188, and it shocked and dismayed the entire Western European society. In 1187, Pope Gregory VIII convened a conclave in Ferrara, during which the bull Audita tremendi (Learning of the Terrible...) was adopted, marking the onset of the Third Crusade. The assembly included the leaders of the three most powerful European dynasties of the time: Richard I Plantagenet (1189 – 1199), King of England; Philip II Augustus (1179 – 1223) of the Capet dynasty, King of France; and Frederick I Hohenstaufen (Fig. 2), Holy Roman Emperor [30]. The German emperor chose to march with his knights along the Danube, following the Via Militaris and passing across the Balkans. To facilitate this campaign, he negotiated an agreement with the Byzantine ruler Isaac II Angel. In the spring of 1189, the army embarked from Regensburg by ship. Upon reaching Belgrade, the knights disembarked and continued their

journey to Bulgaria. This departure provided an opportunity for the brothers Peter and Asen to renew their offensive against Byzantium and seek international recognition. When the Crusaders arrived in Nis in July 1189, the Bulgarians expressed their respect for the emperor. Kalopeter formally congratulated the ruler and sent a letter promising assistance against their enemies [16]. However, Byzantium failed to keep its commitments to the Crusaders, leading the knights to resort to plundering and raiding the territories they traversed, with Philippopolis suffering the most. The fortresses in Borui, Sredna Gora, the Rhodopes, and even those in Macedonia were also affected. Archaeological excavations provide evidence for these events; studies of the Voden fortress, or Malkoto Kale, indicate it was destroyed during the late 12th to early 13th centuries [11]. This destruction coincided with the passage of the Third Crusade (1189–1193) and the Fourth Crusade (1202–1204) through Thrace [10]. Canon Ansbert offers insight into the state of Philippopolis during this tumultuous period:

"...we settled in that city as our own, we reaped and pressed the grapes of that land, we brought out the grain buried in pits..." [1]

Materials uncovered during archaeological excavations in Philippopolis reveal evidence of fires that occurred in the late 12th to early 13th centuries, periods of which written sources confirm that the city was burned on two occasions [14]. The anonymous author of the Historia Peregrinorum provides a notably more detailed account of these events:

"Many chariots were already going out for booty, the crusaders were ravaging the whole country and returning, overloaded with booty and food supplies... All who sought to accumulate booty too easily gained gold, silver, and much money." [7]

During their raids, the crusaders reached the town of Scribetion (now known as Asenovgrad) and pillaged the Bachkovo Monastery, capturing the monastery's father superior and presenting him to Emperor Frederick. Ansbert recounted the event with the following words:

"Also, the emperor's marshal - Heinrich of Kalintine, a man very warlike and hardworking even in his time of rest, unexpectedly forced the surrender of the inhabitants of the very fortified and famous fortress of Scribetion, above which there was a monastery... He placed in it a guard of knights, and moreover brought the father superior of the same monastery to the emperor." [1]

The Bulgarian cities in Thrace faced murder, violence, and arson. For the sake of a future alliance, Peter and Asen felt compelled not to respond directly to the actions of the knights. In 1190, near Adrianople, the Bulgarians dispatched a second envoy to Emperor Barbarossa, offering an army of 40,000 to support the Crusaders. However, their attempts to establish contact went unanswered, and shortly thereafter, Frederick departed the Balkans, continuing his journey to the Holy Land [35].

What were the consequences, and what Latin influence permeated our lands following the Third Crusade? Even after the passage of the Poor People's Crusade across Thrace, a Latin quarter emerged in Philippopolis, inhabited by Western European merchants and artisans [29]. These individuals were primarily French, German, and Lombard. They succeeded in establishing their own marketplace, which contributed to the economic development of Plovdiv. The Western European influence began

Fig. 2. Frederick Barbarossa, as depicted in "Historia Hierosolymitana"

to enter Bulgaria through this Latin quarter, as well as through Constantinople and trade connections with Dubrovnik, ultimately impacting medieval Bulgarian society.

The most striking changes can be observed in the clothing of Bulgarians, as well as in their

jewellery, weapon fittings, goldsmith articles, fabrics, and decorations, including the creation of royal flags adorned with the royal coat of arms [21]. For centuries, Byzantium captivated the world with the splendour of its handicrafts, particularly its renowned silk. However, the military conflicts between the empire and the Normans under Roger II of Sicily (1130 – 1154) effectively ended the Byzantine monopoly on silk production. What transpired during this period? In 1147, the Normans invaded Central Greece and the Peloponnese, capturing silk weavers from the workshops in Corinth and Thebes and subsequently relocating them to Palermo [8]. This pivotal event marked the beginning of silk manufacturing in several Italian cities, including Venice, Florence, and Genoa. Large-scale factories emerged in these towns, producing silks that became highly coveted across Europe. Through the mediation of Dubrovnik, Venetian merchants in Constantinople facilitated the importation of these fabrics into the Balkans. In written documents, they are called broccato – thick cotton cloth with woven or embroidered gold threads. During the Ottoman era, the other name for this type of fabric was "tinsel fabric" [22]. Fabrics that came from Western Europe could be ornamented or figured. Fabrics with double-headed eagles enclosed in a circle (aqulae cum duobuscapitibus) were used to sew the ceremonial clothing of the high aristocracy. An example is the wall paintings in the Boyana Church, where we can see the image of sebastokrator's wife Desislava. Such fabrics were also used to decorate and ornament the palace halls, the homes of the boyars, and to make flags, shrouds, and coverings [34].

The limited number of surviving images depicting medieval Bulgarian women, along with their often damaged condition, restricts researchers' ability to study women's costumes from this period. In contrast, images of men are more prevalent. Typically, women's attire comprises several elements: a shirt, a tunic, a dress, a cloak, distinctive head decorations worn by women across all social strata, and shoes: the latter being particularly difficult to analyze due to the scarcity of images providing relevant information. Certain motifs, such as specific headdresses, are unique to the Bulgarian kingdom and do not appear in neighbouring countries. Notably, a common feature of women's clothing in Western Europe includes the long split sleeves of the top tunic, known as the dalmatian, and veils that either cascade down the back or drape under the chin to frame the face [34]. The tall, cone-shaped hats are particularly noteworthy, as evidenced by a depiction of Doya, the wife of despot Deyan, found in the church of the Zemen monastery [33]. In the Boyana Church, the influence of the West is most pronounced in the representation of Desislava. Her attire is striking; however, what is most intriguing is her gesture: she is deftly pulling the cord that secures the edge of her mantle with her thumb. This action, alongside her body's S-shaped bend, is characteristic of Gothic art, yet it is absent from Byzantine iconography and prevalent in Western European art from the 13th century [19]. Coincidentally or not, during the period when the Boyana master painter crafted the image of Desislava, two similar female figures, "Edith" and "Reglindis", were created in the cathedrals of Meissen and Naumburg in Germany. Desislava's gesture is both more sacred and contemporary for the era, resonating with the elite of the then Latin Empire. In the village of Kalotina, the church houses a priceless mural depicting an unknown founder. Despite suffering considerable damage to its lower part, this artwork is the only one in Bulgaria that can be compared to men's fashion from Western Europe. The mural illustrates a tunic divided by a seam into two identical halves crafted from different fabrics. The left half, along with the left sleeve, is made of ornamented cloth, while the right half and sleeve are a red-brown colour. This garment exemplifies the mi parti style, which is characteristic of Western European fashion [31].

An often overlooked aspect of Western influence in the history of the Second Bulgarian Kingdom is the use of shield heraldry as part of the armament of the soldiers in the Tsarevets royal guard [39]. The first Western depiction of the Bulgarian coat of arms, featuring three lions on a golden shield with a crown above, is documented by the Council of Constance (1414 – 1418) and belonged to the Bulgarian ruler. While the lion coat of arms was quite prevalent during the Middle Ages, the exact timeline of its adoption in Bulgaria remains unclear. To date, the only heraldic sources related to Bulgaria that have been discovered and analyzed are found in various foreign heraldic texts, collections, monographs, and maps. Information about the coats of arms of the Bulgarian ruler and other feudal lords is derived from several distinct sources, including Western European armouries, Illyrian armouries, and illustrative representations found in maps and books [12]. Various coats of arms are documented, featuring three walking lions,

which can appear as either three black lions against a gold background or three golden lions against a red background. The lion often appears with different background variations: against a silver background, a red background, and a golden background. Notable coats of arms from the era of the Second Bulgarian Kingdom include a lion facing left, flanked by a star and a crescent; a coat of arms with six stripes in gold and green, with a quarter displaying a golden cross surrounded by four smaller gold inscribed crosses on a red backdrop; and another featuring four red stripes arranged two by two on a silver background, alongside a golden wolf or fox. All known images of Bulgarian coats of arms derive from those compiled after the 14th century [39]. The influence of European heraldry during the Renaissance enabled Bulgarian society to adopt the lion as a national symbol, paving the way for the heraldic identity of the modern Bulgarian state. An invaluable resource is Hristofor Zhefarovich's "Stematography" [25], which depicts the coat of arms of Bulgaria as an upright, right-facing golden lion, armed and crowned, set on a Spanish shield with a red field and a royal crown above it. In addition to Bulgaria's coat of arms, Zhefarovich also illustrates the arms of the country's four regions: Mysia, Thrace, Macedonia, and Dardania [25].

When examining the medieval costumes of the Bulgarian rulers and boyars, one cannot help being captivated by their intricate ornaments. Since ancient times, precious stones, pearls, and gold elements have drawn attention as symbols of wealth, prestige, and social status. Precious stones were also used as amulets, with each stone linked to zodiac signs and the Sun, embodying health, longevity, well-being, and luck. In Medieval Bulgaria, these exquisite items were imported from cities such as Florence, Genoa, Venice, and Dubrovnik, as well as from Constantinople [23]. Notably, the belt of Sebastokrator Kaloyan, depicted in the Boyana Church, is particularly intriguing. This gold belt features rectangular plates, each adorned with a precious stone. Attached to the left front side of the belt is a loop designed for sword attachment, crafted from the same material and exhibiting a similar design to the belt itself [19].

The armament of the medieval Bulgarians is a subject of considerable interest. Numerous archaeological finds, including utensils, ornaments, and images of founders in churches, illustrate the power of the ruler and the boyars. The Middle Ages were tumultuous, necessitating the protection of territories, which required active participation in military campaigns. This situation demanded that kings, boyars, and their retinues be well-equipped as warriors. However, details regarding their equipment and weaponry remain somewhat unclear, making it challenging to accurately reconstruct them for a long time. The status of the ruler and the boyars dictated that they possess the finest gear, including armour and weapons. In the 12th century, a notable Western European influence began to permeate the Balkans, spurred by the Crusades and the Norman invasions. This period saw the emergence of new cultural influences, borrowings, and, more broadly, innovative ideas related to warfare. These changes are evidenced by archaeological discoveries. Notably, the knightly tournaments, in which Emperor Manuel Komnenos engaged with the rulers of the Latin kingdoms, were a significant development. Contemporary accounts highlight that he introduced these tournaments among the Byzantine military elite. The Bulgarian boyars, such as Asen and Petar, were undoubtedly part of this military elite, particularly bearing in mind that a substantial part of European territories was Bulgarian. With the decline of the Komnenian dynasty, the restoration of the Bulgarian kingdom, and especially the Third and Fourth Crusades, Western European influence in the Balkans entered a new phase. The introduction of armour of the coat of plates type occurred during this time, with similar findings reported in three locations in Bulgaria: Nikopol, Tarnovo, and the Markovi Kuli fortress near Vrania [36]. This type of armour was stored within the buildings themselves, suggesting that it was borrowed by the warriors of local rulers. In addition to the finds from this era, we must also consider the stockings from Bratsigovo and Kyulevcha, an armour neckpiece, a helmet discovered near Ozana in Kyustendil, and two visors found near Tarnovo and Kardzhali. The weaponry predominantly consists of European swords, spurs, and horse gear. Although the number of archaeological materials collected during excavations is limited, their significance remains substantial [36]. This clearly underscores the pivotal role of trade in the spread of Latin influence in Medieval Bulgaria. In recent years, numerous studies have emerged regarding the trade connections between the Bulgarians and merchants from Dubrovnik, Venice, Genoa, Florence, and Brașov. Researchers have noted the active importation of various goods from these cities into Bulgaria.

CONCLUSION

As the second millennium dawned in the year 1000, Europe entered a new historical era. The chronicler Raoul Glaber, a Burgundian, aptly described the societal conditions of the time by stating that "the world itself gets rid of its old rags" [5]. Both Eastern and Western regions began to experience a phase of population growth, construction, and urban development, accompanied by rivalry, religious zealotry, and extended conflicts. However, the circumstances were markedly different for Bulgaria. The new millennium heralded the subjugation of the Bulgarian state, the dissolution of the Bulgarian Patriarchate, and the fragmentation of Bulgarian territories, which became integrated into the Byzantine administrative system. When the Crusades commenced in 1095, a significant portion of the troops traversed the Balkans, particularly passing through Bulgarian lands. Chroniclers of the first two campaigns noted that the Crusaders entered Bulgaria immediately upon departing from the territories of the Hungarian king. Some authors characterize these territories as Bulgarian provinces or lands under the authority of the Roman emperor. However, the knights of the Third Crusade witnessed a significant change. Shortly before the onset of this campaign, a liberation movement led by the brothers Peter and Asen (1185-1188) brought about considerable transformations in the Balkans. The most important of these changes was the restoration of Bulgarian statehood, which fundamentally altered the understanding of the term "Bulgaria." During the first two campaigns, it primarily referred to a geographical area. With the re-establishment of the state, the term acquired a new significance. The brothers worked diligently to emphasize and promote the continuity between the Second Bulgarian Kingdom and the earlier Bulgaria that existed prior to 1018. They sought international recognition for both the royal title of the elder brother and the legitimacy of the state itself. What greater endorsement could support their endeavours than recognition from the Holy Roman Emperor? Peter and Asen adeptly navigated the rivalry between East and West with relation to the so-called "problem of the two emperors." Their pursuit of assistance in reclaiming all Bulgarian territories explains why Peter and Asen chose not to officially respond to the raids and atrocities committed by the Crusaders in the regions of Philippopolis, Borui, the fortresses in the Central Highlands, and the Rhodopes. Shortly after the Crusaders departed from the Balkans, they left behind a landscape marked by ruin and destroyed fortresses. However, they also fostered cultural ties and influences that, to some extent, altered and introduced new elements in the daily lives of the Bulgarian population. Following the Great Schism of 1054, which divided the Christian East from the West, the idea of crusading became increasingly unpopular among our ancestors due to the widespread robberies, atrocities, and violence associated with it. Yet, these events also facilitated additional interactions with the Western world and its civilization, which ultimately strengthened economic ties and mutual influences in both the economy and culture.

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ECONOMIC VERSUS NON-ECONOMIC MOTIVES FOR P2P-ACCOMMODATION: THE BULGARIAN CONSUMER'S PERCEPTION

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ABSTRACT

Sharing economy has entered people's lives over the last years and changed dramatically their lifestyle and type of consumption. From the numerous sharing sub-sectors, peer-to-peer (P2P) accommodation is one of the most developed. It offers a modern alternative to hotel accommodation and is currently gaining popularity in Bulgaria. The main research topics cover motivators for choosing P2P- instead of hotel accommodation; P2P travel and consumer behaviour; and development perspectives of P2P-accommodation. The findings indicate that the economic motivators prevail over the non-economic ones, which leads to higher economic results for the local economy and positive P2P-accommodation development perspectives from the consumers' point of view. The present study contributes to the modern economic and tourism literature by introducing insights about the P2P-accommodation consumer's behaviour. The findings have important implications for the local economy along the Bulgarian Black Sea coast and the destination marketers of sharing economy and tourism.

Key words: *sharing economy, P2P-accommodation, consumer, motivator, economic effect*

INTRODUCTION

Sharing is not a new activity for people, but with the adoption of modern technologies and social internet-based connectivity, it has gained a different meaning and size, forming the so-called sharing economy. Generally, sharing underused resources allows for a redefinition of the traditional economic relationships and the meaning of the concepts of 'value', without necessarily being based on a conventional currency. This transition achieves a refocusing from owning to access-based usage of resources, pushing *economic*, *social* and *environmental* aspects as an emphasis in the transaction process. The sharing economy has also significantly impacted the tourism industry by entering the field of mobility and *accommodation*, with the latter pointed out to be the more developed.

The size of the global P2P-accommodation market in 2022 was estimated to be US$ 3.5 billion and is expected to reach US$ 3.7 billion in 2023. The estimated growth rate of the market until 2030 amounts to 7.6% and is expected to reach US$ 6.1 billion. Moreover, the expected growth rate of the number of shared units worldwide amounts to 31% in the period to 2025, which is six times more than that of B&Bs and hostels. By 2025, global annual revenue from shared accommodation will increase by up to 17%, causing a migration of US$ 8 million annual profits from the hotel industry to shared accommodation, which outlines the latter as an *economically effective alternative* to the hotel industry [1].

P2P-accommodation is also gaining popularity in Bulgaria as there are not only international platforms available, but also other tourism- and non-tourism related platforms which have begun to offer P2P-accommodation. Controversial data show a rise in overnight stays in shared units in 2019 of 7.2% compared to the previous year. For comparison, in the EU for the same period there was a 15.8% increase in overnight stays, which shows that in Bulgaria shared accommodation *development is at an initial stage*. The most preferred cities and regions for shared accommodation in the country are Sofia, Plovdiv, Varna and Burgas, where the most shared units and the majority of overnight stays are reported [2]. However, at present there are no specialized studies on P2P-accommodation in Bulgaria. There is only a single study of shared economy in Bulgaria conducted by Eurobarometer in 2018. Moreover, it does not make a comparative analysis of users and non-users regarding their consumer behaviour.

The main purpose of the present paper is to investigate consumer evaluation of the economic and non-economic motivators for using P2P-accommodation instead of traditional hospitality on the Bulgarian Black Sea coast.

LITERATURE REVIEW

It is generally accepted that, due to lower P2P-accommodation prices in comparison to hotel accommodation, longer stays are recorded with P2P-accommodation users compared to the hotel industry [3]. The official data suggest an average stay of 5.6 nights for most P2P-accommodation platforms, with the highest performance of Vrbo and Booking with respectively 6.7 and 7.5 nights on average [4]. Moreover, according to a comparative analysis between the hotel industry and shared accommodation, the stay of P2P-users is significantly longer, exceeding by almost 3 nights the average stay, and in some destinations the P2P-consumer's stay can be double the stay in a hotel [5]. All related investigations concentrate on the *economic benefits* of shared accommodation for the consumer and its lower price, which leads to more disposable income and allows for a longer stay on average. The latter results in higher economic effect in the receptive destination, concentrated in the local economy as the accommodation provider is local.

Hypothesis 1: Shared accommodation is economically efficient for the consumer and it can positively influence their length of stay and number of trips per year, which results in greater local economy effects.

One of the most discussed topics in the P2P-accommodation research papers regards the *motivators* to participate in this specific sharing process. A significant part of the research papers aims to highlight the motivators that make tourists prefer shared to hotel accommodation [6]. It can be admitted that most of the studies claim that economic rather than other motivators are leading in the process. Logically, it is accepted that P2P-accommodation, as part of the sharing economy, has lower price than hotel accommodation, based on the relevant comfort level. The latter statement concerns not only the accommodation price, but also the additional spending of the consumer during a stay. A P2P-accommodation unit has better facilities than a hotel room, giving the opportunity for self-catering and better value for money [7].

One of the first attempts to diversify the motivators for choosing P2P-accommodation was made by Ritzer [8], according to whom, along with the economic there are also social and environmental motivators. The first one is connected with the authentic experience as P2P-accommodation gives the consumer insights into how local people live in the respective destination. Moreover, P2P-accommodation involves different social circles such as hosts, local community, neighbours etc. [9], which creates intensified social interactions.

Additionally, it is believed that P2P-accommodation users demonstrate highly sustainable behaviour, as their consumer choice leads to reduction of energy and water usage, gas emissions, as well as garbage generation [10]. According to studies, the hotel sector is the largest consumer of water at international and national level. In this regard, P2P-accommodation consumers use: between 63% and 84% less energy compared to hospitality; between 12% and 57% less water than hotels and produce 61%-88% less carbon emissions. Moreover, more than 90% of the Airbnb units provide recycling opportunities and facilities, and another 79%-83% provide energy-saving appliances.

Hypothesis 2: Shared accommodation is motivated from the consumer's point of view not only by economic, but also by social and environmental motivators, which forms a cluster of motives, but the economic is the leading one.

The last emphasis in this paragraph concerns the *economic effects* from P2P-accommodation. It is commonly accepted that the economic effect in the receptive destination is significant. According to statistics, the users of the Airbnb platform generated more than $100 bn direct economic effects in the studied national economies. Unlike other business models, P2P-accommodation concentrates the generated financial flows in the *local economy* rather than in the export of national income [11]. Moreover, the official data reveal that Airbnb has helped generate over $65 bn income for the hosts, as they most often use the funds to cover their living expenses.

Additionally, another important *economic result* that is commented on among researchers is that shared accommodation users have 1.6 times higher than the average spending during their stay [12]. Generally, this is the result of the higher holiday disposable income because of the lower accommodation price. Moreover, the structure of tourist spending during a stay is quite different from the average. Less than a half is

spent on accommodation and food and beverage in contrast to hotel accommodation, where this share is more than 60% - 70% of the common holiday spending. As a result, P2P-accommodation users spend more on shopping and entertainment – more than 30% of the additional spending during a stay [13].

Hypothesis 3: A shared accommodation unit with its opportunity for self-catering reduces the consumer's additional expenses for food and beverage during a holiday, which doesn't result in general expenses reduction but in expenses diversification.

RESEARCH METHODOLOGY

The research methodology in this paper is based on the following scientific research tasks:

Development of a questionnaire for investigation of the P2P-accommodation guest opinion.

Creation of a database for quantitative processing of information in SPSS.

Analysis of results in order to describe the respondents' group and to determine their evaluation of the current research topic.

Discussing the results to highlight key conclusions and provide the author's informed position about the working hypothesis.

In the present research paper, a set of diverse scientific methods is used such as observation, analysis and synthesis, questionnaire survey, comparative analysis, descriptive and discriminative statistical methods and correlation analysis.

The **questionnaire survey** is conducted as an online survey among P2P-accommodation users and non-users. The study was carried out in the period from 01.04.2023 until 30.06.2023 using the tools of Google Forms Questionnaire.

Like any scientific publication, this paper has some **limitations**, as follows:

- Geographical limitation – the study collected responses from respondents who were aiming to have a vacation on the Bulgarian Black Sea coast.

- National limitation – this study investigated only the opinion of Bulgarian respondents. Therefore, the questionnaire was designed in Bulgarian language only.

- Time limitation – the empirical research was conducted during a certain period considering the beginning of the active tourist season in 2023.

The anonymous questionnaires were distributed among the respondents through various channels, such as: social media (Facebook); related social groups for offering and searching P2P-accommodation in Varna and Burgas regions; non-government organizations in the tourism industry.

Given the lack of specialized P2P-accommodation communities in Bulgaria, a heterogeneous mass of respondents was reached:

- Actual P2P-accommodation guests – respondents who had had a stay in a shared unit at least once: the survey card consists of two main sections.

- Potential P2P-accommodation guests – respondents who had not yet had a stay in a shared unit: the survey card consists of two main sections.

A sample approach to the study of aggregates was used to study the P2P-accommodation consumers' opinion towards economic and non-economic motivators of shared accommodation. The sample model is a non-target random sampling type, as this is the most commonly used in surveying customer satisfaction level.

In processing the survey data for analysis specialized software for data processing and statistical analysis was used (SPSS standard package). In relation to the stated hypotheses in the present study, a statistical approach to find association between variables was also applied in the analysis of survey responses. For this purpose, the Chi-square test (χ^2 test) is applicable, which is a statistical method used to analyse the relation between two categorical variables.

RESULTS AND DISCUSSION

After the survey was conducted, the questionnaires of 486 respondents in total were used for the purpose of this empirical research. 316 of these respondents belonged to the potential P2P-accommodation guests' group and 170 formed the actual P2P-accommodation guests' group.

The demographic profile of the P2P-accommodation guests who participated in the survey can be presented as follows:

- The majority of potential guests were female: 79.1% compared to 20.9% (66 respondents) male. Similarly, the actual guests were predominantly fmale: 77.6%, while 22.4% were male.

- In terms of age, the main proportion of respondents were Generation Y (aged 25-44) – 51.2% of potential and 55.3% of actual P2P-guests. There was also a significant proportion of Generation X (aged 45-64) with 35.4% of potential and 29.4% of actual P2P-guest.

- In terms of income, the main share had over 1,200 BGN household monthly income per person – 44.3% of potential and 62.4% of actual P2P-accommodation guests. The mode and median in both respondents' groups had income more than 1,200 BGN and the asymmetry has a coefficient of -0.896 and -1.220, respectively, which means that the left tail is longer.

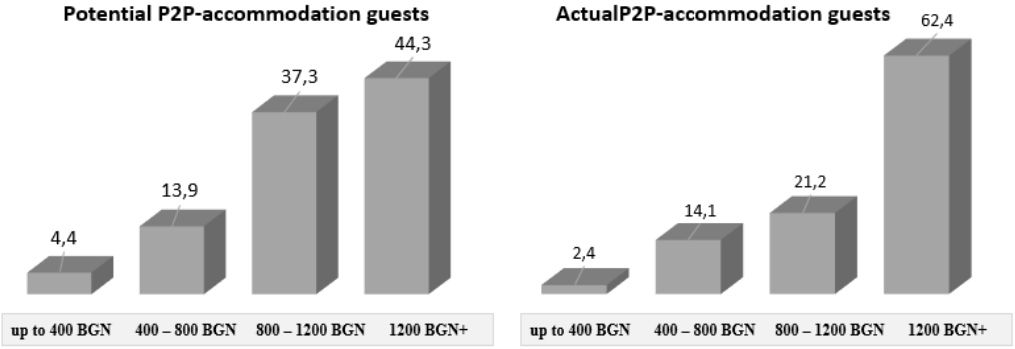

Fig. 1. Structure of survey respondents in terms of household income per person.
Source: Created by the author

- In relation to marital status, most of the respondents were married with children - 53.2% of potential and 47.1% of actual P2P-guests. About a quarter and less than a third were married without children.

- In terms of education, the respondents had a diverse profile, but were generally highly educated (PhD, master and bachelor degrees) with a lead of actual over potential P2P-guests – 70% compared to 81.1%.

The most common length of stay was a short stay – 1 to 3 nights, which formed 51.6% of potential and 52.0% of actual guests, but a significant proportion was presented by an average stay between 4 and 7 nights – 39.8% of potential and 42.9% of actual guests.

Most of the respondents travel two to three times a year – 52.5% of potential and 54.1% of actual guests, and those travelling once a year account for about one third (31%) of potential and one quarter (24.7%) of actual guests. Those travelling 4+ times are more in the actual group compared to potential guests – 21.2% versus 16.5%.

Regarding additional expenses during the stay, the respondents spend most money on food and beverage – 37.0% of potential and 31.8% of actual guests, and entertainment/attractions – 22.5% of potential and 29.2% of actual guests. Spending on excursions is more spread among actual guests (22%) in contrast to the potential guests (18%).

Table 1. Structure of survey respondents in terms of their additional expenses during a stay

		Potential guest			Actual guest		
		N	Percent	Percent of Cases	N	Percent	Percent of Cases
Additional expenses during stay[a]	Food & Drinks	256	37.0%	82.5%	132	31.8%	76.5%
	Excursions	134	18.0%	41.7%	82	22.0%	52.0%
	Entertainment	160	22.5%	51.0%	110	29.2%	69.1%
	Souvenirs	126	17.7%	40.1%	52	13.3%	31.7%
	Personal belongings	34	4.8%	10.8%	14	2.7%	8.5%
Total		710	100.0%	226.1%	390	100.0%	237.8%

Source: Created by the author

Taking into consideration the additional expenses during a stay, most of the potential P2P-accommodation guests have between 150 BGN and 200 BGN additional expenses per person during their holiday stay (44.8%), followed by those with additional expenses per person in the amount of 200 BGN and more (37.3%). Concerning the actual P2P-accommodation guests, the largest share of the respondents has 200 BGN and more additional expenses per person during their holiday stay (54.3%), followed by those with additional expenses per person in the range of 150 BGN and 200 BGN (20.2%).

Table 2. Survey respondents' structure in terms of additional expenses per person during a stay

		Potential guests			Actual guests		
		N	Percent	Valid Percent	N	Percent	Valid Percent
Add. expenses per person[a]	Up to 100 BGN	19	5.9	5.9	13	7.4	7.4
	100 – 150 BGN	40	12.9	12.9	25	15.1	15.1
	150 – 200 BGN	142	44.8	44.8	39	23.2	23.2
	200+ BGN	115	36.4	36.4	93	54.3	54.3
Total		316	100.0	100.0	170	100.0	100.0

Source: Created by the author

The development perspectives of P2P-accommodation from the guest's point of view can be assessed as positive, according to the actual P2P-accommodation guests, and as undefined, according to the potential P2P-accommodation guests.

Table 3. Development perspectives of P2P-accommodation in terms of leading motivator

		Potential guests			Actual guests		
		Mean	Median	Mode	Mean	Median	Mode
Development perspectives		*Positive*					
P2P-accommodation can	Compete hotels successfully	3.4	3.0	3.0	4.2	5.0	5.0
	Grow as a cheap type of accommodation	3.5	3.0	4.0	4.1	5.0	5.0
	Develop as an eco-friendly form of accommodation	3.3	3.0	3.0	4.0	4.0	5.0
	Grow with a focus on social aspects/authentic experience	3.3	3.0	3.0	4.2	4.0	4.0
		Negative					
	Not grow as a cheap type of accommodation	2.5	3.0	3.0	1.3	1.0	1.0
	Not grow as an eco-friendly form of accommodation	2.5	3.0	3.0	2.3	2.0	1.0
	Not grow as a socially enriching experience	2.5	3.0	3.0	2.1	2.0	1.0

Source: Created by the author

Regarding the relationship between the income of a household member (X3) and short-term length of stay (X9.1), the Chi-square test of **potential guests'** responses would help to find out whether there is sufficient evidence to state that there is an association between the two variables.

Table 4. Chi-square test of potential guests' responses – relationship between income and length of stay

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11,252[a]	3	,010
Likelihood Ratio	12,165	3	,007
Linear-by-Linear Association	10,086	1	,001
N of Valid Cases	316		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.49.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	,189	,010
	Cramer's V	,189	,010
N of Valid Cases		316	

Source: Created by the author

The results show that the level of significance is 0.010 and it is less than the error α=0.05, which means that the null hypothesis that the two variables are independent of each other can be rejected. Therefore, there is a relationship between the two variables X9.1 and X3. To measure the strength of the relationship between the two variables, Cramer's coefficient (Cramer's V), which is normalized between zero and one, is usually used. It is conditionally accepted that when it is in the range from 0 to 0.3, the relationship is weak, from 0.3 to 0.7 it is medium and above 0.7 it is strong. Therefore, the relationship in our case is weak because the coefficient has a value of 0.189.

To be certain of the final conclusion made based on the chi-square analysis, we have checked whether the two important requirements for the application of this method are met. The results presented in the above table show that both requirements are met: the minimum theoretical value in one of the cells is 5.49 and in 0.0% of the cells the theoretical frequency values were less than 5. As we can conclude, the gross monthly income of a household member has a relation with the length of stay during a tourist trip and more specifically on the short-term length of 1 to 3 nights, and this dependence is relatively weak.

Similarly, we conducted the same steps for the other lengths of stay and the results are as follows:

- The gross monthly income of a household member has an impact on the length of stay during a trip with an average length between 4 and 7 nights, and this dependence is relatively weak.

- The gross monthly income of a household member does not influence the average length of stay during a trip between 8 and 14 nights; 15 and 28 nights; 29 nights or more.

Following the above-mentioned mythology, we have also tested the evidence for a relation between the gross monthly income of a household member (X3) and the number of trips for leisure or work per year (X11) of the **potential guests**. The Chi-square analysis shows that the gross monthly income of a household member affects the number of trips per year and this relationship is relatively weak. Regarding the relationship between the length of stay and the number of trips on an annual basis, from the Chi-square analysis of potential guests' responses, we can conclude that there is *no relationship* between the two variables.

Table 5. Chi-square test of potential guests' responses – relationship between income and number of trips per year

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	53,948[a]	6	<,001
Likelihood Ratio	57,488	6	<,001
Linear-by-Linear Association	30,477	1	<,001
N of Valid Cases	316		

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 2,30.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	,413	<,001
	Cramer's V	,292	<,001
N of Valid Cases		316	

Source: Created by the author

Regarding the **actual guests'** responses, we also test the relationship between the income of a household member (X3) and the length of stay (X44). The main conclusion of the Chi-square analysis is that the gross monthly income of a household member *does not affect* the length of stay in all varieties.

Regarding the relationship between the gross monthly income of a household member (X3) and the number of trips on an annual basis (X46), the Chi-square analysis of the actual guests' responses shows that the gross monthly income of a household member affects the number of trips for leisure or work, and this dependence is relatively weak.

Regarding the relationship between the statements that "a fully equipped kitchenette allows for self-catering during the stay, which saves time and money" (X52) and the indication of food and beverages as the main additional costs during the stay (X47.1), the Chi-square analysis shows that there is a *medium strength relationship* between the two variables.

Table 6. Chi-square test of actual guest's responses – relationship between the income and number of trips per year

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15,435[a]	6	,017
Likelihood Ratio	16,977	6	,009
Linear-by-Linear Association	8,112	1	,004
N of Valid Cases	170		

a. 3 cells (25.0%) have expected count less than 5. The minimum expected count is ,85.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	,301	,017
	Cramer's V	,213	,017
N of Valid Cases		170	

Source: Created by the author

Table 7. Chi-square test of actual guests' responses – relationship between fully equipped kitchenette and food and beverages costs during a stay

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	19,014[a]	4	<,001
Likelihood Ratio	17,164	4	,002
Linear-by-Linear Association	4,955	1	,026
N of Valid Cases	162		

a. 3 cells (30.0%) have expected count less than 5. The minimum expected count is ,89.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	,343	<,001
	Cramer's V	,343	<,001
N of Valid Cases		162	

Source: Created by the author

CONCLUSION

Actual P2P-accommodation guests do not report higher length of stay than potential guests. However, the actual P2P-accommodation guests travel more often per year compared to the potential users. We can assume that there is an indication that shared accommodation positively influences the number of trips per year. In terms of relations between variables, for the actual P2P-accommodation guests the gross monthly income of a household member does not affect the length of stay. However, the gross monthly income of a household member affects their number of trips per year.

Generally, we can partly confirm Hypothesis 1 and we can state that P2P-accommodation can positively influence the consumer's number of trips per year through its economic efficiency, but there is not enough evidence to claim that it can also increase the length of stay.

The P2P-accommodation development perspectives from both actual and potential guests' perspective show positively that not only economic, but also social and ecological motivators are important for them. However, the economic one has higher scores, which makes it leading.

Generally, we can assume that we can fully confirm Hypothesis 2 and we can state that P2P-accommodation is motivated from the consumer's point of view by a cluster of motives, where the leading one is the economic, co-influenced by the social and environmental motivators.

From the survey data we can also conclude that the actual P2P-accommodation guests have higher additional expenses per person during their holiday stay compared to the potential P2P-accommodation guests. Additionally, the actual P2P-accommodation guests spend less on food and drinks and more on entertainment and excursions compared to the potential guests. There is a statistically valid proof that the fully equipped kitchen is the main reason for this.

Logically, we can fully confirm Hypothesis 3 and we can state that the P2P-accommodation unit with its opportunity for self-catering reduces the guest's additional expenses for food and beverage during a stay, which doesn't result in expenses reduction but in expenses diversification.

In conclusion, the economic motivators are leading over the non-economic from the P2P-accommodation consumer's point of view. The economic efficiency of this modern product makes it a preferable choice for the consumer but this does not result in general spending reduction as it stimulates the number of trips per year and the additional expenses during a stay for variable types of goods and services. Moreover, there is evidence that the additional expenses during a stay are diversified, which helps to support more types of local businesses. This contributes to higher and diverse economic results about the local economy and forms the positive P2P-accommodation development perspectives.

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SOVEREIGN WEALTH FUNDS AS A TOOL FOR COUNTERCYCLICAL FISCAL POLICY

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ABSTRACT

Recent years have witnessed a growing interest in the SWFs and the role they play in managing government surpluses. Their rise as a global investor is seen not only in the growing size of their portfolios, but also in the increasing number of newly launched funds. The expectations are that the amount of managed assets will reach 12.7 trillion US dollars in 2025 and 18 trillion US dollars by 2030. This makes SWFs an unavoidable factor in international financial markets and desirable business partners, especially during and after a crisis, when the need for capital is most tangible. The purpose of this article is to acquaint the academic and professional community with the essence and features of the SWFs and their role in the management of public resources and the implementation of fiscal policy.

Key words: *sovereign wealth funds, fiscal policy, economic development, exchange rate.*

INTRODUCTION

Over the past two decades, sovereign wealth funds (SWFs) have experienced a veritable boom. As of mid-2023 the assets they manage exceed 11.3 trillion US dollars, which is more than a tenfold increase in a decade and, in the opinion of some authors, approaches the size of the official foreign exchange reserves of central banks. Expectations are that the amount will reach 12.7 trillion dollars in 2025 and 18 trillion dollars by 2030. This makes SWFs an unavoidable factor in international financial markets and desirable business partners, especially during and after a crisis, when the need for capital is most tangible. What is more, sovereign wealth funds control around 12% of all listed shares worldwide, making them a player that can change the "rules of the game".

LITERATURE REVIEW

Given that SWFs are not the only form of sovereign investment structure, the exact definition of sovereign wealth funds is debated in professional and academic circles. Some experts are of the opinion that it is necessary to draw a dividing line between SWFs and other state pools of assets, such as pension funds, foreign exchange reserves in central banks, etc.

In his 2005 article *Who holds the wealth of nations*, Andrew Rozanov defines SWFs as resources accumulated over the years from national budget surpluses, due to favourable macroeconomic, trade or fiscal conditions, combined with long-term budget planning and expenditure restraint. These funds are created for one or more of the following objectives [1]:

- isolation of the budget and the economy from excessive fluctuations in revenues;
- assisting monetary authorities to sterilize unwanted liquidity;
- accumulating savings for future generations or using the money for economic and social development.

The activities of SWFS cannot remain outside the broad view of the IMF and in 2008, taking into account the growing role of sovereign wealth funds, the international institution proposed the adoption of a code of best practices (known as the "Santiago Principles"), which also provides a more complete definition of these structures. According to it, "SWFs are special purpose investment funds owned by the state. Created to pursue specific macroeconomic objectives, these funds hold, manage or administer assets and implement a wide range of investment strategies. SWFs can have different legal, institutional and management structures. In essence, they are heterogeneous, since the managed funds are directed in different sub-funds: for fiscal stabilization, savings, pension, development funds, etc." [2].

The SWFs Research Institute, whose main task is monitoring the activity and risk assessment of SWFs, defines these structures as state investment funds composed of financial and real assets such

as shares, bonds, real estate and other financial instruments, financed with foreign currency. Foreign exchange receipts are the result of surpluses on the balance of payments, operations with the country's foreign exchange reserves, revenues from privatization and fiscal surpluses. The definition of SWFs excludes official foreign reserves used by monetary authorities for monetary policy purposes. Some funds invest indirectly in local state-owned enterprises, their strategy being more oriented towards higher returns than liquidity.

Although differing in some nuances from the definitions above, some common features characterizing the essence of modern SWFs can be deduced. Above all, these are institutional investors who [3]:

- are owned and funded by the respective governments;
- in most cases are managed separately from the central bank;
- accumulate funds from government surpluses (mainly from the export of mineral raw materials), after covering the planned budgetary and extra-budgetary expenses;
- aimed at protecting the national economy from fluctuations in income and/or helping the monetary authorities to control more effectively the inflationary consequences of excess liquidity in the economy;
- accumulate and manage assets to meet the needs of future generations;
- use the funds for investments in new technologies and expertise to support the economic and social development of the country;
- maintain broadly diversified portfolios (but not always) consisting of high-quality and high-yielding assets.

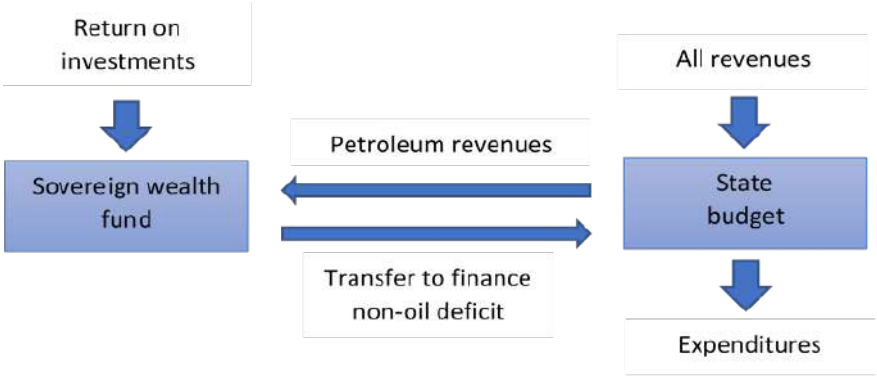

Fig. 1. Flows to and to the fund [4]

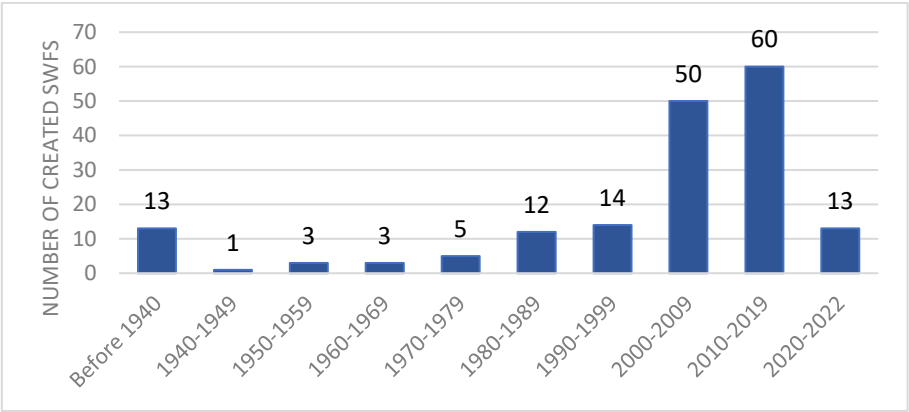

Fig. 2. Number of SWFs established by decade for the 1940-2022 period [5]

Recent years have witnessed a growing interest in the SWFs and the role they play in managing government surpluses. Their rise as a global investor is seen not only in the growing size of their portfolios, but also in the increasing number of newly launched funds. As can be seen from Fig. 2, the boom in the creation of SWFs began in the 1990s and has peaked in the last twenty years. It is believed that this growth is unlikely to end soon, as the governments of a number of countries around the world appreciate the merits of sovereign wealth funds in conducting fiscal policy and managing reserves.

TYPES OF SOVEREIGN WEALTH FUNDS

Sovereign wealth funds can be classified according to certain criteria. From the point of view of the sources of funds, the main distinction of SWFs is between commodities and non-commodities. Commodity funds are financed by revenues from the export of non-renewable raw materials (usually hydrocarbons or other internationally traded goods), while non-commodity funds are financed by transfers of foreign exchange reserves generated by trade and/or budget surpluses. Although owned by the respective governments, the funds are not run as a central bank, as they are not charged with the day-to-day responsibility of maintaining the stability of the money supply or the national currency. Moreover, SWFs can extend their investment horizon, take on higher risk and pursue higher returns despite the fact that they invest public funds [6].

Another and perhaps more detailed classification distinguishes SFBs according to the stated objectives they pursue and according to the subsequent distribution of assets. Based on these criteria, the following five types of SWFs are distinguished [7]:

• *Stabilization funds*: they are created to insulate the budget and the economy from commodity price fluctuations and from negative external shocks, therefore they are also known as "rainy day funds". The accumulated funds are invested in highly liquid assets, as well as in portfolio hedging instruments.

Whether stabilization funds contribute to low fiscal policy volatility is an empirical question that has received considerable attention in the literature, but so far the results are mixed. While some authors find a negative relationship between the presence of SWFs and fluctuations in government spending policy, others fail to find a significant relationship. A recent study found a negative correlation between the presence of a stabilizing SWFs and fluctuations in public spending. The results show that the fiscal policy of countries with stabilization SWFs is more stable and does not show a tendency to sharp fluctuations. On an average basis, the data indicate that these countries have about 14% lower volatility of government spending than countries where such funds do not exist [7].

• *Savings funds*: they aim to share wealth among generations by transforming non-renewable assets (mineral resources) into diversified portfolios of profitable financial assets.

• *Development funds*: these funds are created to direct accumulated resources to priority socio-economic projects, primarily in the field of technical infrastructure and public works. The key role of these funds for the strategic development of their nations is often discussed in the specialized literature [7].

There are a few main points worth mentioning:

- Increasing the „weight" of the local market by stimulating direct investments, creating joint ventures, nurturing new partnerships and participating in overseas infrastructure projects;
- Creation of national champions – by supporting prominent local companies within strategically important sectors and expanding opportunities for positive multiplier effects on the economy;
- Stimulating innovation and research and development – by creating partnerships with private sector companies, encouraging foreign direct investment to stimulate R&D and innovation within portfolio companies;
- Achieving sustainable results – by incorporating environmental, social and corporate governance considerations into investment approaches, development funds contribute to building more sustainable economies;
- Creating sustainable and competitive economies – by increasing productivity in the country, creating partnerships for joint investments, supporting the growth of SWFs, filling market gaps and adopting a strategy of geographic diversification.

As is clear, sovereign wealth funds are long-term investors, supported by the public sector, with the potential to counteract market failures and provide a sustainable resource for investment projects. This group includes the National Development Fund of Iran, which gained worldwide popularity with its large-scale Mubadala investment program of the UAE, Singapore's Temasek fund, and others.

• *Reserve pension funds*: as the name suggests, their purpose is to provide funds to cover the shortfall in the social security budgets.

• *Reserve investment funds*: their purpose is to reduce the costs of managing foreign exchange reserves and/or realize a higher return on the assets in the fund, while still being reported as reserves. Achieving these goals requires taking on more risk.

As of 2022 the SWFs are distributed as follows: 36% were created and function only as savings funds, 31% are development funds and 33% operate as mixed (hybrid) funds combining two or more of the objectives: stabilization, savings and

development. It is noticeable that there is no strongly pronounced, outstanding group. There is a lack of concentration of sovereigns' preferences towards a specific species. Rather, it can be said that at the global level there is a rough balance between the main types of sovereign wealth funds (Fig. 3).

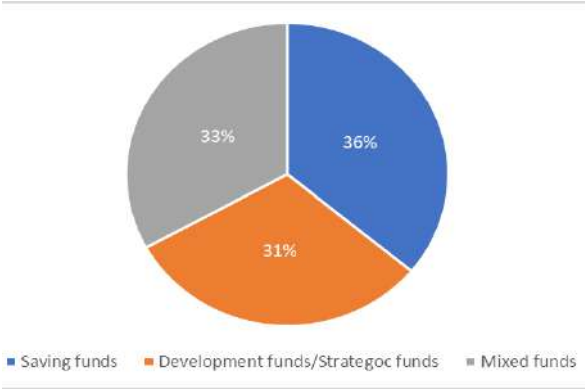

Fig. 3. Distribution of SWFs by mandates [9]

HOW DO SWFs INFLUENCE FISCAL POLICY?

In recent years the prices of raw materials, and more specifically of hydrocarbons, have increased significantly, provoked largely by the COVID-19 pandemic and the war in Ukraine. This price volatility brought to the fore the need for an optimal fiscal policy response. The need for intervention is argued by the fact that price instability is transferred to the economy through several channels, the main ones being the fiscal and exchange rate policies. In addition, volatile commodity prices tend to lead to volatile revenues, especially in countries where these revenues constitute a significant share of total budget receipts, which in turn often lead to volatile public spending [8].

Significant and prolonged fluctuations in revenues can provoke pro-cyclicality in fiscal policy. The reasons are that authorities are more likely to increase spending during expansions when commodity prices are high and are forced to cut spending when commodity prices and revenue from the sale of mineral resources decline. In economic theory this behaviour is defined as procyclical. Observations show that such a move complicates macroeconomic management and leads to significant output volatility, undermining overall macroeconomic performance. There are empirical studies that prove that higher volatility of government spending is associated with lower economic growth, while other analyses show that fiscal policy volatility acts as a transmission mechanism for the "the curse of resources". In addition, large deviations in commodity prices also have a serious impact on key social indicators.

According to the Keynesian doctrine and neoclassical theory, the main purpose of fiscal policy is to smooth out the volatility of output during business cycles, which suggests that it should be countercyclical in nature – the budget ends up with a surplus in good times and a deficit when the economy slows or is in crisis. In his seminal work *The General Theory of Employment, Interest and Money*, John M. Keynes recommended that when the economy is in recession, the government should increase spending and/or cut taxes to simulate economic activity and vice versa: during a boom, the government should limit costs and realize surpluses. In other words, fiscal policy is expected to follow a countercyclical pattern driven by automatic stabilizers and discretionary channels.

The question here arises as to how this concept fits into commodity exporting countries, and, specifically, how should commodity exporting countries insulate their economies from the negative terms of trade shocks caused by large and unpredictable fluctuations in commodity prices. From a theoretical point of view, one approach to hedge or remove the link between public spending and resource revenue volatility is through the creation of a stabilization fund. As already explained, this instrument is mainly intended for accumulating resources when the price of the commodity exceeds a certain reference price and for redirecting funds from the fund to the budget when the price falls below another, previously known, reference price. In this way the stabilization fund would represent a kind of self-insurance, the task of which is to help smooth out fluctuations in budgetary resources by reducing or eliminating the uncertainty and variability of revenues associated with the resources coming into the budget.

Another question that is often raised is whether stabilization funds contribute to lower fiscal policy volatility, but in the specialized economic literature the empirical results are mixed. While some authors find an inverse relationship between the presence of SWFs and the volatility of fiscal expenditures, others fail to find a significant relationship.

In a recent study, perhaps the most extensive on this issue, an attempt is made to empirically test the hypothesis of whether stabilization funds help smooth government consumption and whether a country with such an instrument has a less volatile fiscal policy. The sample covers 182

developed and developing countries for the 1980–2019 period. The study has found a negative relationship between the availability of stabilization funds and the volatility of government spending. Empirical findings support the argument that stabilization funds help smooth out government spending during bad times. The results of the study show that fiscal policy volatility in countries with stabilization funds is lower than in countries without such a fund by about 14%. This result shows considerable robustness across different specifications and sample periods. However, the creation of such a fund in itself does not guarantee that fiscal policy will insulate the local economy from fluctuations in commodity prices, as these funds are not a substitute for fiscal policy [8, p. 20].

In conclusion, J. Capapé's statement can be cited, according to which, fiscal rules must precisely define or limit the amounts that the government is entitled to withdraw from the SFB each fiscal year. To be effective, fiscal rules should require harmonized management of sovereign assets and liabilities so that governments only consider withdrawing funds from the SWFs when doing so is a cheaper option than accessing global debt markets. The optimal scenario is that withdrawals are made from the net investment income of the SWFs, and not at the expense of the capital that should be preserved for future generations. Ultimately, when the fiscal rule is sound, the fund will be able to fulfil its mission with less political interference, longer-term returns, and more consistent implementation of asset allocation strategies. This would facilitate the development of decarbonisation strategies and the implementation of sustainable long-term strategies to support infrastructure, agriculture or renewable energy [10].

CONCLUSION

In conclusion, sovereign investors have a profound impact on supporting fiscal policy for sustainable economic growth and building a better future for their nations. As sovereign wealth funds continue to support the government's strategic objectives, implement innovative solutions and deal with market complexities, their relevance to nations becomes increasingly important.

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REVIEW OF MEASURES FOR MAINTAINING AND PROVIDING FIRST AID BY STUDENTS

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ABSTRACT

In cases of out-of-hospital cardiac arrest, the Chain of Survival emphasizes the importance of basic life support (BLS) steps, which include recognizing cardiac arrest, alerting emergency services, performing cardiopulmonary resuscitation (CPR), and using an automated external defibrillator (AED). When these measures are applied in time, they significantly increase the chance of survival and the neurological status in these cases. The inclusion of people of different age groups, including schoolchildren, in BLS training and application has the potential to improve the rate of CPR among volunteers in cases of out-of-hospital cardiac arrest. The effectiveness of such initiatives would support the organization of work of health systems.

Key words: *training initiatives, basic steps of life support (BLS), out-of-hospital cardiac arrest, students, health system*, *student nurse*

INTRODUCTION

First aid involves the immediate application of measures aimed at preserving the lives of individuals who have suffered injuries or life-threatening conditions. It covers basic life-sustaining medical techniques that are extremely important to perform until professional medical assistance arrives.

Assistance can be provided by a casual observer who is close to the injured person, without necessarily having a medical degree, but who has completed a first aid training course [7].

The main purpose of first aid is to reduce suffering and aid the recovery process with minimal consequences for the victim's health, which means that timely first aid is life-saving and a person with knowledge of first aid is in a position to help the victim. First aid is the first care for a person who has suddenly become ill or injured before receiving professional medical assistance.

Providing first aid consists of several stages:

• quick and accurate assessment of the situation in which the victim is and application of immediate relevant measures;

• calling an emergency medical assistance team;

• continuation of medical assistance until the arrival of the medical team;

• providing emergency medical care and transportation to a hospital [17].

Cessation of effective cardiac activity (cardiac arrest) is followed by a condition called clinical death. Blood flow to the vital organs /heart, brain/ is stopped. This is a reversible condition if the victim/patient is given the necessary resuscitation measures [1]. These include early recognition of cardiac arrest, calling local emergency services, providing cardiopulmonary resuscitation – chest compressions with or without mouth-to-mouth ventilation, using an automated external defibrillator (AED).

Sudden cardiac death is cited as one of the leading preventable causes of death in developed countries.

Cardiac arrests can occur unexpectedly, in hospital and outpatient settings.

MATERIALS AND METHODS

In the reviewed articles on PubMed (Pubmed, n.d.) and Medline (Medline, n.d.), researchers used qualitative or quantitative methods to address the intended problem. In the studies reviewed, real-life experiments, thematic analysis, and simulation of emergency trainings were found, which outlines a research gap on the use of a human resource (medical students) to train high school students in emergency medical responses.

RESULTS

The International Resuscitation Liaison Committee recommends training students to use the

check-call-compress algorithm. The check evaluation includes an attempt to establish a dialogue with the patient, efforts to wake him or her up and assessment of normal breathing by observation, and listening. Research shows that children between the ages of 4 and 15 are able to accurately make assessments of consciousness and breathing after demonstration and hands-on experience [3].

A key challenge is determining the appropriate age at which children can begin to learn the importance of helping others by following the basic steps in the casualty care chain.

According to a scientific statement from Cologne published on May 17, 2023, “children can learn the basic steps of resuscitation as early as 4 years of age. From this age, after demonstration, they can recognize, for example, states of difficulty of breathing and loss of consciousness and call emergency medical help. This provides an opportunity for early initiation of resuscitation training.” [17].

Another study indicated that starting BLS training at an early age helps the learning process to occur at consistent intervals, thus allowing adaptation of skills that are consistent with children's developmental stages [14].

In support of the Children Save Lives initiative, Spanish researchers conducted a study of 237 children between the ages of 5 and 8. According to the researchers, teaching children in the indicated age group is achievable, especially when using innovative didactic materials appropriate to the mental and physical development of young children.

In the training process, images play a key cognitive role, facilitating learning, understanding and remembering information. In addition, practical experiments with such materials stimulate sensations, which contributes to better assimilation of knowledge and the achievement of better long-term educational results [12]. From the research conducted, the researchers estimate the following educational outcomes:

1. Keeping calm, which is necessary when observing an unconscious person;
2. Checking the victim's reaction and breathing;
3. Calling 112, alerting emergency services, indicating that the child can dial the correct emergency number;
4. Communicating with an emergency medical dispatcher by providing correct information ("who is calling, where the incident occurred and what exactly happened");
5. Follow all steps in exact sequence [15].

By the age of 6 at the latest, children should have mastered making an emergency call and providing correct emergency information [8, 17].

Above all, children should realize that timely notification of an emergency is of utmost importance for the rapid arrival of specialist medical help to help the victim.

The required depth of compression for indirect cardiac massage is 5-6 cm for adults.

A body of evidence suggests that proper hand positioning and compression speed can be performed by students 10 years of age and older. A child's weight or body mass index is just as important. According to researchers, the average depth of compression achieved by students when exercising on mannequins varied widely. A minimum body weight of 40 to 50 kg is required to achieve sufficient force for adequate depth of chest compression [5].

Performing chest compressions correctly requires hands-on training. An illustrative study proves that after a 50-minute intensive training program, CPR skills were achieved in 87.5% of children aged 12-14 years. After 20 minutes of training, 30% of children aged 13–14 years were able to perform sustained chest compressions at the correct rate, 45% at the appropriate depth of compression, and 31% by consistently positioning their hands correctly [10]. Training that focuses on practice can be successful and motivate learners. To maintain skills in performing chest compressions, Abellaras-Gomez et al. recommend that short refresher courses are provided periodically every 4 months [2].

Practical training ensures the achievement of the correct degree of compression, depth and recoil of the chest, and for the compressions to be effective, the pauses between them must be minimized. During the practical exercise, it is appropriate to use aids, e.g. music to follow the tempo and provide rhythm to the standard, which facilitates feedback on the effectiveness of the compressions.

Regular training in CPR techniques reinforces skills in the long term, especially when done in small groups. The European Resuscitation Council recommends annual theoretical and practical training, thereby ensuring the preservation, even improvement, of knowledge and technical skills [13].

Mouth-to-mouth resuscitation involves a series of actions and techniques designed to facilitate the flow of oxygen into the victim's body. It includes the techniques, sequence, volume and rate of inspired air delivery. Evidence suggests

that students aged 10-12 years are able to reproduce the appropriate rate, sequence and volume for mouth-to-mouth ventilation. Conversely, young children are usually unable to achieve the required volumes of air due to their reduced lung capacity. In this respect, researchers recommend that students' training should focus mainly on cardiac resuscitation, only with compression [4].

According to a scientific statement from the American Heart Association (2018), students are able to understand the importance of early defibrillation after out-of-hospital cardiac arrest. Training in the application of an automatic external defibrillator should be introduced gradually into the training i.e. to build on students' knowledge and then move on to practical learning [4].

According to other researchers, the proportion of students who administer AEDs without error varies widely (11%–17% at 6–7 years of age, 25% at 9–10 years of age, and 27%–51% at 13–16 years of age) [9].

Nowadays, virtual and augmented reality technologies are developing at an extremely fast pace. Incorporating digital learning as virtual reality is a powerful approach to teaching students who grow up in a technological environment. Implementing virtual reality for basic life support training improves skills compared to traditional classroom methods. Research reports on the development of smartphone learning applications suitable for teaching BLS to students. The majority of applications are intended for children over 4 years of age and are presented as animated lessons [4].

When time or resources do not permit instructor-led training or traditional learning methods, e-learning platforms provide flexible learning options that allow students to complete training online.

Basic life support training for students has become a key initiative to increase bystander CPR rates. Regular training in basic life support, regardless of students' age, reinforces long-term skills. Basic first aid training for students ensures that entire generations are prepared to respond adequately to cardiac arrest and thus further increase the chances of survival after out-of-hospital cardiac arrest. To develop this training, it is important to have comprehensive legislation, curricula prepared by health professionals and scientific evaluations of best practices based on current medical evidence.

The ten main principles of the European Resuscitation Council for resuscitation training in schools from 2018 read:

1. Everyone can save a life; children can save lives too;
2. It is recommended for students to have up to 2 hours of CPR training during the school year;
3. Practical courses should be supported by virtual and theoretical training. No special equipment is needed for this;
4. Pupils' training must begin at the age of 12;
5. Trained children should be encouraged to train others. For example, after training, all children should be asked to hold training sessions to 10 people for 2 weeks as homework and report this to the teacher;
6. CPR training can be conducted by anesthesiologists, cardiologists, emergency room doctors, nurses, paramedics, medical and health care students, trained teachers etc. Volunteers can teach CPR to students in hospitals or other appropriate places;
7. Ministries of Education should conduct a nationwide program of CPR training for students in each country;
8. Each national resuscitation association and/or related institutions and associations must support its national initiatives and the "Children save life" campaign;
9. With the "Children Save Life" campaign, children will also acquire relevant social responsibilities and social skills;
10. National programs that train students in CPR can contribute to saving lives and reducing costs for social and health services [11].

The call of the ENS included in the 2021 guidelines requires that the training of students in CPR becomes mandatory by law not only throughout Europe, but also in other parts of the world [6].

In relation to the provision of basic life support (BLS) measures, in their study Scapigliati et al., characterize an "initiative" as any action that encourages the implementation of life-saving measures, as they lead to education and training. In this way, it is possible to increase the participation of people of different age groups, including school students, in the provision of BLS measures [16].

According to the European Resuscitation Council, CPR training should also take place in higher education institutions, in particular for students of pedagogy and healthcare [6], who, in turn, we believe can successfully participate in initiatives to teach students to master the basic steps in the chain of survival for out-of-hospital cardiac arrest.

CONCLUSION

Any age is suitable for BSL training, but it is necessary that didactic methods are tailored to children's cognitive and physical abilities. From the review, we can summarize that First Aid knowledge is an important part of education, as it provides an opportunity to save lives and reduce the severity of injuries. Health education is extremely important for young people as it helps them gain knowledge and skills for a healthy lifestyle, and incorporating BSL training can boost their motivation to care for and maintain good health.

The present review is part of the activities under Project No. NIH 507/2024 "Integrated activities of students and pupils to provide first aid". The upcoming in-depth studies regarding the need to acquire competencies for cardiopulmonary resuscitation by high school students from five high schools in Burgas trained by medical students from Prof. Dr. Asen Zlatarov University will be the beginning of professional training among students at national level.

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SUSTAINABLE TOURISM AND ITS REFLECTION ON THE TOURISM SECTOR IN BULGARIA

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ABSTRACT

This study explores the role of sustainable tourism in Bulgaria and its reflection on the country's tourism sector. With growing global attention on responsible tourism, Bulgaria faces the challenge of integrating sustainability into its tourism development strategies. The study examines key aspects of sustainable tourism, including the environmental, economic, and social impacts, while identifying the growing awareness and implementation of sustainable practices among various stakeholders such as tourism businesses, rural operators, and local communities. Using both quantitative and qualitative data collection methods, the research highlights the successes and challenges of sustainable tourism in Bulgaria, with a particular focus on rural and ecotourism. The findings reveal a rising trend in sustainability awareness, though barriers such as over-tourism, lack of infrastructure, and insufficient policy enforcement remain significant. Recommendations for future actions include enhancing public-private partnerships, strengthening government regulations, and promoting sustainable tourism education and certifications to ensure long-term growth in the sector. This study offers valuable insights for policymakers and stakeholders aiming to develop a more sustainable tourism industry in Bulgaria.

Key words: *sustainable tourism, Bulgaria, strategy, ecotourism, sustainable practices*

INTRODUCTION

Sustainable tourism is a concept that focuses on minimizing the negative environmental, social, and economic impacts of tourism while promoting conservation, cultural heritage, and the well-being of local communities. In Bulgaria, sustainable tourism is increasingly recognized as a crucial aspect of the tourism sector, especially in light of the country's rich natural and cultural resources.

Sustainable tourism is an essential framework for ensuring that the development of the tourism sector balances economic growth with environmental protection, cultural preservation, and social responsibility. Globally, this approach has gained momentum, as the tourism industry seeks ways to reduce its negative impacts while enhancing the positive contributions to local economies and ecosystems.

In Bulgaria, a country rich in both natural beauty and cultural heritage, the importance of sustainable tourism is becoming more evident. Bulgaria’s diverse landscapes, from the Black Sea coast to the Balkan Mountains, along with its historical and archaeological sites, make it a highly attractive destination. However, this popularity brings challenges such as environmental degradation, over-tourism, and the need for more inclusive economic development in rural areas.

Bulgaria's commitment to sustainable tourism has become increasingly significant as the country strives to protect its natural resources while developing its tourism sector. With the growing global demand for eco-friendly and culturally responsible travel, Bulgaria faces both opportunities and challenges. The nation’s vast natural parks, biodiversity, and UNESCO World Heritage Sites present unique potential for ecotourism, while its rich history and cultural heritage provide strong foundations for sustainable cultural tourism. However, balancing the economic benefits of tourism with environmental conservation and the well-being of local communities requires efforts from both the public and private sectors. Sustainable tourism initiatives are gradually gaining traction in Bulgaria, especially in areas such as rural and nature-based tourism, though issues such as overcrowding and insufficient infrastructure still need to be addressed. This study will delve into how these efforts are shaping the tourism industry and how they reflect broader global trends toward sustainability.

The main purpose of the current paper is to explore the present state of sustainable tourism in

Bulgaria, highlighting both the successful initiatives and the challenges the sector faces. It will also examine how Bulgaria is adapting its tourism strategies to meet global sustainability standards while ensuring long-term benefits for both local communities and the environment.

LITERATURE REVIEW

Sustainable tourism, as defined by the UN World Tourism Organization (UNWTO), is tourism that "meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future." The three pillars of sustainable tourism – economic viability, environmental protection, and socio-cultural equity – emphasize the need for a holistic approach that supports long-term development. Academic literature on sustainable tourism explores the relationship between tourism development and its impact on natural resources, local cultures, and economies. Butler's (1980) "Tourism Area Life Cycle" (TALC) model also provides a useful framework for understanding how tourism destinations evolve, potentially leading to unsustainable outcomes unless managed appropriately.

Bulgaria's tourism sector is experiencing both growth and challenges in its transition toward sustainability. According to Gallucci and Dimitrova (2020), sustainable tourism is becoming more important in Bulgaria, particularly in areas such as the Black Sea coast, which has suffered from excessive tourism, and mountain resorts, where environmental concerns are paramount. Their research emphasizes that, while Bulgaria has significant potential for developing sustainable tourism, there is a need for better policy integration and resource management.

Lulcheva and Arseniou (2018) also highlight the role of sustainable rural tourism in Bulgaria. Their study focuses on how rural communities can benefit from small-scale tourism that promotes local traditions and natural beauty, reducing the pressure on more popular tourist hotspots. This reflects a global trend toward community-based tourism, which offers direct economic benefits to local residents while promoting environmental sustainability.

Ecotourism is one of the most discussed forms of sustainable tourism in Bulgaria, especially given the country's rich biodiversity and large number of protected areas. Studies by Stankova and Kirilov (2011) explore how ecotourism in areas such as the Rila and Pirin National Parks is growing as a sustainable alternative to mass tourism. Their research shows that these regions attract tourists interested in activities such as hiking, bird watching, and nature photography, which promote environmental awareness while providing income for the local economies.

Ecotourism development in Bulgaria is also supported by initiatives like the "Green Key" certification, which encourages environmentally responsible tourism practices in accommodation and tourist services. Several studies indicate that the certification of sustainable tourism businesses helps to raise environmental standards across the sector and contributes to long-term resource conservation (Kallou et al. 2024).

The challenges facing Bulgaria's tourism sector in its pursuit of sustainability are numerous. Over-tourism, particularly in popular seaside resorts such as Sunny Beach, is a major concern. Moncheva et al. (2008) argue that the rapid expansion of these resorts has led to environmental degradation, including loss of biodiversity and water pollution. This is compounded by inadequate infrastructure and a lack of comprehensive regulatory frameworks, which are necessary for controlling the environmental and social impacts of tourism development.

Another challenge is the seasonality of tourism in Bulgaria, particularly in mountain and coastal resorts. Vodenska (2018) discusses how the reliance on seasonal tourism makes it difficult to maintain sustainable practices year-round. The research suggests that diversifying Bulgaria's tourism offerings, such as promoting off-season and niche markets (e.g. wellness and cultural tourism), could help mitigate these issues.

Despite the challenges, sustainable tourism presents numerous opportunities for Bulgaria. Dimitrova (2021) argues that Bulgaria's rural areas, which have not yet been fully developed for tourism, hold significant potential for community-based and nature-centric tourism initiatives. These regions offer authentic experiences, from local cuisine to traditional crafts, which are increasingly appealing to tourists seeking sustainable travel options.

Furthermore, initiatives such as the European Union's funding programs for rural development and nature conservation provide important financial support for Bulgaria's sustainable tourism projects. The EU's Natura 2000 network, for example, has been instrumental in preserving biodiversity-rich areas in Bulgaria and promoting eco-friendly tourism ventures.

The literature on sustainable tourism in Bulgaria highlights both the potential and the challenges the country faces in integrating sustainable practices into its tourism sector. While significant progress has been made in areas such as ecotourism and rural tourism, the issues of overcrowding, environmental deterioration, and limited infrastructure remain pressing concerns. Future research and policies must focus on improving regulatory frameworks, enhancing local community participation, and promoting off-season tourism to ensure that Bulgaria can fully realize the benefits of sustainable tourism.

RESEARCH METHODOLOGY

This section outlines the research methodology used to examine sustainable tourism and its reflection on Bulgaria's tourism sector. The study employs a mixed-methods approach, integrating both qualitative and quantitative data to provide a comprehensive understanding of how sustainable tourism practices are applied in Bulgaria.

The research follows a descriptive and exploratory design. Descriptive research is used to provide a detailed picture of the current state of sustainable tourism in Bulgaria, focusing on practices, challenges, and opportunities. Exploratory research, on the other hand, seeks to uncover new insights into how sustainability is reflected in the country's tourism policies, business models, and tourist behaviour.

Primary data collection involves both surveys and semi-structured interviews.

Surveys: A structured questionnaire was developed to collect quantitative data from tourism professionals, businesses, and tourists. The survey focuses on understanding the level of awareness, attitudes, and behaviours regarding sustainable tourism. The sample includes stakeholders from popular tourism areas in Bulgaria, such as the Black Sea coast, mountain resorts, and rural areas. The survey also includes questions related to the implementation of sustainable practices (e.g., eco-friendly accommodation, waste management, and resource use) and the challenges encountered.

Interviews: Semi-structured interviews are conducted with key stakeholders, including policymakers, local authorities, and representatives of tourism associations. These interviews provide qualitative insights into how sustainable tourism policies are being implemented and the role of government support, private investment, and community involvement. The interviews explore issues such as policy gaps, the role of certification programs (e.g. Green Key and Blue Flag), and public-private partnerships.

Secondary data is gathered from a wide range of sources, including government reports, academic studies, industry publications, and international sustainability indices. Specific sources include:

- **Governmental reports** on tourism and environmental protection, such as those published by Bulgaria's Ministry of Tourism and the Ministry of Environment and Water.
- **European Union programs and policies**, including the European Commission's reports on sustainable development and tourism.
- **Academic literature and case studies** on sustainable tourism in Bulgaria and comparable countries, which are reviewed to provide context and theoretical frameworks.
- **Data from international organizations** such as the World Tourism Organization (UNWTO), which offers global insights into sustainability metrics and best practices.

The study uses **purposive sampling** to select participants for both surveys and interviews. This sampling method ensures that the respondents are directly involved in the tourism industry or affected by tourism-related activities. The sample includes:

- **Tourism professionals** from various segments, including hospitality, travel agencies, and tourism boards.
- **Tourists**, both domestic and international, who have visited key destinations in Bulgaria.
- **Local community representatives**, particularly from rural areas and protected natural zones, where sustainable tourism practices are most critical.

Data from the surveys are analyzed using **descriptive statistics** to quantify the level of sustainable tourism adoption. Statistical tools such as frequency distributions, percentages, and cross-tabulations are used to interpret the data. The analysis focuses on key variables such as the level of awareness, the frequency of sustainable practices, and the types of sustainable tourism activities most prevalent in Bulgaria.

Thematic analysis is applied to the interview data to identify key patterns and themes regarding sustainable tourism challenges, strategies,

and opportunities. The qualitative data is coded based on recurring themes, such as environmental conservation, community engagement, and policy implementation. The analysis aims to contextualize quantitative findings and provide a deeper understanding of the barriers and enablers of sustainable tourism in Bulgaria.

The study acknowledges several limitations:

- **Sample size and representation**: Due to time and resource constraints, the sample size may not fully represent all regions or stakeholder groups in Bulgaria's tourism sector.
- **Temporal limitations**: The study captures a snapshot of the current state of sustainable tourism, which could evolve rapidly due to emerging trends or policy changes.
- **Potential bias** in interviews or surveys may arise from respondents' differing levels of knowledge or vested interests in tourism development.

This mixed-methods research methodology provides a comprehensive approach to investigating sustainable tourism in Bulgaria. By integrating both quantitative and qualitative data, the study offers a multi-dimensional view of how sustainable tourism practices are being implemented, the challenges faced by the industry, and the opportunities for future development. The findings will contribute to a broader understanding of sustainability in the tourism sector and inform recommendations for policy and practice.

RESULTS AND DISCUSSION

This section presents the findings of the research on sustainable tourism and its impact on Bulgaria's tourism sector. The demographic profile of the respondents for this study on sustainable tourism in Bulgaria includes a diverse range of participants from various sectors of the tourism industry, local communities, and tourists. The demographic data provides insight into the characteristics of the respondents, ensuring the reliability and relevance of the research findings.

The gender distribution among respondents was relatively balanced:

- Male: 48%
- Female: 52%

This balance reflects broad participation from both genders across different roles within the tourism industry, including policymakers, local business owners, and tourists.

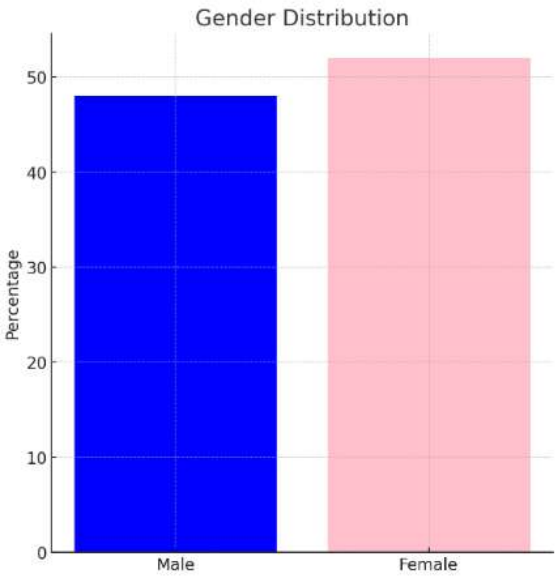

Fig. 1. Structure of survey respondents male/female. Source: Created by the author

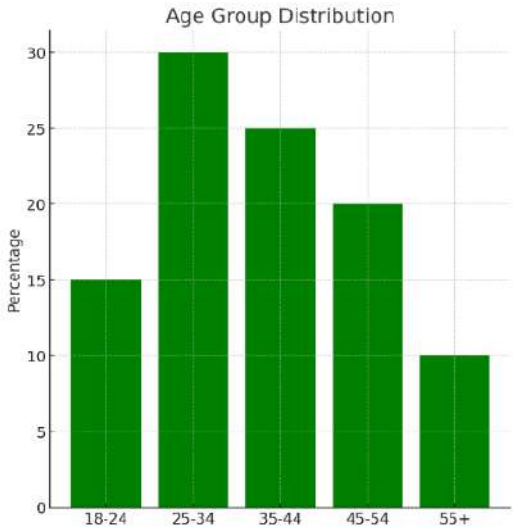

Fig. 2. Structure of survey respondents by age. Source: Created by the author

Respondents were grouped into several age categories, with the majority of participants falling between 25 and 54 years of age:

- 18-24 years: 15%
- 25-34 years: 30%
- 35-44 years: 25%
- 45-54 years: 20%
- 55 and above: 10%

The predominance of individuals in the 25-44 age range indicates that the majority of respondents were in the workforce and actively involved in tourism operations or policy-making, while

younger participants were primarily tourists or students in tourism-related fields.

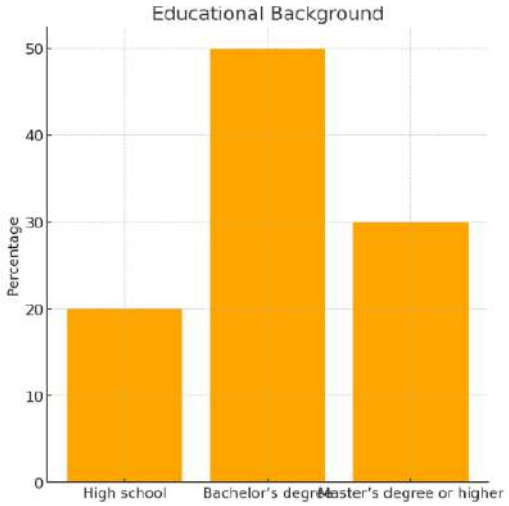

Fig. 3. Structure of survey respondents by education. Source: Created by the author

The educational background of respondents reflects a well-educated group, particularly in the tourism sector:

- High school diploma: 20%
- Bachelor's degree: 50%
- Master's degree or higher: 30%

This high level of education, particularly among tourism professionals and policymakers, suggests that respondents were well-informed about sustainability practices and tourism development issues.

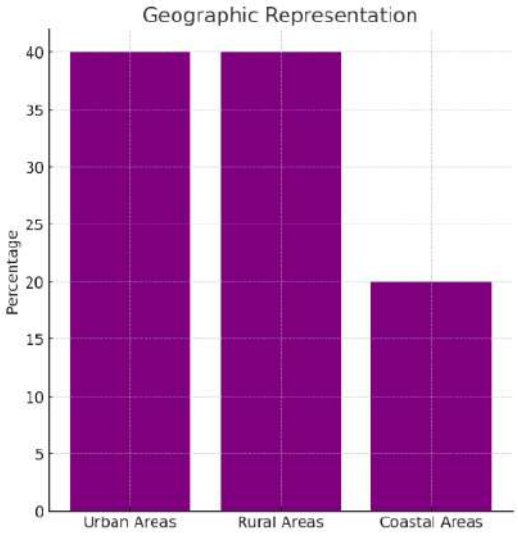

Fig. 4. Structure of survey respondents by geographic representation. Source: Created by the author

Respondents included a mix of professionals and community members directly or indirectly involved in tourism:

- Tourism Operators/Business Owners: 35%
- Local Community Members (rural areas): 25%
- Government and Policy Officials: 15%
- Tourists (both domestic and international): 25%

This variety of roles provided a broad perspective on how sustainable tourism is perceived and implemented in Bulgaria. Tourism operators and business owners were the largest group, offering insights into on-the-ground practices and challenges, while local community members provided important feedback on how tourism affects rural economies.

Respondents were selected from different regions of Bulgaria to ensure that perspectives from both urban and rural areas were represented:

- Urban areas (e.g. Sofia, Plovdiv): 40%
- Rural areas (e.g. Rhodope Mountains, Rila, Pirin): 40%
- Coastal areas (e.g. Black Sea coast, Sunny Beach): 20%

This geographic diversity allowed the study to capture the distinct differences in how sustainable tourism practices are adopted in urban, rural, and coastal areas.

For the tourist segment of the respondents:

- Domestic tourists: 60%
- International tourists: 40%

Among international tourists, the largest groups came from Germany, the United Kingdom, and Romania, reflecting Bulgaria's key markets in European tourism.

The results from the surveys, interviews, and secondary data analysis are discussed, focusing on the level of adoption of sustainable practices, challenges identified, and opportunities for future development.

Adoption of Sustainable Tourism Practices

The survey results indicate that there is a growing awareness of sustainable tourism among stakeholders in Bulgaria, particularly in ecotourism and rural tourism sectors. Around 65% of tourism businesses surveyed claimed to have implemented at least one sustainable practice, such as energy-efficient systems, waste reduction programs, or responsible sourcing of local products. Notably, 80% of rural tourism operators mentioned using sustainable practices as part of

their marketing strategies to attract eco-conscious travellers.

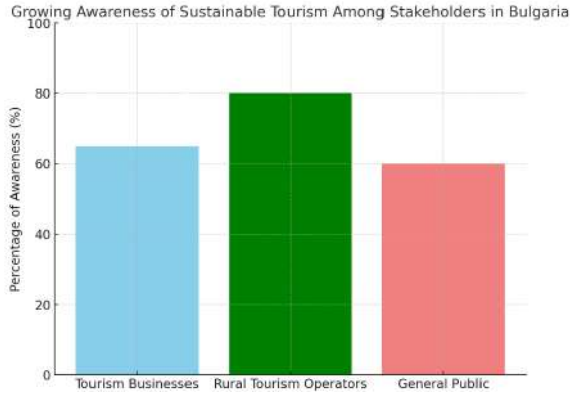

Fig. 5. Growing awareness of Sustainable tourism in Bulgaria. Source: Created by the author

Several protected areas, such as Rila and Pirin National Parks, have seen a rise in ecotourism activities. Interview respondents from local tourism boards and conservation organizations reported that tourists are increasingly seeking nature-based experiences that promote environmental stewardship. The "Green Key" certification program has also played a role in encouraging sustainable operations among accommodation providers.

Local cultural preservation is another area where sustainability is reflected. Small towns, such as Koprivshtitsa, have successfully integrated sustainable tourism by promoting local heritage while limiting mass tourism.

Challenges in Sustainable Tourism

Despite the positive trends, several challenges were identified in the study that impede the broader implementation of sustainable tourism practices in Bulgaria:

Excessive tourism and Environmental Degradation: In high-demand areas such as Sunny Beach and some mountain resorts, overtourism remains a significant issue. Survey responses from environmental NGOs revealed concerns about the destruction of natural habitats, increased pollution, and unsustainable construction. As Moncheva et al. (2008) noted, uncontrolled development along the Black Sea coast has led to long-term damage to ecosystems, despite recent efforts to introduce stricter regulations.

Lack of Infrastructure and Policy Support: Interviews with policymakers indicated that although there are national policies promoting sustainable tourism, their implementation is inconsistent. Inadequate infrastructure, especially in rural and remote areas, was cited as a major barrier to developing sustainable tourism options. Only 40% of tourism operators surveyed in rural regions had access to funding or government support for sustainable projects.

Limited Awareness and Education: Public awareness of sustainable tourism is still low in some segments of the industry. 60% of tourists surveyed expressed limited understanding of what constitutes sustainable travel and did not prioritize sustainability when choosing destinations. This aligns with findings from Country Skills Profile Report by Pantour (2024), that emphasizes the need for more educational campaigns aimed at both tourists and tourism professionals.

Economic and Community Benefits

One of the most positive outcomes of sustainable tourism in Bulgaria is its potential to support local economies and create job opportunities, especially in rural areas. Rural and community-based tourism, which integrates local traditions, crafts, and food, has led to direct economic benefits for local populations. Lulcheva and Arseniou (2018) have found that tourism in small villages has increased household incomes by 20-30%, helping to preserve cultural heritage and reduce urban migration.

Interviews with local tourism operators revealed that tourists are increasingly interested in authentic, immersive experiences. For example, homestays and eco-lodges in the Rhodopes and Strandzha Mountains offer tourists the chance to engage with local customs and food production, fostering cross-cultural exchanges and encouraging sustainable practices.

However, seasonality remains a challenge for local economies dependent on tourism. Businesses in rural and mountainous areas reported that income is highly dependent on the peak summer or winter seasons, making it difficult to maintain sustainable operations year-round.

Opportunities for Future Development

The study reveals several opportunities for the future growth of sustainable tourism in Bulgaria

Diversification of Tourist Offerings: Diversifying into niche tourism markets such as wellness tourism, adventure tourism, and agro-tourism could help reduce the pressure on popular areas and distribute tourist traffic more evenly. This is particularly important for mitigating

the effects of over-tourism in resorts along the Black Sea.

Strengthening Public-Private Partnerships: Collaboration between the government, private sector, and local communities can accelerate the implementation of sustainable practices. Interviews with policymakers suggest that public-private partnerships (PPPs) are crucial for creating infrastructure that supports sustainable tourism, such as renewable energy, waste management systems, and transportation improvements in rural areas.

EU Funding and International Cooperation: Access to European Union funds and international sustainability certifications can also help Bulgarian businesses invest in eco-friendly technologies and practices. Programs like Natura 2000 have shown positive impacts on conservation and tourism development, offering a blueprint for future initiatives.

The results show that while Bulgaria has made significant progress in promoting sustainable tourism, particularly in rural and nature-based tourism, challenges such as over-tourism, lack of infrastructure, and limited awareness remain obstacles to widespread adoption. However, opportunities exist to further enhance sustainability through policy support, tourism diversification, and international cooperation. The reflection of sustainable practices in Bulgaria's tourism sector is encouraging, but continued efforts are necessary to ensure long-term success and balance between economic, environmental, and social goals.

CONCLUSION

Sustainable tourism has emerged as a critical component for ensuring the long-term viability of the tourism sector in Bulgaria, reflecting a global shift toward more responsible and environmentally conscious travel. This research highlights the importance of integrating sustainable practices not only for environmental protection but also for the preservation of Bulgaria’s rich cultural heritage and the economic well-being of local communities. While progress has been made, particularly in rural and ecotourism sectors, the path to fully embedding sustainability across the entire tourism industry is fraught with both opportunities and challenges.

The results show a growing awareness of sustainability among tourism operators, particularly in rural areas where eco-conscious travellers are increasingly seeking authentic experiences tied to nature and local culture. Many tourism businesses have begun to adopt practices such as energy-efficient technologies, waste reduction programs, and the sourcing of local products to reduce their environmental footprint. Rural tourism operators, in particular, have embraced sustainability as a core element of their offering, recognizing its appeal to tourists seeking meaningful, low-impact travel experiences.

However, significant challenges remain that must be addressed to ensure the widespread adoption of sustainable tourism practices. Over-tourism continues to strain popular coastal and mountain destinations, leading to environmental degradation and unsustainable development. This underscores the need for stricter enforcement of environmental regulations, more responsible tourism planning, and efforts to distribute tourism more evenly across the country, particularly in lesser-known areas that have untapped tourism potential. Additionally, infrastructure and policy gaps hinder the development of sustainable tourism in certain regions, especially rural areas, where businesses struggle to access resources and funding to implement sustainable initiatives.

One of the key findings of this study is the lack of awareness among the general public regarding the principles of sustainable tourism. While tourists are increasingly interested in sustainable experiences, 60% of respondents had limited understanding of what sustainable tourism actually entails. This highlights the need for more comprehensive education and awareness campaigns, targeting both tourists and tourism industry professionals, to ensure that sustainability is not only a business strategy but also a consumer expectation.

Furthermore, the study emphasizes the economic benefits that sustainable tourism can bring to local communities. By promoting local culture, crafts, and cuisine, sustainable tourism has the potential to generate income, reduce urban migration, and improve the quality of life for people in rural and remote areas. In this sense, sustainable tourism is not just an environmental or ethical imperative but also a means to promote social and economic equity within the tourism sector.

Opportunities for future development in Bulgaria’s tourism sector include the diversification of tourist offerings into niche markets such as wellness, adventure, and agro-tourism. These forms of tourism can help reduce pressure on over-visited destinations while offering unique experiences that cater to the growing demand for

sustainable travel. Additionally, there is a need to strengthen public-private partnerships, which can enhance access to funding, infrastructure development, and technical support necessary for the transition to more sustainable operations.

European Union funding and international cooperation will also play an essential role in supporting Bulgaria's sustainable tourism efforts. Programs such as Natura 2000 have already demonstrated the positive impact of linking conservation with tourism development, providing a model for future initiatives. By aligning with international sustainability standards and certifications, Bulgarian tourism businesses can further elevate their global competitiveness while committing to responsible tourism practices.

In conclusion, the reflection of sustainable tourism in Bulgaria's tourism sector is promising, but the journey is far from complete. While there is clear momentum towards adopting sustainable practices, there are still hurdles to overcome, particularly in terms of policy support, infrastructure, and public awareness. A holistic approach that involves government, businesses, local communities, and tourists themselves is crucial for ensuring that sustainability becomes an integral part of Bulgaria's tourism identity. As Bulgaria continues to develop its tourism sector, the integration of sustainable principles will not only protect its natural and cultural resources but also create a resilient and vibrant tourism industry capable of withstanding future challenges. By taking a proactive stance on sustainability, Bulgaria has the opportunity to position itself as a leader in responsible tourism in Eastern Europe, enhancing both its environmental legacy and economic prosperity for future generations.

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THE SOCIAL ISOLATION OF THE ELDERLY

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ABSTRACT

Practice shows that the development of social policy related to the determination and satisfaction of the needs of the elderly does not lead to a completely successful result that covers all individuals in need at present. More than a few of them feel isolated and misunderstood, feel a lack of care, support, tolerance and understanding from those around them. Bulgarian society is a social society and makes efforts to offer a variety of social services to reach a large number of target groups, especially those at risk and marginalized. The needs of older people are addressed by a range of institutions, including homes and day care centres, and many initiatives by the NGO sector that offer support, both in institutional and home settings. For some reasons, however, not all elderly people benefit from them due to inability to move, reluctance to be included, lack of information, depressive states, loneliness, feeling of rejection. For the purpose, a study was conducted among 38 persons, using an author's questionnaire, to examine their opinion in several aspects: elderly people's daily routine, daily commitments, what they do in their free time, their hobbies, need for constant medical care, how other people treat them, if they are lonely if they feel cared for, if they think people treat them negatively because of their age. The results are optimistic because most respondents shared that they feel socially engaged and adequately fill their free time with various activities and time spent with their loved ones. However, there is a certain percentage of respondents who do not feel socially engaged: they live in isolation, worry, fear, loneliness, alienation from other people, boredom, and monotony, which leads to a loss of motivation to get involved in any social and public initiatives. The goal of social policy is that all services provided are adequate to the needs of the people and accessible, especially to the most vulnerable groups. Based on the results of the research, it is possible to develop activities that are convenient for the inclusion of more elderly people, and thus avoid their social disadvantage and permanently improve the quality of their social life.

Keywords: *elderly people, social isolation, physical activity, social services*

INTRODUCTION

Services for the elderly in Bulgaria aim to promote dignity, independence, and social inclusion, recognizing their valuable contribution to society. Efforts are directed towards addressing the growing needs associated with aging. There is a theoretical understanding that creating opportunities for social inclusion benefits not only the elderly but society as a whole, as happy elderly individuals significantly contribute, especially to raising future generations [3].

In a handbook on domestic violence prevention, A. Burieva defines domestic violence as acts of physical, sexual, psychological, emotional, or economic abuse, along with attempts to restrict personal freedoms and rights. She highlights that domestic violence often limits the elderly individuals' ability to socialize and participate in cultural events, impacting their freedom and rights. Older people often fall victim to domestic violence from relatives, including children and grandchildren [1].

D. Videva analyzes European social service standards, comparing practices in countries such as the UK, France, and Germany with new Bulgarian social service models. According to Article 137, Chapter 11 of the European Community Treaty, social service strategies must focus on overcoming social exclusion and actively involve service users in service delivery [9].

J. Voenkinova concluded that not all needs and problems of the elderly are understood, and existing social services are often insufficient and inaccessible. Policies by both government and non-government organizations tend to be sporadic, lacking sustainable results, and fail to provide stability and security for the elderly, many of whom experience constant stress and anxiety, worsening their health [10].

Videva detailed newly developed community services to address social exclusion, such as personal assistants, social assistants, home helpers, day care centres, and public dining services [9].

Another promising approach includes activities that strengthen personal character traits, fostering new opportunities for self-expression and interpersonal interaction, contributing to a fulfilling life for the elderly [8].

Zl. Dimitrova emphasizes the importance of physical activities for the elderly, including breathing exercises, strength and balance activities, and recreational games. She highlights key principles for success: safety, gradual progress, consistency, diversity, individuality, hydration, proper nutrition, and setting realistic goals [2].

St. Petkova-Georgieva, T. Petrova and Zh. Petrov have investigated medical tourism as a way of social inclusion of tourists with special needs, including elderly people [7].

RESULTS

Based on the literature review findings, a study was carried out to explore the extent of social isolation among the elderly and identify effective alternatives. A custom survey was used, including 38 participants: 23.68% male and 76.32% female. Their age groups were as follows:

- 60-69 years: 28.95%
- 70-79 years: 63.16%
- 80 years and older: 7.89%

The respondents provided varied answers about their daily routines (Fig. 1):

- Busy doing numerous tasks: 34.21%
- Watching television: 10.53%
- Meeting friends and acquaintances: 60.53%
- Working: 2.63%
- Monotonous and boring: 7.89%
- Lonely: 2.63%.

It can be concluded that most respondents are sufficiently engaged and enjoy a rich social life with friends and acquaintances. However, it is of concern that there are elderly individuals who spend their time watching television, feel lonely, experience boredom, and live monotonous daily lives. Only 2.62% of the respondents are employed. Among the surveyed individuals, none reported needing the support of a personal assistant or continuous medical care. They spend their time in various ways (Fig. 2):

- With family, children, grandchildren, and relatives: 36.84%
- With close friends: 68.42%
- Alone: 10.53%
- With colleagues: 5.26%

10.53% of the respondents admitted that they spend their time in solitude. However, 73.68% are actively involved in publicly organized initiatives. Unfortunately, the remaining respondents cited the following reasons for their lack of participation:

- No one considers the needs of elderly people: 7.89%
- Desire to participate, but physical access is very difficult: 7.89%
- Desire to participate, but lack of information: 13.16%

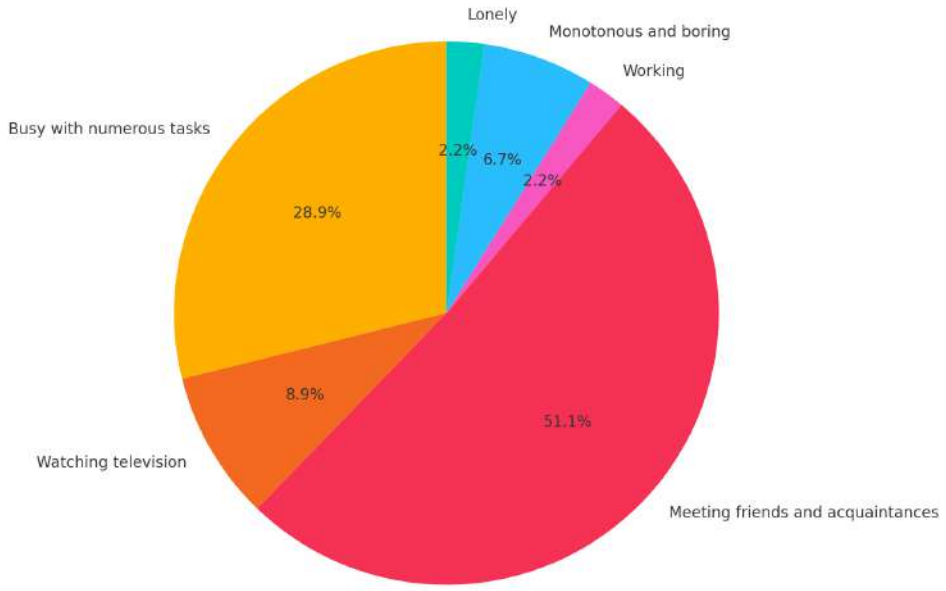

Fig. 1. Elderly people spend Their Daily Lives in Various Ways. Source: Author's Research

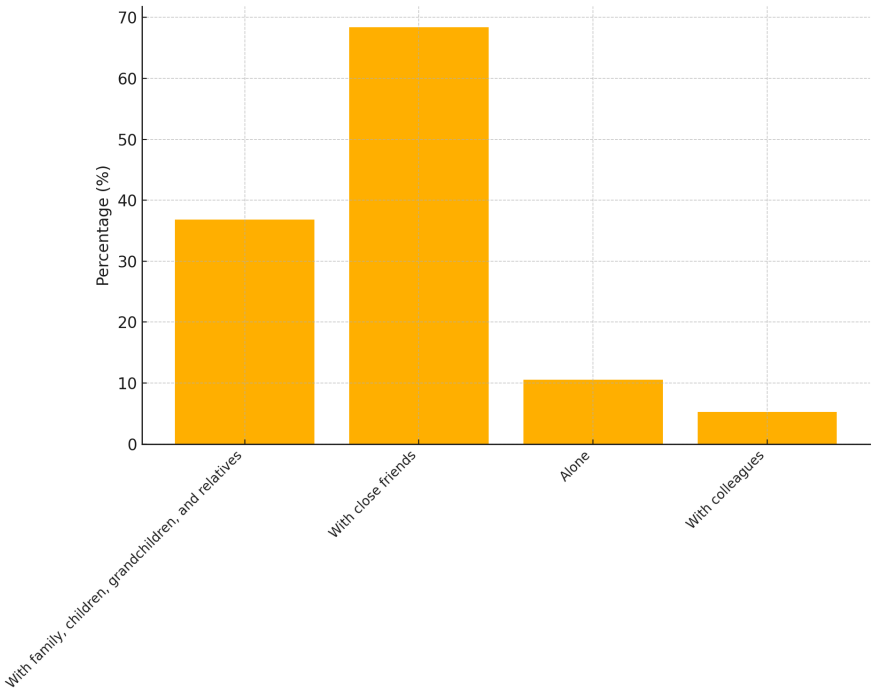

Fig. 2. Respondents report spending their time in various ways. Source: Author's Research

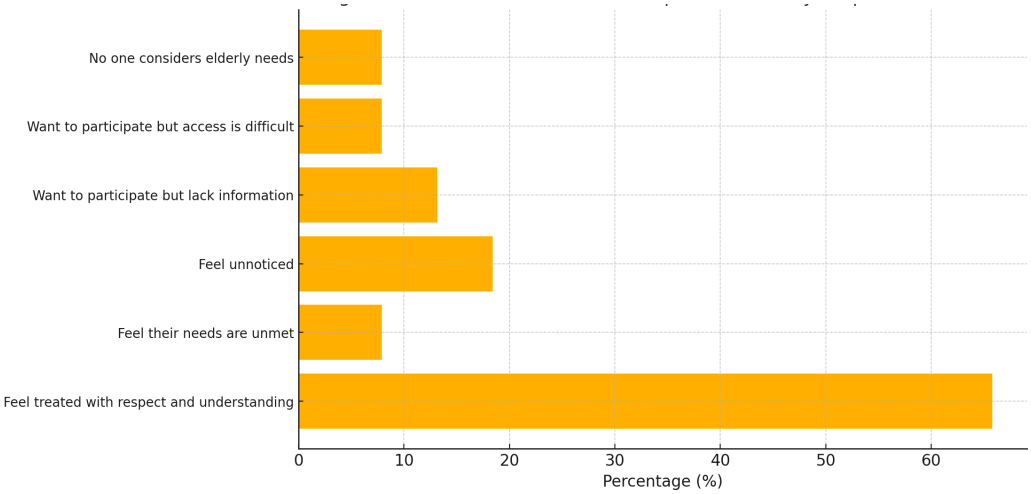

Fig. 3. Attitudes Toward and Participation of Elderly People in Public Life
Source: Author's Research

Additionally, 65.79% of the respondents believed that people treat the elderly with understanding and respect. However, others reported feeling:

- Unnoticed: 18.42%
- With unmet needs: 7.89%

Regarding their daily activities, 86.42% of the respondents indicated engaging in such activities, e.g. singing, reading, sports, walking, and meeting friends. The elderly have diverse hobbies:

- Knitting: 15.79%
- Embroidery: 10.53%
- Watching television: 28.95%
- Reading books: 39.47%
- No hobbies: 10.53%
- Other: 15.79%

Additionally, 84.21% of the respondents believed that elderly people are valuable members of society. Furthermore, 84.22% of the participants expressed their willingness to join various initiatives if they are organized and accessible (Fig. 4).

A significant 68.42% of the surveyed elderly individuals strongly believe that insufficient care is provided for people of their age group (Fig. 5). Furthermore, 15.79% feel socially isolated (Fig.

6). In addition, 81.58% of the respondents shared that age significantly influences how others treat them (Fig. 7).

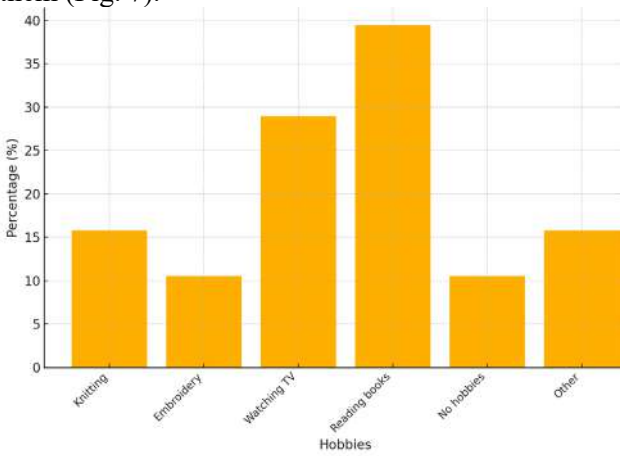

Fig. 4. Respondents' Attitudes Toward Participation in Various Initiatives. Source: Author's Research

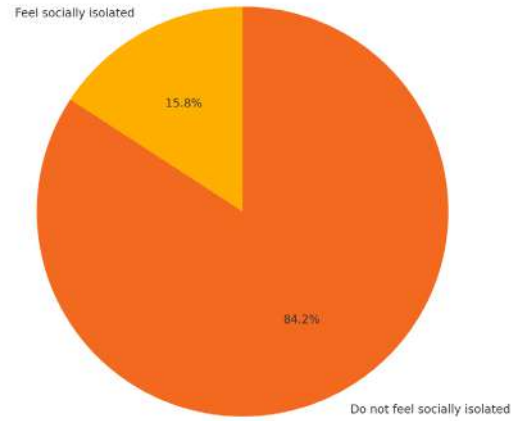

Fig. 6. Percentage of Elderly Feeling Socially Isolated. Source: Author's Research

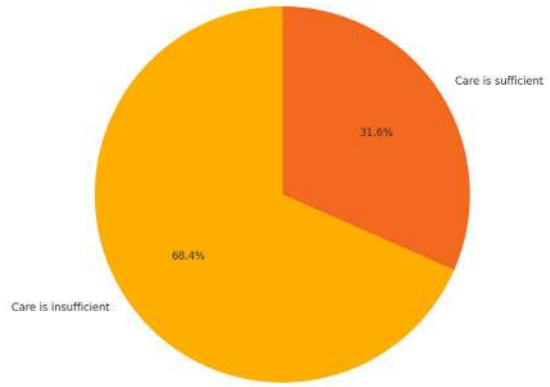

Fig. 5. Respondents' Opinions on the Care Provided for the Elderly. Source: Author's Research

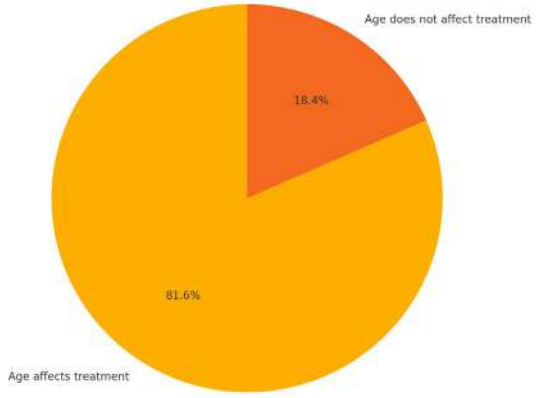

Fig. 7. Perception of Age as a Determinant of Others' Attitudes. Source: Author's Research

CONCLUSION

The importance of engaging in diverse activities and maintaining a healthy lifestyle emphasizes the need to develop these habits from an early age. As B. Dimova (2022) notes, "preschool institutions lay the foundations for forming the knowledge, skills, competencies, and values that shape a future citizen's attitude toward themselves, others, and the global world" [4, p. 244].

The primary goal of social policies for the inclusion of people with disabilities, many of whom are elderly, is to protect them within society, provide equal opportunities, ensure participation in all spheres of social life, and offer moral and material assistance, as well as support and security for families [6].

Risks to social security stem mainly from three factors: a low level of awareness of marginalization, the increasing number of people involved in social exclusion processes, and the lack or ineffectiveness of measures taken to address these issues [5].

The study reveals that most respondents have a social life and feel well in the company of relatives, close friends, and acquaintances; they have various interests and hobbies, they are active, and lead fulfilling lives. However, a small percentage remains a concern. This is a clear indication that the social system does not cover all users and that services are not accessible to everyone.

It is essential to emphasize that it is not a satisfactory outcome if there are elderly people who feel lonely, lack trust in the services offered within

the social system, and do not receive the necessary human and material attention.

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CHARACTERISTICS OF INNOVATIONS IN THE TOURISM PRODUCT IN THE SOUTH BLACK SEA REGION

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ABSTRACT

Nowadays, innovation is considered a fundamental, necessary and inevitable element in all economic activities. The effects and benefits that innovation generates are discussed and analysed in academic and business environments. In the context of the tourism business, innovation is defined as a means that turns change into an opportunity, and every opportunity into a successful implementation. Different destinations and companies organize their work processes in an environment of ever-increasing competition. An important condition is that they can accurately predict future changes in the preferences and requirements of tourists. In this way, an aspiration to satisfy the needs and expectations of customers is created. Tourism organizations strive to offer a tourism product that changes with the times. The goal is for it to be promoted, implemented and enforced as "new" and "unique" and tailored to specific preferences and expectations.

Key words: *characteristics*, *innovations, benefits, tourism product, Black Sea region.*

INTRODUCTION

The global travel industry is witnessing the application of innovative technologies aimed at increasing personalization, connected and sustainable solutions for the benefit of businesses and consumers. By "innovation" or "innovations" we mean the end result of the process of creating a new product, service, process or form of organization. In this concept, we also include all types of innovations, regardless of their degree of novelty in the market and the organization. The goals of the innovation strategy must be measurable, tied to the general company strategy and contain the guidelines for action of those involved in the innovation process [1]. On the other hand, the application of innovations proceeds according to the specifics of the tourist product, which is "complex in structure and aimed at satisfying complex human needs" [2]. In fact, determining the importance of innovation focuses on decision-making processes, loyalty to the organization and the company's competitiveness through the lens of management. The study of innovation in tourism is accepted as a necessity with a ceaseless dynamic, with many unknowns, where it is decisive to discover and understand the relationship between innovative actions and their future performance. The main question is "What kinds of innovations will produce what results?". The present study outlines the features and effectiveness of different types of innovation on the realization of the tourist product. The Bulgarian Black Sea coast has the largest share of accommodation places and the largest share of income from tourists, regardless of the fact that a large part of the beds is seasonally occupied. According to National Statistical Institute (NSI) data for 2020, there are 773 accommodation establishments in the Southern Black Sea region, and revenues exceed BGN 188 million compared to the Northern Black Sea region with 543 accommodation establishments and BGN 168 million revenues. The rate of growth has slowed down due to the restrictions accompanying the onset of COVID-19, since in 2018 the accommodation establishments were 994 with a turnover of BGN 445 million in revenue [3]. In the long term, in addition to state and regional policies to promote the activities of the tourism industry, the need arises for each manager to search and find new and modern methods for the improvement of their specific tourist product.

The main purpose of the present paper is to analyse the main characteristics and build a real picture of the state of innovations in the tourism product in the Southern Black Sea region.

LITERATURE REVIEW

The theoretical foundations of innovation were laid in the 19th century as a result of industrialization and the technological process. Their goal was

mainly aimed at strengthening the economic effect and increasing the profitability of enterprises. At the beginning of the 20th century, the term "innovation" was mentioned more and more often in various works, and explained as a technological change. Models were designed to apply the various processes that create and encompass a given innovation. Innovation was accepted as a tool for economic growth and a way for an organization to survive economically. Towards the end of the 20th century, innovation was accepted as a factor of major economic growth and as overall progress, social change and personalization of individuality [4]. In his theory of innovation, Schumpeter changes the stereotype that users have the greatest influence. In practice, consumers are in a passive position, they choose from goods and services offered to them. Managers obtain an active role when it is important to track, change and create new goods and services following the market trends. Schumpeter was against the claim that any company seeking higher profits must innovate. According to him, innovation is realized in 5 main possibilities: 1. Release of a new product or a new type of already known product; 2. Application of new methods of production or sale of a product (not yet proven in the industry); 3. Opening a new market (the market for which a branch of the industry is not yet represented); 4. Acquisition of new sources for supply of raw materials or semi-finished products; 5. New industry structure such as the creation or destruction of a monopoly position [5].

According to the WTO, the definition of innovation in tourism is as follows: “innovation in tourism, as everywhere, is a joint action between governments, academia, corporations, micro, small and medium enterprises, start-ups, investors, business partners and other stakeholders. Fostering a successful tourism innovation and entrepreneurship system requires connecting all stakeholders with opportunities for collaboration and prioritizing tourism and technology improvement” [6]. According to Tonchev, “the essence, characteristics and content of innovations in tourism are quantitative and qualitative processes for the development of economic activity, leading to a higher quality state of the industry, expressed in high competitiveness of tourist resorts, sites and companies on the international tourist market, higher foreign exchange earnings, profit and economic efficiency” [7]. From the variety of definitions, we can summarize and accept that "innovation" is any implemented idea aimed at introducing a new or improved element or service in the tourism product, with the aim of preserving or increasing the competitiveness and profitability of any tourism enterprise. From the information presented so far, we can summarize that innovation is an extremely interesting matter at the global level [7].

Globalization, by its very nature, contains innovative elements as one of the leading trends in the economic aspect. Tourism is also seen as part of the globalization process. The factors below help to determine the significant influence on globalization in tourism: a) unlimited access to information; b) development and constant modernization of means of transport; c) free markets and related foreign trade, expansion of hotel chains in international markets; d) significant demand for tourist services; e) international competition. The peculiarities of innovations in tourism arise from the modern changes in the market, the tourist product and the attitudes of consumers. The main mandatory properties of innovation are: novelty, change in economic activity, satisfaction of market demand and a source of profit for the producer. The needs for innovations in tourism have an objective nature. Due to the continuous growth of tourist demand until 2020, there is a requirement for constant improvement of the quality of tourist products/services, offering new tourist programs, revising company strategies in case of changes in the needs, wishes and expectations of tourists or a decrease in competitiveness due to the implementation of a new technology or loss of utility [8]. From what has been stated so far, we can form the main hypotheses that the characteristics of innovation in tourism are:

Hypothesis 1. An economic instrument aimed at increasing turnover (profit), strengthening competitiveness, and lowering the cost of tourist products.

Hypothesis 2. Added value to a similar product/service, attracting new users, and reaching new segments and markets.

Hypothesis 3. Positive impact on society: it enhances the corporate image, provides commitment of state institutions, and improves the creation and development of tourist destinations.

RESEARCH METHODOLOGY

The realization of the research goals and tasks is achieved through the combined application of scientific research methods and approaches: analysis and synthesis, chronological approach, systematic approach in determining the environment of application of innovations as favourable and

unfavourable, observation, situational analysis, comparative analysis and content analysis. The literature sources include mainly publications by Bulgarian and foreign specialists in the field of research, official Bulgarian and international statistical data (NSI, WTO, OECD, Euromonitor, Eurostat, Ministry of Tourism and consulting agencies) until the beginning of 2022, specialized media, data of non-governmental organizations, legal and regulatory acts, scientific reports from international conferences, information from specialized websites. In order to achieve well-founded research results, the following limitations are set:

1. Lack of sufficiently systematized statistical and empirical data on the object of research in Bulgaria.

2. Comparative data covers a period of unpredictable market changes in the tourism industry due to the introduction of anti-epidemic measures due to COVID-19.

3. As a consequence of significant dynamism and variability of innovations, the object of the study is geographically and temporally limited.

RESULTS AND DISCUSSION

Over the years, the classification of innovations has developed quite actively. Depending on the goals, needs and focus, different typologies of innovations have been formed. For the needs and purposes of the present study, we can classify innovations as a model containing 7 main types. The classification includes the traditional innovations in tourism that are most often found in scientific works and adds the modern innovations in tourism that places of accommodation have paid attention to and started partial or full implementation (green and social). 1. Product innovation/service innovation; 2. Process innovations; 3. Organizational innovations; 4. Marketing innovations; 5. "Green" innovations; 6. Technological innovations; 7. Social innovations. Tourism services and products have a complex composition, so they can be part of product innovation and at the same time part of process innovation. Tourism product innovation is based on adding new and diverse tourism models and activities. Adding a summer season to winter sports destinations can be considered a certain kind of innovation. Hoteliers identified a number of other innovations that add value to customers and expand the range of experiential opportunities, examples include snowboard parks, dog sleds, snow bikes, games of navigation and orienteering, developing and selling accessories, après ski activities, etc. Many other tourism goods and services go through similar periods of intensive product development [9]. Over the years, the Bulgarian coast has been conventionally divided into the Northern and Southern Black Sea coasts, where the dynamics and concentration of accommodation establishments is considered the highest in the country. Statistics for 2021 show that the Southern Black Sea Region generates the most overnight stays due to the combination of a well-developed domestic and international tourism market and generates higher tourism revenues than other regions. The coastal regions from the town of Obzor to the south of Bulgaria are included in the Black Sea Region. According to the scheme developed by the Ministry of Tourism in Bulgaria, a total of 9 tourist regions have been defined (Danube, Staroplaninski, Sofia, Thrace, Rilo-Pirinski, Rose Valley, Rhodope, Varna and Burgas tourist regions) [10]. Efforts are mainly concentrated in the development and promotion of 2 types of tourism: marine recreational and cultural tourism. The area is also known for its health and spa tourism, mud therapy, sea therapy and climate therapy, conference, adventure and ecotourism, health, rural, sports, culinary, festival, religious and pilgrimage tourism. According to the data for 2018, 24.5% of all available tourist accommodation, nearly 39% of the country's tourist beds and slightly over 26% of the accommodation units are concentrated in the Southern Black Sea Region. The realized overnight stays also represent a significant share of the total number for Bulgaria: 36.2%. Besides, regarding the overnight stays of foreigners, it is the leader with 44% of the total number. The revenues from hospitality in the Burgas region make up over a quarter of the revenues from the hospitality sector for the whole country, and in terms of income from foreigners, 40.6% of those at the national level were generated in the Burgas region [11]. From the information presented so far, we can summarize that the Southern Black Sea region is well developed, recognized, positioned and interesting for research in terms of innovations in the tourism product. In the context of the present study, we could assess the impact of both groups of factors on the application of innovation in the tourism product.

The topic of innovation is included in the national and regional programs and strategies, even in the municipalities for which tourism is an important sector (such as Burgas municipality, Nessebar municipality, and Pomorie municipality). "Innovations and growth" (for the 2021 – 2027 period) is also defined as a key program for

the development of innovation and competitiveness. Its main focus is on: a) improvement of the results of the innovative activity of enterprises; b) creation of favourable conditions for higher and efficient technological development and future digital transformation; c) increase in the share of innovative enterprises in the total number of enterprises from 27.2 (2016) to 32 (2026); d) increase in the share of enterprises with market and organizational innovations from 18% to 25%; e) increase in international scientific publications co-authored with scientists from abroad from 0.1 to 0.35 according to a normalized index; f) increase of patent applications to the European Patent Office per 1 million population from 4.13 to 10. According to the present study and the results obtained, a trend that the different businesses in the tourism interact and partner with other businesses and organizations in terms of innovation can be outlined. Although the companies develop their innovations independently, they tend to collaborate with other organizations in this process. Companies express the positive consent to partner with other enterprises, both locally and internationally (72% and 66% of respondents).

The share of small and medium-sized enterprises that innovate in terms of product or process is only 11% of the EU average score, and the share of those which innovate internally is 14% of the average. Cooperation between science and business continues to be very limited and the shortage of human capital is definitely a serious factor. Bulgaria has the fifth lowest R&D intensity in the EU: 0.75% of GDP in 2018, which is a very slight increase from 0.74% of GDP in 2017. Another interesting trend is that a greater proportion of firms are willing to cooperate with universities in Bulgaria (70%), foreign universities (52%) and BAS (the Bulgarian Academy of Sciences) (52%). The connection between education and business favours the process of innovation. In the Southern Black Sea Region, training and additional qualification in the tourism sector can be obtained in two universities, Prof. Dr. Asen Zlatarov University and Burgas Free University, and the Vocational High School of Tourism. Other majors, such as Entrepreneurship, Management and Marketing, can also follow a career in the field of tourism. Innovatively active enterprises are also subject to research by NSI. According to data for 2018, we can trace how innovative the service sector, which includes tourism, was.

From the information we have presented so far, we can summarize that, in general, innovations in Bulgaria (including tourism) are developing below the average European level. Nevertheless, this process of development and application has begun and is happening, albeit more slowly than in other countries with which Bulgaria is compared. The relationship between research, universities and business is extremely favourable and optimistic for the future development of innovation in the tourism sector. Innovations are a significant investment, for the development and permanence of which it is good to be supported by state and regional institutions. When reviewing the annual reports and programs of the coastal Black Sea municipalities, we notice that not all of them define tourism and innovation as a key activity and make plans for their future development and improvement. Only the municipalities of Nessebar and Pomorie have developed a program for the sustainable development of tourism for the period of 2018-2027, while the municipality of Burgas and the municipality of Tsarevo include and analyze the tourism potential in the annual report for 2018.

The feedback obtained by managers is extremely valuable due to the fact that their role in the development and application of innovations in the tourism product is the most significant. The survey is oriented to the following more important points of reference: 1) information data on the size of the company with holiday apartments, the experience and skills of the managers, internal organization of the work process in terms of serving two groups of customers: owners and tourists; 2) assessment of the contribution to the organization and consumption of the tourist product; 3)assessment of the state of innovation in the tourist product of holiday apartments and recommendations for their future development and improvement; 4) general assessment of the positive aspects of the application of innovations. The group of respondents includes 27 managers and the survey was carried out between 20 September and 1 November 2021. Clock PMS-Evolution, Oracle Hospitality Opera/Suite 8, Biodit and Smart Web PMS are used in the South Black Sea Region. These systems can be locally based (via a converted server at the site itself) or web based (via a "cloud"). Modern capabilities allow login through a mobile application or through remote access from a computer, tablet or smartphone. These software programs are extremely necessary in the daily activities of a vacation apartment complex from access control, to tourist services and the most modern way to manage personnel (work schedules, insurance, salaries, etc.). Among the preferred hotel

software for vacation apartments is Clock PMS, which offers different software programs, which are compatible and can function together. In order to present the latest innovation in the sector, it is necessary to mention the following: 1) online booking application integrated into a site's website; 2) sales pilot (automating the introduction of reservations according to the channel manager method); 3) analyzing and optimizing revenues through revenue management; 4) guest connect autopilot allows online registration (check-in), online check-out, sales and reservations of additional services; 5) payments autopilot - automation and deposit payment/cancellation of all received online reservations, including from reservation systems such as Booking.com and Expedia.com. The last two services are completely new as a technological solution and the company is making efforts to really use these potentials and make them widely applicable by 2024. One of the biggest advantages of this innovative software solution is that all programs comply with Bulgarian legislation and requirements of state authorities (NRA – National Revenue Agency, tax policy, municipalities, etc.) and provide 24-hour support seven days a week via online chat. It is important to consider what problems managers encountered in the application of innovations. The largest group of respondents indicated problems with the financing itself (38.10%), followed by problems related to the analysis and evaluation of the effectiveness of innovations (14.80%), problems with the understanding of innovations focused on human resources (14.80%). We received the fewest answers from managers who note that the difficulties they encounter in the application of innovations are of a legislative or administrative nature, which is dependent on the work of state/regional institutions. From this result, we can conclude that, according to the managers, innovations are a consequence of intra-company investments, and not so much a function of the state/regional authorities. We did not receive clear and specific answers to questions clarifying how familiar they are with financing and support opportunities regarding innovations in the tourism product.

From the responses and opinions of managerial evaluation of the application of innovations in the tourist product of the holiday apartments in South Black Sea Region, we can make the following conclusions: 1) Managers are not well informed and familiar with the possibilities and influence of general factors related to innovations in the tourism product; 2) They show a desire to apply technological innovations aimed at improvements in the facilities as well as organizational innovations with the aim of increasing the qualifications of employees, which contributes to a more professional service to tourists; 3)The adaptation of innovative processes in the tourist product of holiday apartments is strongly influenced by classical hospitality; 4)The dynamics and volume of additional services offered is of high intensity, due to the fact that the management companies serve two groups of clients - owners and tourists; 5) Problems and lack of long-termism in the design of the components of the tourist product are caused by the fact that it is not the management companies that own the accommodation facilities, but individuals. Thus, the guest relation processes are often personal, variable, unclear and it is difficult to implement certain standards.

When innovations have to be implemented, they face different barriers which can be divided into 2 main groups from the company perspective: external and internal. The external barriers and problems are in close contact with the tourism organization and influence the decision-making process. Internal barriers are actual internal determinants of the tourist organization: the environment – infrastructure and superstructure, entrepreneurial activity, skills and knowledge of the managers and employees of the vacation apartment complexes. The influence of general macroeconomic indicators is an essential point when analysing the problems facing innovations in the tourism product.

Another limitation to the application of innovations is the certain seasonality of the tourist market in the Southern Black Sea region. As a general finding, we can summarize that the variable tourism demand creates an unstable and uncertain market for innovation, has caused strategic confusion and is a barrier to retaining, developing and attracting highly qualified specialists.

Adaptation and imitation of tourism product innovations is a common practice. In the context of tourism activity of holiday apartments, the legal protection is usually for: 1) the databases most often used for targeting through newsletters; 2) the trademark, which can be any sign, or symbol. Legal protection is granted for up to 10 years and registration is required at national, European and international level; 3) know-how (information and manuals with rules, policies, strategies); 4) weak applicability of patents due to the specificity of the tourist product to include elements of an intangible nature. [12]

The presented information proves to a certain extent the hypothesis that innovations are considered to be an economic instrument; their usage adds value to a similar product/service and they have a positive impact on society.

CONCLUSION

The proposals and guidelines for the more successful application of innovations in the tourist product are shaped into the following main priorities:

Priority 1 – The unexplored possibilities of corporate cooperation. In current processes of globalization for tourism enterprises, which are mostly part of the SME group, there are the following possible partnerships that facilitate the processes in the innovation of the tourism product: 1) B2B (business to business) – the tourist product is offered by one business unit to another, which offers it to the end user (tourist); 2) B2C (business to consumer) – the tourist product is offered through a direct connection from the management company to the tourist, without the assistance of the tourist intermediary; 3) C2C (consumer to consumer) – exchange of information about the tourist product is from tourist to tourist (influence of social media); 4) C2B (consumer to business) – here we refer to the influence of marketing innovations in terms of interaction with bloggers, influencers or freelancers; 5) B2A (business to administration) – connections between business and administration are made between business, state agencies and public administrations; 6) C2A (consumer to administration) – consumers can contact local authorities to make inquiries about the public sector and specific tourism services and products. Intercompany cooperation is when two or more tourism enterprises perform certain tasks in cooperation based on voluntary contractual agreements, such as expectations are to achieve goals of greater value, compared to own and independent work. During such co-operation, the companies are expected to remain largely independent and autonomous during the process. From an economic point of view, these collaborations are as desirable as competition. In the business, the following co-operations between companies are possible: "clusters", "networks" and "centres of excellence" [13].

Priority 2 – Analyzing, monitoring and segmenting consumers as a key to identifying innovations in the tourism product. Innovative travel applications typically see a change in user demand profile and user preferences. In fact, the concepts of "new tourism" and "new tourist" appear as a result of innovative tourism practices.

Priority 3 – Optimizing work processes through technological and organizational innovations in human resource management. From the information presented so far, it can be summarized that tourism is characterized by many details regarding the organization of work processes. We take their optimization as a leading priority. According to our observations, organizing and coordinating the entire human resource is a long and often problematic process. For this reason, vacation apartment complexes are implementing technological, process and marketing innovations as a solution.

In conclusion, it can be summarized that there are good prerequisites for the overall application of innovations in the tourism product in the Southern Black Sea Region. The present study cannot be considered exhaustive, but a useful and positive form for future research.

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INFLUENCE DIAGRAM OF THE IMPACT OF OPTIMIZATION METHODS ON THE ECONOMIC EFFICIENCY OF RECRUITMENT AND SELECTION

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ABSTRACT

This article presents an influence diagram illustrating the impact of optimization methods on the effectiveness indicators of recruitment and selection activities aimed at enhancing economic efficiency in human resource management. It describes the optimization methods, the indicators of economic efficiency in recruitment and assessment activities, as well as the main aspects of optimization: quantitative, logical, and time. By identifying a synergistic potential and seeking a balance among the parameters, the article proposes an approach to improving human resource management through the use of expert evaluations. The findings indicate that effective reorganization of recruitment and selection activities can lead to increased returns on investment in human capital and enhanced competitiveness for organizations.

Keywords: *influence diagram, human capital, investments, optimization*

INTRODUCTION

In today's dynamic business environment, organizations strive simultaneously to improve competitiveness, increase revenues, and, as a result, achieve sustainable growth and maximize shareholder wealth [1]. This necessitates that the actions of financial managers be directed toward a continuous effort to reduce costs, enhance the efficiency of asset utilization, and improve organizational profitability. The effective management of employees, as one of the most important assets within organizations [2], significantly contributes to the achievement of organizational goals [3]. New information technologies bring about changes not only in manufacturing processes but also in those related to the management of workers and employees [4]. Specifically, "digitalization is a means of accelerating technological progress in the economy, which will lead to increased productivity and labor efficiency in particular" [5]. Based on this, business process management methods, initially developed solely for the needs of technological manufacturing, are increasingly applied to address specific issues related to the optimization and reduction of costs in human resource management [6]. In fact, some of the core activities in personnel management, such as job analysis and evaluation, recruitment and candidate selection, employee training and development, ongoing evaluation of work performance, and so on [7], can be viewed as a chain of interconnected processes [8].

The process of selecting and evaluating the most suitable candidates for a given position [9] is essential for achieving the goals set for the financial manager, as mentioned earlier [10]. The activities that build this process must be supported by financial resources, which represent a part of the company's overall investment in human capital. The profitability of these investments is determined by the additional higher revenues [11] that will be realized as a result of a properly conducted recruitment and selection procedure and the accuracy in selecting the most suitable candidate for the open position. This, in turn, has a secondary effect on resource optimization, reducing the costs and time required for the integration of new employees. From this, it follows that the lower the costs of conducting the recruitment and selection procedure and the higher its accuracy, the more economically efficient and profitable it is, positively impacting the achievement of the owners' goals set for the financial manager. Many companies face difficulties in achieving economic efficiency in these processes, and the costs of hiring personnel often exceed expectations.

The purpose of this scientific article is to present an influence diagram of the impact of improvement methods on the indicators used to assess the economic efficiency of the candidate selection and evaluation processes.

EXPOSITION

The idea behind the presented approach is that recruitment and selection can be viewed as a separate process made up of sequential activities: defining the requirements for candidates, assessing the opportunities for internal and external recruitment, the actual assessment of candidates, evaluating the candidates, and making the hiring decision. Upon more detailed analysis, each of these activities can be considered a sub-process and further broken down into its constituent tasks. For each element in this process chain, specific performance metrics – indicators of economic efficiency – can be identified. The sum of the evaluations for each metric across all activities will provide an aggregated assessment of the economic efficiency of the employee selection and evaluation process, which in turn will impact the profitability of investments in human resources.

Based on the above, we can draw an analogy between the characteristics of the employee selection and evaluation process and any business process taking place within an organization [12]. Therefore, to improve the parameters of the "recruitment" process and enhance the economic efficiency of human resource management activities, a modified vector-based reengineering approach, grounded in the principles of business process optimization, can be applied. The idea here is that each activity within the selection and evaluation process can be represented as a vector in a coordinate system, with the dimensions being the indicators of economic efficiency. Just as the individual activities (defining candidate requirements, assessing opportunities for internal and external recruitment, etc.) constitute the "recruitment" process, so do the individual vectors form the overall vector, referred to as the "recruitment" process. It is important to note that the vector representation of this process is carried out after the procedure has been completed, meaning that this approach determines the current economic efficiency and aims to improve the future course of the processes, thus increasing the profitability of human resource management.

In addition to the actual process, represented by the "recruitment" vector, which we will refer to as the "real" vector, a vector corresponding to the desired situation we aim to achieve must also be constructed and visualized. The construction of the "ideal" vector involves marking the predetermined "ideal" values for each indicator (each dimension) on the coordinate system, as defined by senior management and/or financial management. The economic efficiency of the selection and evaluation procedure is determined by calculating the deviation between the actual values of the indicators from the completed procedure and the values indicated by the management as desired, through the creation of the "ideal" vector. This deviation represents the goal of improving the economic efficiency of the candidate selection and evaluation procedure.

To bridge the gap between the actual and desired state, improvement methods based on the vector representation of the recruitment and selection processes can be used:

- ❖ Acceleration – shortening the duration of one or several processes or activities;
- ❖ Delay – the running time of processes or activities are prolonged;
- ❖ Parallelizing – one process or activity is divided and the newly formed processes or activities are performed in parallel;
- ❖ Unification – integration of two or more existing processes or activities in a new one;
- ❖ Changing the succession – changing the succession of the processes or activities in view of smoother running of the process chain;
- ❖ Adding – integration of an entirely new element in the existing process structure;
- ❖ Insourcing – adding an element which up to then has been outside the company borders;
- ❖ Elimination – elimination of one or several processes or activities from the process chain;
- ❖ Outsourcing – assigning a company processes or activities for performance by an external organization.

To analyze the impact of improvement methods on the indicators used to assess the economic efficiency of the activities comprising the recruitment and selection process, it is necessary to develop a framework that describes the relationships and interactions between them. For this purpose, it is first essential to define the indicators/dimensions of the processes and the aspects in which their optimization should be carried out.

Indicators for Recruitment and Selection Process Improvement

Various characteristics describing economic efficiency are used as dimensions for analyzing and optimizing human resource management processes. These are determined based on the specific activities of the organization, the chosen

development strategy, and/or specific needs arising from changes in the external environment. These characteristics can be broadly classified into two categories: those whose values should be increased as a result of improvements – maximizing indicators, and those whose values should be reduced to enhance the economic efficiency of human resource management activities, particularly in the selection and evaluation of personnel.

For this purpose, it is first necessary to define the indicators by which the company's return on investment from the recruitment and selection procedure will be assessed. Considering the specificity of human resources, measurements such as the precision of selection, individual performance of selected employees, forecasted achievements of workers, and the costs of selection, among others, can be established [13].

The "precision of selection" indicates the degree to which the most suitable among all candidates are accurately screened. The use of this measurement helps to achieve one of the main goals of the recruitment, assessment and evaluation process, "recruiting candidates with sufficient technological skill that helps the firm to increase its performance level" [14]. The higher the value of this coefficient, the more accurate the selection decisions are, hence, the greater the increase in revenue.

The individual performance of selected employees shows the monetary equivalent of the difference in productivity of newly appointed workers compared to the average productivity in the organization. According to both theory and practice, every newly hired employee requires time to adapt to the organization. During this period, their performance typically falls short of optimal levels. The time needed to adjust to the specifics of the job, organizational structure, work environment, and company culture varies for each individual and depends on both the employee's personal qualities and the quality and extent of the training and mentoring provided [15]. Therefore, it is recommended that this indicator be calculated after the adaptation period has finished.

The "forecasted achievements of workers" indicator reflects the selectivity of the organization. It assumes that the fewer candidates who reach the hiring stage, the more selective the company is. As a result, the individuals hired have been more thoroughly vetted and chosen for their potential productivity, which is expected to contribute to increased revenue [16].

"Recruitment and selection costs" encompass all expenses related to the material, technical, and personnel resources required for the hiring process. These costs are part of the so-called "acquisition costs," which, along with "training costs," make up the total human resource expenses [17]. While there is a natural tendency to minimize these costs, excessive reduction can negatively impact the recruitment process and compromise its effectiveness.

Aspects of Improving Economic Efficiency

The optimization of processes is most often carried out in three key areas, between which various cause-and-effect relationships exist: quantitative, logical, and time optimization (Fig. 1.). As previously mentioned, the processes of recruitment and selection can be viewed as a chain of interconnected activities that form a business process, which can be referred to as "recruitment". By analogy with business processes, improving the economic efficiency of "recruitment" can also be achieved in one or all of these aspects. These represent broad categories of criteria that allow the tracking and subsequent evaluation of the impact that each optimization method has on the indicators used to assess the economic efficiency of human resource management processes.

The quantitative optimization of the employee selection and evaluation process focuses on eliminating inefficient activities and/or introducing new ones that improve the logic of tasks such as defining candidate requirements and assessing internal and external recruitment opportunities, etc. This optimization involves both the physical removal or addition of activities and the spatial configuration of these activities, either outside the company's boundaries – "outsourcing" – or within the organization – "insourcing."

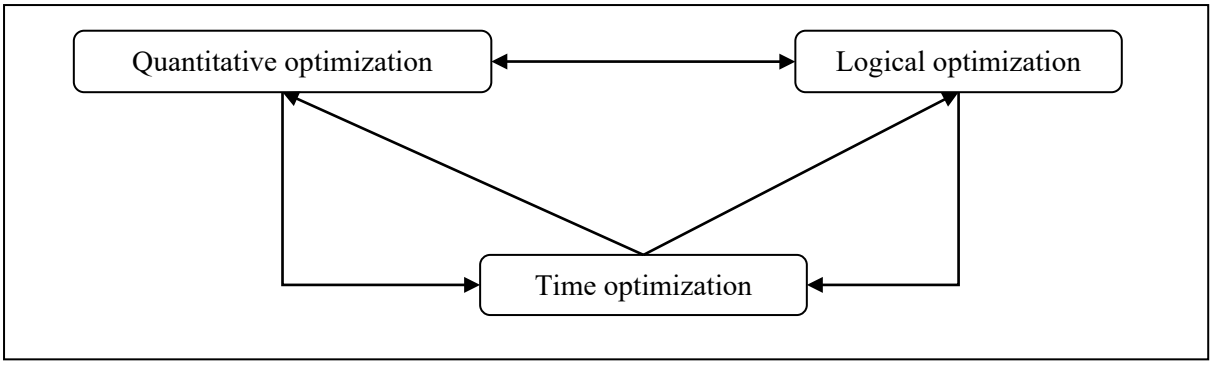

Fig. 1. Cause-and-effect Relationships between Aspects of Recruitment and Selection Process Optimization

On the one hand, increasing the number of units involved in carrying out the individual elements of the process can lead to an artificial increase in unwanted connections, which in turn can extend timelines, raise costs, and even reduce the quality of the process's output – in this case, conducting a cost-effective employee selection and evaluation procedure. On the other, expanding the number of units can improve the process logic, leading to lower recruitment costs and enhancing the economic benefits for the organization.

Logical optimization involves altering the sequence of activities that comprise the recruitment and selection processes. The reordering of these individual elements is done based on the order in which they are executed [18]. This modification can generate various positive effects and tap into hidden synergistic potential. Changing the order of two or more activities can lead to shorter completion times, greater selection accuracy, and lower costs, i.e. to improve the logic of the processes. Besides, it can impact quantitative aspects, as it may reveal redundant or unnecessary steps, thus reducing the number of activities. Assuming other factors remain constant, all these will increase the return on investment in human capital and enhance overall personnel management.

The essence of time optimization in personnel selection and evaluation processes is the reduction or extension of the time required to complete one or more related activities. The key principle of this improvement is that the overall speed of the process is determined by its slowest component. Therefore, shortening, extending, and/or running two or more recruitment and selection activities in parallel (for example, assessing both professional and personal qualities in a single interview) can enhance the economic performance of the entire procedure.

The aspects of recruitment and selection processes optimization are not isolated from one another; rather, they are interconnected through various cause-and-effect relationships. A change in one area impacts the others, and vice versa. These relationships are illustrated in Fig. 1. For example, eliminating one or more activities can improve the logical structure of the recruitment process. Similarly, logical optimization can reduce the time required for the selection and/or evaluation process. In turn, optimizing the time needed for activities influences the logical sequence and the number of process elements. Quantitative optimization, for instance, can shorten the execution time of selection activities while also reducing unwanted connections between them.

Influence Diagram

First and foremost, it is important to note that each method can be applied to one or multiple activities, and conversely, one or several optimization methods can be applied to a single activity. Furthermore, the aforementioned indicators used as dimensions for the activities of personnel selection and evaluation are also interdependent and compensate for each other. Thus, improvements in the parameters of one dimension can be achieved without negatively impacting the values of another. A balance should be sought among all the parameters that describe the recruitment and selection processes, as this will lead to a more efficient flow of these processes and increase the return on investment in these procedures.

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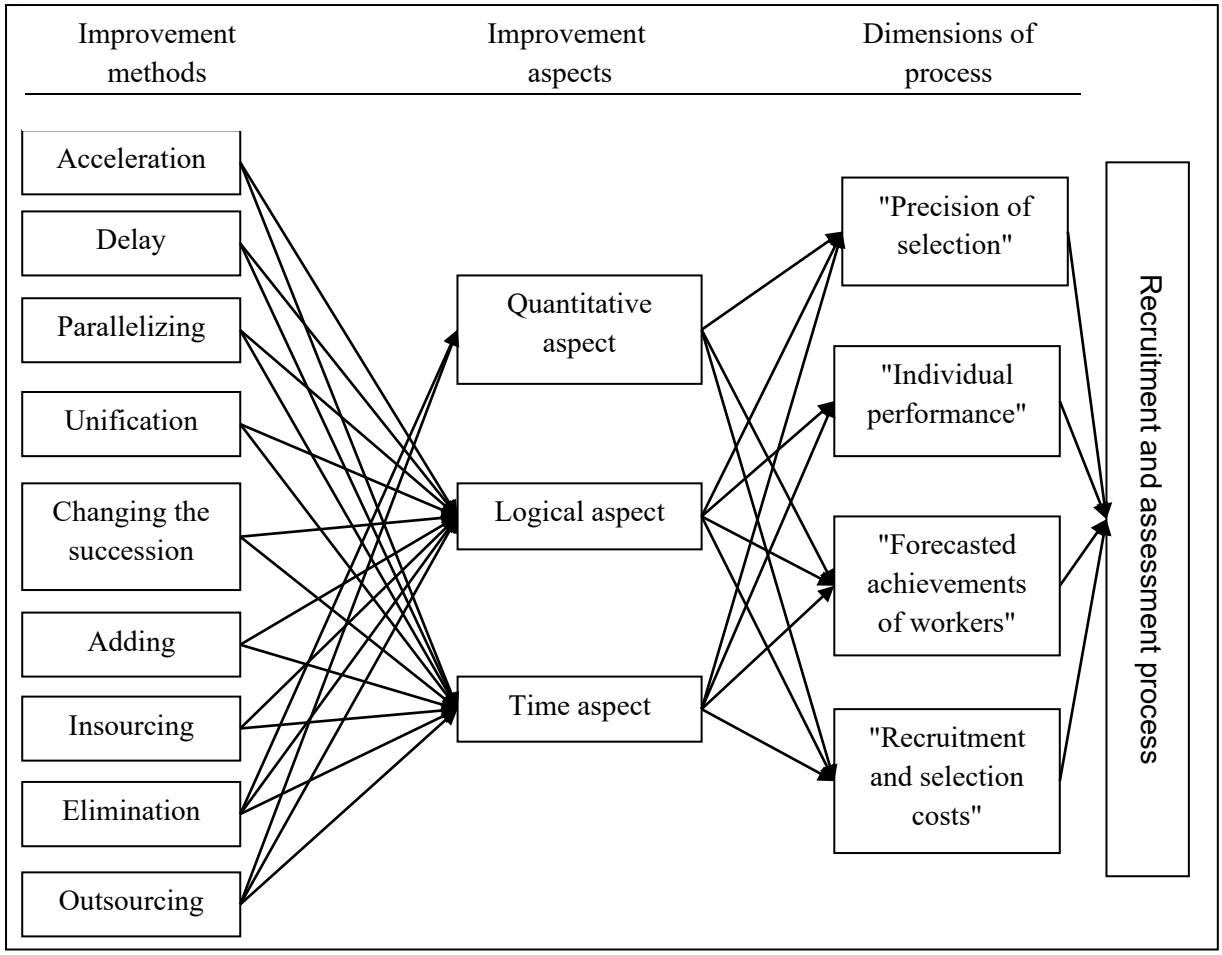

Fig. 2. Influence Diagram

As previously mentioned, there are certain dependencies between the categories of process evaluation criteria and the indicators that describe the economic efficiency of recruitment and evaluation activities. The cumulative effect of these dependencies – among the individual dimensions of personnel selection and evaluation activities, the three aspects of optimization, and the relationships between aspects, dimensions, and optimization methods – significantly increases the number of possible options for reorganizing the recruitment and selection processes to enhance the economic efficiency of personnel management.

One option for proactively selecting the method that will have the most positive impact on the economic efficiency of recruitment and selection activities is to conduct simulations. However, this approach can lead to increased costs for the organization. Given the limited resources that companies often face, there is a strong motivation to continuously reduce such costs. Therefore, this strategy involves using an expert to assess the degree of influence between optimization methods and the dimensions of personnel selection and evaluation activities based on the existing relationships and categories of optimization criteria described earlier. Fig. 2 illustrates these connections.

Through expert evaluation, the impact of each specified optimization method on the dimensions of the recruitment and selection processes is established and assessed. This approach effectively eliminates the need for simulations, thereby reducing overall "acquisition costs".

CONCLUSION

This paper presents a diagram illustrating the influence of optimization methods on the economic efficiency indicators of the personnel selection and evaluation processes, focusing on three aspects of optimization: quantitative, logical, and time. These aspects interact with each other and collectively impact the overall economic efficiency of the processes of recruitment and selection. Additionally, the study examines the interdependencies among various criteria and

indicators used to evaluate these processes, which can serve as a source of synergy in reorganizing recruitment and assessment activities. The proposed methodology conceptualizes the selection and evaluation of employees as a business process comprised of distinct activities.

Enhancing the economic efficiency of recruitment and selection processes is a multifaceted endeavour that necessitates careful consideration of the interdependencies among various dimensions and optimization methods. Through a thorough analysis of parameters and a quest for balance among them, organizations can attain improved economic efficiency, minimize costs, and maximize returns on investments in human capital. Moreover, utilizing expert judgments as an alternative to costly simulations can effectively pinpoint the most suitable optimization methods. Future research in this area could focus on developing a specific evaluation procedure grounded in fuzzy set theory. Ultimately, these efforts will lead to better human resource management, heightened competitiveness, increased revenue, and, consequently, sustainable growth and maximization of shareholder value.

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ASSESSMENT APPROACH TO THE IMPACT OF OPTIMIZATION METHODS ON THE ECONOMIC EFFICIENCY OF RECRUITMENT AND SELECTION

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ABSTRACT

This paper proposes a quantitative approach to assess the impact of optimization methods on the economic efficiency of recruitment and selection processes. By drawing parallels between human resource management activities and business process optimization, the study introduces a reengineering approach to quantitative evaluation and improving the economic efficiency of personnel selection. Key performance indicators, such as precision in selection, employee performance, forecasted achievements of workers and recruitment costs, are analyzed. The research incorporates multi-criteria decision analysis (MCDA), utilizing both traditional and fuzzy Analytic Hierarchy Process (AHP) methods to manage uncertainty in optimization assessments. The proposed methodology seeks to balance the economic dimensions of recruitment and selection, ultimately increasing the profitability of human capital investments.

Keywords: *quantitative evaluation, influence diagram, human capital, investments, optimization*

INTRODUCTION

In today's dynamic business environment, organizations strive simultaneously to improve competitiveness, increase revenue, and, as a result, achieve sustainable growth and maximize shareholder wealth [1]. This necessitates that the actions of financial managers be directed toward a continuous effort to reduce costs, enhance the efficiency of asset utilization, and improve organizational profitability. The effective management of employees, as one of the most important assets within organizations [2], significantly contributes to the achievement of organizational goals [3]. New information technologies bring about changes not only in manufacturing processes but also in those related to the management of workers and employees [4]. Specifically, "digitalization is a means of accelerating technological progress in the economy, which will lead to increased productivity and labor efficiency in particular" [5]. Based on this, business process management methods, initially developed solely for the needs of technological manufacturing, are increasingly applied to address specific issues related to the optimization and reduction of costs in human resource management [6]. In fact, some of the core activities in personnel management, such as job analysis and evaluation, recruitment and candidate selection, employee training and development, ongoing evaluation of work performance, and others [7], can be viewed as a chain of interconnected processes [8].

The process of selecting and evaluating the most suitable candidates for a given position [9] is essential for achieving the goals set for the financial manager, as mentioned earlier [10]. The activities that build this process must be supported by financial resources, which represent a part of the company's overall investment in human capital. The profitability of these investments is determined by the additional higher revenues [11] that will be realized as a result of a properly conducted recruitment and selection procedure and the accuracy in selecting the most suitable candidate for the open position. This, in turn, has a secondary effect on resource optimization, reducing the costs and time required for the integration of new employees. From this, it follows that the lower the costs of conducting the recruitment and selection procedure and the higher its accuracy, the more economically efficient and profitable it is, positively impacting the achievement of the owners' goals set for the financial manager. Many companies face difficulties in achieving economic efficiency in these processes, and the costs of hiring personnel often exceed expectations.

The purpose of this article is to present a quantitative assessment approach to the impact of optimization methods on the indicators used to

assess the economic efficiency of the recruitment and selection processes.

EXPOSITION

Recruitment and selection can be viewed as a separate process made up of sequential activities: defining the requirements for candidates, assessing the opportunities for internal and external recruitment, the actual assessment of candidates, evaluating the candidates, and making the hiring decision. For each element in this process chain, specific performance metrics – indicators of economic efficiency – can be identified. The sum of the evaluations for each metric across all activities will provide an aggregate assessment of the economic efficiency of the employee selection and evaluation process, which in turn will impact the profitability of investments in human resources.

Based on the above, we can draw an analogy between the characteristics of the employee selection and evaluation process and any business process taking place within an organization [12]. Therefore, to improve the parameters of the "recruitment" process and enhance the economic efficiency of human resource management activities, a modified vector-based reengineering approach, based on the principles of business process optimization, can be applied. Each activity within the selection and evaluation process can be represented as a vector in a coordinate system, with the dimensions being the indicators of economic efficiency. In the same way as the individual activities (defining candidate requirements, assessing opportunities for internal and external recruitment, etc.) constitute the "recruitment" process, the individual vectors form the overall vector, referred to as the "recruitment" process. It is important to note that the vector representation of this process is carried out after the procedure has been completed, meaning that this approach determines the current economic efficiency and aims to improve the future course of the processes, thus increasing the profitability of human resource management.

In addition to the actual process, represented by the "recruitment" vector, which we will refer to as the "real" vector, a vector corresponding to the desired situation we aim to achieve must also be constructed and visualized. The construction of the "ideal" vector involves marking the predetermined "ideal" values for each indicator (each dimension) on the coordinate system, as defined by senior management and/or financial management. The economic efficiency of the selection and evaluation procedure is determined by calculating the deviation between the actual values of the indicators from the completed procedure and the values indicated by management as desired, through the creation of the "ideal" vector. This deviation represents the goal of improving the economic efficiency of the candidate selection and evaluation procedure. To bridge the gap between the actual and desired state, improvement methods based on the vector representation of the recruitment and selection processes can be used: "acceleration"; "delay"; "parallelizing"; "unification"; "changing the succession"; "adding"; "insourcing"; "elimination"; "outsourcing".

First and foremost, it is important to note that each method can be applied to one or multiple activities, and conversely, one or several optimization methods can be applied to a single activity. Furthermore, the aforementioned indicators used as dimensions for the activities of personnel selection and evaluation are also interdependent and compensate for each other. Thus, improvements in the parameters of one dimension can be achieved without negatively impacting the values of another. A balance should be sought among all the parameters that describe the recruitment and selection processes, as this will lead to a more efficient flow of these processes and increase the return on investment in these procedures. For this purpose, it is first essential to define the indicators/dimensions of the processes and the aspects in which their optimization should be carried out.

Indicators for Recruitment and Selection Process Improvement

Various characteristics describing economic efficiency are used as dimensions for analyzing and optimizing human resource management processes. These are determined on the basis of the specific activities of the organization, the chosen development strategy, and/or specific needs arising from changes in the external environment. These characteristics can be broadly classified into two categories: those whose values should be increased as a result of improvements – maximizing indicators, and those whose values should be reduced to enhance the economic efficiency of human resource management activities, particularly in the selection and evaluation of personnel.

For this purpose, it is first necessary to define the indicators by which the company's return on investment from the recruitment and selection procedure will be assessed. Considering the specificity of human resources, measurements such as the precision of selection, individual performance of selected employees, forecasted achievements of workers, and the costs of selection, among others, can be established [13].

The "precision of selection" indicates the degree to which the most suitable of all candidates are accurately screened. The use of this measurement helps to achieve one of the main goals of the recruitment, assessment and evaluation process, "recruiting candidates with sufficient technological skill that helps the firm to increase their performance level" [14].

The individual performance of selected employees shows the monetary equivalent of the difference in productivity of newly appointed workers compared to the average productivity in the organization. According to both theory and practice, every newly hired employee requires time to adapt to the organization. The time needed to adjust to the specifics of the job, organizational structure, work environment, and company culture varies for each individual and depends on both the employee's personal qualities and the quality and extent of the training and mentoring provided [15].

The "forecasted achievements of workers" indicator reflects the selectivity of the organization. It assumes that the fewer candidates who reach the hiring stage, the more selective the company is. As a result, the individuals hired have been more thoroughly vetted and chosen for their potential productivity, which is expected to contribute to increased revenue [16].

"Recruitment and selection costs" encompass all expenses related to the material, technical, and personnel resources required for the hiring process. These costs are part of the so-called "acquisition costs," which, along with "training costs," make up the total human resource expenses [17].

Aspects of Improving Economic Efficiency

The optimization of processes is most often carried out in three key areas, with various cause-and-effect relationships: quantitative, logical, and time optimization. As previously mentioned, the processes of recruitment and selection can be viewed as a chain of interconnected activities that form a process, which can be referred to as "recruitment". By analogy with business processes, improving the economic efficiency of "recruitment" can also be achieved in one or all of these aspects. These represent broad categories of criteria that allow the tracking and subsequent evaluation of the impact that each optimization method has on the indicators used to assess the economic efficiency of human resource management processes.

The quantitative optimization of the employee selection and evaluation process focuses on eliminating inefficient activities and/or introducing new ones that improve the logic of tasks such as defining candidate requirements and assessing internal and external recruitment opportunities, etc. This optimization involves both the physical removal or addition of activities and the spatial configuration of these activities, either outside the company's boundaries – "outsourcing", or within the organization – "insourcing."

Logical optimization involves altering the sequence of activities that comprise the recruitment and selection processes. The reordering of these individual elements is done based on the order in which they are executed [18]. This modification can generate various positive effects and tap into hidden synergistic potential. Changing the order of two or more activities can lead to shorter completion times, greater selection accuracy, and lower costs, i.e. to improve the logic of the processes. Besides, it can impact quantitative aspects, as it may reveal redundant or unnecessary steps, reducing the number of activities. All this, assuming other factors remain constant, will increase the return on investment in human capital and enhance overall personnel management.

The essence of time optimization in personnel selection and evaluation processes is the reduction or extension of the time required to complete one or more related activities. The key principle of this improvement is that the overall speed of the process is determined by its slowest component. Therefore, shortening, extending, and/or running two or more recruitment and selection activities in parallel (for example, assessing both professional and personal qualities in a single interview) can enhance the economic performance of the entire procedure.

The aspects of recruitment and selection processes optimization are not isolated from one another; rather, they are interconnected through various cause-and-effect relationships. A change in one area impacts the others, and vice versa.

Influence Diagram

As previously mentioned, there are certain dependencies between the categories of process evaluation criteria and the indicators that describe the economic efficiency of recruitment and evaluation activities. The cumulative effect of these dependencies, of the individual dimensions of personnel selection and evaluation activities, the three aspects of optimization, and the relationships between aspects, dimensions, and optimization methods, significantly increases the number of possible options for reorganizing the recruitment and selection processes to enhance the economic efficiency of personnel management.

One option for proactively selecting the method that will have the most positive impact on the economic efficiency of recruitment and selection activities is to conduct simulations. However, this approach can lead to increased costs for the organization. Given the limited resources that companies often face, there is a strong motivation to continuously reduce such costs. Therefore, this strategy involves getting an expert to assess the degree of influence between optimization methods and the dimensions of personnel selection and evaluation activities based on the existing relationships and categories of optimization criteria described earlier. Figure 1 illustrates these connections.

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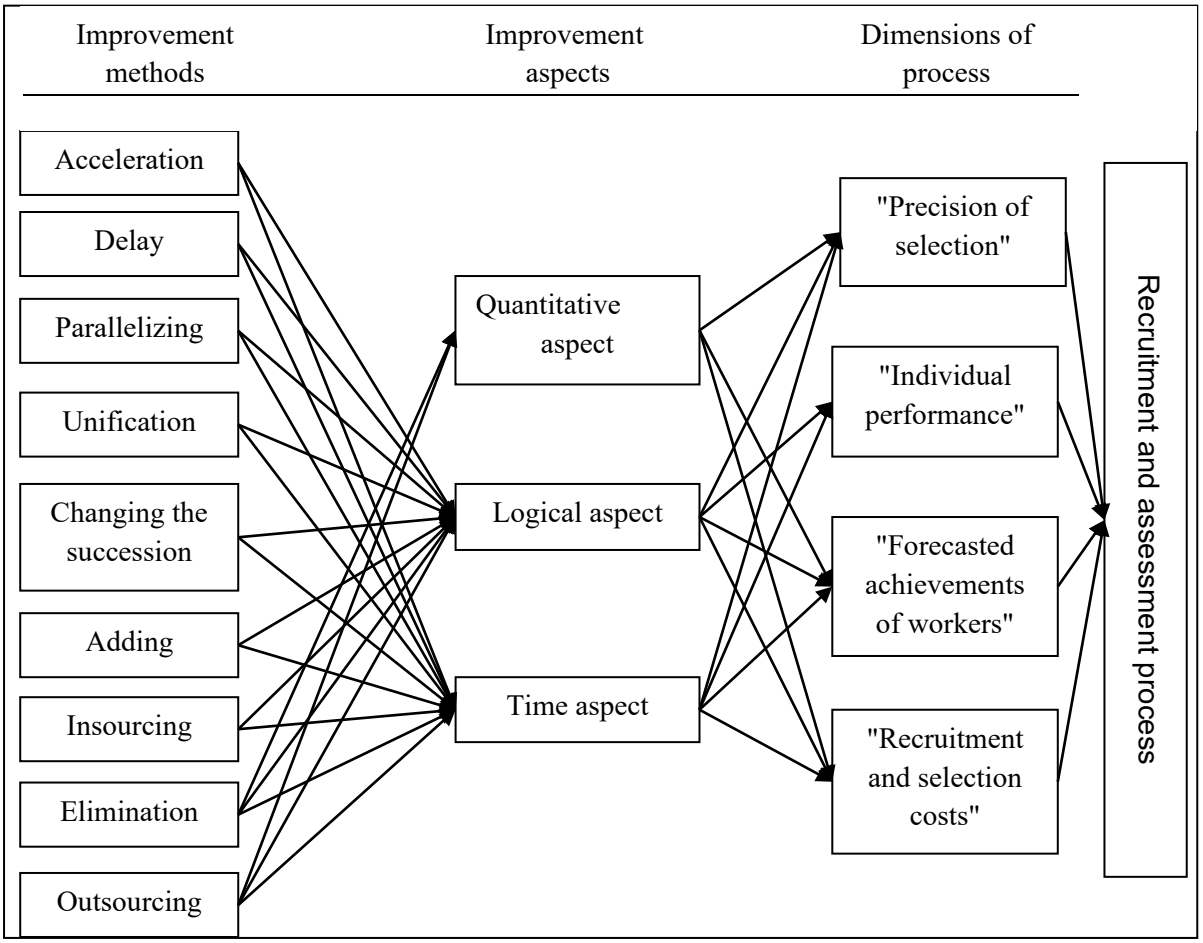

Fig. 1. Influence Diagram

Through expert evaluation, the impact of each specified optimization method on the dimensions of the recruitment and selection processes is established and assessed. This approach effectively eliminates the need for simulations, thereby reducing overall "acquisition costs".

Quantitative Assessment Approach

To quantify the impact of optimization methods on the dimensions of recruitment and selection processes, Multi-Criteria Decision Analysis (MCDA) can be employed. A powerful tool commonly used in MCDA is the Analytic Hierarchy Process (AHP). MCDM helps to structure complex problems and determine the best alter-

native by considering multiple criteria [19]. In the literature, two main approaches for applying the Analytic Hierarchy Process (AHP) are described: the traditional AHP and the fuzzy AHP [20]. The traditional method involves pairwise comparisons of criteria and alternatives, allowing for the calculation of weights for each criterion and alternative based on their relative importance. This approach enables a structured decision-making process by quantifying preferences between different options. In contrast, the fuzzy AHP adapts this comparison method by incorporating fuzzy logic [21] to handle uncertainty and ambiguity in judgments, refining the precision of the evaluations. By aggregating the weights of the criteria and alternatives, a weighted score is developed, reflecting the impact of each alternative on achieving the goal. The fuzzy AHP method incorporates fuzzy logic principles to handle imprecision in evaluations. Unlike traditional numeric comparisons, these evaluations illustrate the interrelations among alternatives rather than direct algebraic dependencies.

A more recent study by Castelló-Sirvent and Meneses-Eraso [22] provides a comprehensive analysis of the use of fuzzy AHP, detailing its performance in handling uncertainty, particularly in situations where high levels of uncertainty are present. Their findings align with the understanding that the fuzzy AHP method, especially with trapezoidal membership functions, outperforms traditional AHP under conditions of uncertainty. However, for lower levels of uncertainty, traditional AHP or fuzzy AHP with triangular functions can produce similarly reliable results. This suggests that the traditional AHP method may still be optimal when the experts' certainty is high, reducing the need for a more complex fuzzified approach [23].

Moreover, the choice of the membership function in the fuzzy AHP method is fundamental to achieving results that closely approximate reality [24]. The primary method for determining the membership function, as described in the literature, is based on the evaluation of uncertainty by an expert or a decision-maker [25]. It is important to note that there are generally two types of uncertainty: objective and subjective. Objective uncertainty relates to the specifics of the objects being studied and the surrounding reality. Subjective uncertainty, on the other hand, stems from the characteristics of human nature, particularly in the varying abilities of individuals to assess information [26].

Based on the expert's selected level of uncertainty, a methodology is developed to determine the appropriate type of AHP method to quantitatively assess the impact of optimization methods on recruitment and selection processes. To achieve this, the traditional AHP methodology must be adapted to accommodate the specific parameters of the evaluation and ensure an accurate analysis of the optimization effects on staffing processes.

The methodology can be presented by algorithm in two sequential steps (Fig. 2.).

The first step involves the pairwise comparison of alternatives. These alternatives are: "very low uncertainty level," "low uncertainty level," "average uncertainty level," "high uncertainty level," and "very high uncertainty level." The pairwise evaluations are arranged in a matrix where each alternative is compared with all the others. The numerical scores, along with their verbal descriptions, are presented in Table 1 below, allowing for a clear representation of how different uncertainty levels are evaluated against each other.

Table 1. Evaluations of the alternatives

Evaluation	Verbal expressions
1	Equal confidence of the expert
3	Little more confidence of the expert
5	More confidence of the expert
7	Much more confidence of the expert
9	Dominant confidence of the expert
2,4,6,8	Intermediate values between two adjacent ones
1/n	Reciprocal values

The weighted average scores of the alternatives and the "consistency ratio" (CR) are calculated following the methodological steps of the traditional AHP method.

The Consistency Ratio (CR) is a measure used in the Analytic Hierarchy Process (AHP) to check the consistency of the pairwise comparison matrix. It helps to determine if the judgments made in the comparison matrix are consistent or if they need to be revised. If the judgments are too inconsistent, the results of the AHP analysis may not be reliable. The "consistency ratio" coefficient is calculated using the following formula (1).

$$CR = \frac{CI}{RI} \qquad (1)$$

, where "CI" is the "Consistency Index" and "RI" is the "Random Index".

The consistency index is calculated using formula (2):

$$CI = \frac{(Lmax - n)}{(n - 1)} \qquad (2)$$

,where "Lmax" is determined as the aggregate of the sum of the binary point evaluations of each alternative multiplied by the weight of the relevant alternative method and "n" is the number of the alternatives reviewed in the matrix. The "Random Index" (RI) is a known value for matrices of different sizes. It accounts for the randomness in the pairwise comparisons.

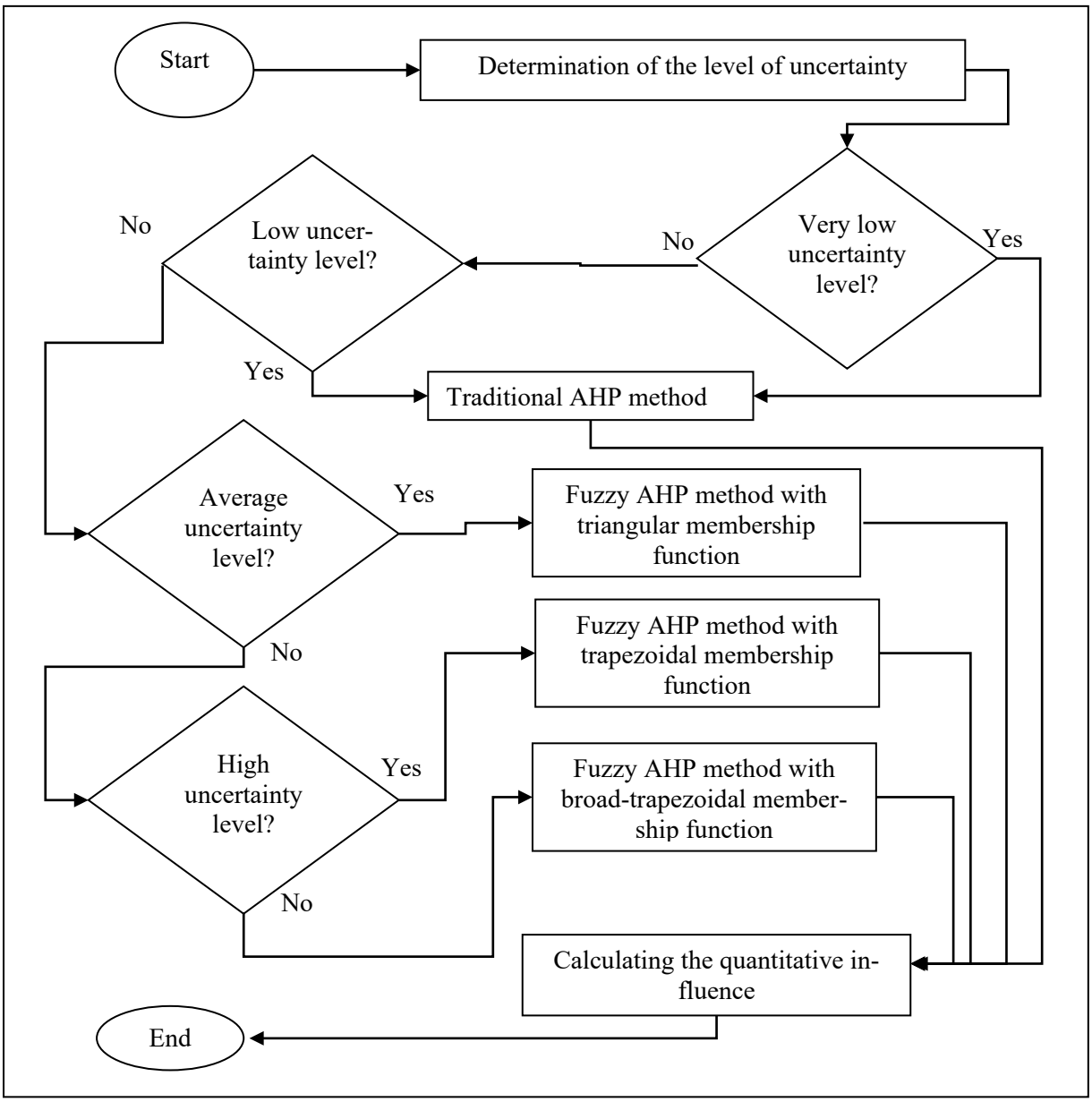

Fig. 2. Algorithm to determine the appropriate type of AHP method

If "CR" is lower than 0.10 (10%), the matrix is considered to be consistent enough for decision-making. If it exceeds 0.10, the comparisons are probably inconsistent, and it is recommended to revise the judgments.

In the next step, the type of AHP method is selected.

This is done by comparing the weights of the alternatives derived in the previous step, selecting the uncertainty level with the highest weight. Based on the alternative with the highest weight, we can determine both the type of AHP method and the membership function to be used. There are four possible options:

- ✓ If the alternative "very low uncertainty level" or "low uncertainty level" has the highest weight, the traditional AHP method should be used to quantify the influence of the optimization methods on the four main dimensions of the recruitment and selection processes.
- ✓ If the alternative "average uncertainty level" has the highest weight, further comparisons should follow the fuzzy AHP method with a triangular membership function.
- ✓ If the alternative "high uncertainty level" has the highest weight, the values of the influence of reorganization methods on the recruitment and selection process dimensions should be calculated using the fuzzy AHP method with a trapezoid membership function.
- ✓ In the last case, if the alternative "very high uncertainty level" has the highest weight, calculations should be performed using the fuzzy AHP method with a broad-trapezoid membership function.

After selecting the type of method to be used, the next stage involves calculating the quantitative influence that the optimization methods have on each dimension through which the economic efficiency of the recruitment and selection processes can be improved.

CONCLUSION

This paper presents a quantitative approach to assess the impact of optimization methods on the economic efficiency of recruitment and selection processes, focusing on three aspects of optimization: quantitative, logical, and time. These aspects interact with each other and collectively impact the overall economic efficiency of the processes of recruitment and selection. By applying the proposed approach, organizations can quantitatively assess and enhance the economic efficiency of these processes. The integration of the multi-criteria decision analysis methods, such as traditional and fuzzy AHP, allows for a structured evaluation of the impact of optimization methods, even under varying levels of uncertainty. The research demonstrates that the careful selection of optimization strategies and Analytic Hierarchy Process methodologies can lead to improvements in key performance indicators, reduce costs, and improve profitability. The findings suggest that organizations should not only focus on reducing recruitment expenses but also emphasize accuracy and effectiveness in candidate selection to maximize the return on human capital investments.

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ETHICAL CONSIDERATIONS OF USING AI TOOLS IN GERIATRIC CARE MANAGEMENT

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ABSTRACT

The integration of Artificial Intelligence (AI) in geriatric care management offers significant potential for improving the quality of care, enhancing efficiency, and supporting overburdened healthcare systems. AI tools can automate administrative tasks, monitor health conditions, and provide personalized care recommendations. However, their use also raises ethical concerns, particularly in relation to autonomy, privacy, informed consent, and the digital divide. This paper critically examines these ethical considerations, drawing on recent literature and case studies to propose a framework for the responsible implementation of AI in geriatric care management.

Key words: *geriatric patients, geriatric care management, AI tools, ethics*

INTRODUCTION

The global population is aging rapidly, with individuals over 65 years of age projected to constitute a substantial portion of the world's demographic by 2050 [1]. As a result, healthcare systems are facing unprecedented demands for long-term care services, particularly for individuals with complex medical needs, such as those with chronic diseases, cognitive impairments, or mobility issues. AI technologies, including predictive analytics, machine learning (ML), and natural language processing (NLP), have been increasingly adopted in geriatric care to assist with patient monitoring, resource allocation, and clinical decision-making.

While AI has the potential to revolutionize geriatric care management, ethical concerns must be carefully addressed. This paper explores the key ethical dimensions of AI in geriatric care, focusing on issues such as autonomy, data privacy, informed consent, transparency, and the digital divide. The discussion is framed by current regulatory standards and ethical guidelines, aiming to provide healthcare professionals and AI developers with insights into responsible AI implementation.

THE ROLE OF AI IN GERIATRIC CARE

AI tools in geriatric care management are diverse and include technologies such as virtual assistants, predictive models for disease progression, wearable devices for health monitoring, and robotics for mobility and caregiving tasks. AI can assist in improving clinical workflows by [2]:

- **Personalizing care**: AI systems can analyze patient data to create individualized care plans and recommend interventions.
- **Monitoring and diagnostics**: Wearable devices and smart sensors provide real-time monitoring of vital signs, alerting caregivers to potential issues before they escalate.
- **Reducing staff burden**: Automation of routine administrative tasks, such as scheduling, charting, and billing, frees up caregivers to focus on patient-centred care.
- **Enhancing decision-making**: AI-powered decision-support tools assist clinicians by offering evidence-based recommendations for complex medical conditions.

Despite these advantages, the integration of AI raises profound ethical issues, particularly when deployed in sensitive and vulnerable populations such as the elderly.

ETHICAL CONSIDERATIONS IN AI-DRIVEN GERIATRIC CARE

1 Autonomy and Decision-Making

Patient autonomy is a fundamental principle in healthcare, emphasizing the right of individuals to make informed decisions about their own care. The use of AI tools in geriatric care can complicate this principle, particularly when patients may not fully understand how these technologies work or how decisions are being made.

A critical ethical concern in geriatric care is maintaining the autonomy of elderly individuals. AI tools, particularly those that make recommendations or decisions on behalf of patients, may undermine the autonomy of older adults, especially if they lack the cognitive capacity to understand or challenge AI-driven decisions. Cognitive decline, common in geriatric patients, may impair their ability to make informed decisions. In such cases, obtaining consent may involve family members or legal guardians, but it is crucial to ensure that the patient's preferences and values are still respected [3]. There is a risk of over-reliance on AI, where healthcare providers defer to algorithmic recommendations without considering the patient's preferences or involving them in decision-making processes.

To safeguard autonomy, AI systems must be designed to support shared decision-making between patients, caregivers, and healthcare professionals. This includes ensuring that AI recommendations are transparent and explainable to both patients and clinicians, and that patients retain the right to reject AI-generated suggestions. Discussions about AI use in advance care planning is universally encouraged, allowing patients to express their preferences regarding the use of AI tools in their care.

2 Privacy and Data Security

The use of AI in geriatric care often requires access to vast amounts of personal and medical data. This raises concerns about data privacy, especially for older adults who may be less familiar with digital technologies and the implications of data sharing. AI tools that monitor health or track behaviour in real time, such as smart sensors or wearable devices, pose a risk of infringing on patients' privacy, particularly if data is shared with third parties without explicit consent.

On the other hand, AI tools may require data to be shared across different platforms or with third-party vendors, raising concerns about who has access to this data and how it is being used.

And finally, different jurisdictions have varying regulations regarding data privacy and security, such as the Health Insurance Portability and Accountability Act (HIPAA) in the United States. Ensuring compliance with these regulations is complex, particularly when data is shared across borders.

Ensuring robust data security and anonymization protocols is critical to maintaining patient trust. Moreover, healthcare institutions must prioritize obtaining informed consent from geriatric patients, or their legal guardians, in a manner that is understandable and accessible [4]. Some strategies for mitigation the risk of arising privacy and data security issues include the implementation of strong encryption methods and strict access controls to protect patient data. Ensuring that only authorized personnel have access to sensitive information is paramount.

Another key consideration is to clearly communicate to patients how their data will be used, who will have access to it, and what measures are in place to protect it. Explicit consent for data sharing should be obtained and patients must have the ability to opt out if they choose to do so.

And lastly, regular security audits to identify and address vulnerabilities in AI systems should be conducted. Evolving regulations mean that AI tools must remain compliant.

3 Informed Consent

AI technologies are often complex and not easily understood by the general public, let alone elderly patients who may have limited digital literacy. This makes the process of obtaining informed consent challenging. Informed consent requires not only that patients are made aware of the risks and benefits of AI-driven care, but also that they fully comprehend how AI systems function, what data will be collected, and how decisions will be made.

For geriatric patients, special care must be taken to ensure that consent is truly informed and voluntary. This may involve using simplified language, visual aids, or engaging family members or caregivers in the consent process. Additionally, AI systems should be designed to support ongoing consent, where patients can opt in or out of AI-driven services as their understanding or preferences evolve.

4 Bias and Fairness

AI systems are prone to biases, particularly if they are trained on datasets that do not adequately represent the diversity of the elderly population. It is essential to ensure that AI tools are developed and tested using diverse datasets that represent the broad spectrum of patients in hospice care, including those with varying cultural, socioeconomic, and racial backgrounds.

AI algorithms are trained on data, and if that data reflects existing biases in the healthcare system, the AI tools may perpetuate or even exacerbate these biases. This can lead to unequal care outcomes [5], particularly for vulnerable

populations. For example, predictive models may not account for age-related changes in physiology, leading to inaccurate diagnoses or inappropriate treatment recommendations for older adults. Additionally, AI tools may be biased against elderly individuals with disabilities, cognitive impairments, or from minority groups, exacerbating healthcare disparities. The main critical points concerning the fairness of AI tool-backed decisions are:

- Data Bias: If AI systems are trained on datasets that lack diversity or reflect historical inequalities, they may produce biased results. For example, if an AI tool is primarily trained on data from younger, healthier populations, it may not perform as well for elderly patients or those from minority groups.

- Disparate Impact: AI tools might inadvertently favour certain patient groups over others, leading to disparities in care quality. In hospice settings, where the goal is equitable care that honours each patient's dignity, such disparities can be particularly troubling.

- Cultural Sensitivity: AI tools may not always account for cultural differences in healthcare preferences and practices, potentially leading to recommendations that are not aligned with the patient's cultural values or beliefs.

It is essential that AI developers and healthcare providers actively work to identify and mitigate biases in AI tools used in geriatric care. This includes training AI models on diverse datasets, regularly auditing AI performance using both quantitative measures and qualitative feedback from diverse patient groups, and involving older adults in the design and testing of AI systems to ensure that their needs are appropriately addressed.

5 The Digital Divide and Accessibility

Older adults are disproportionately affected by the digital divide, which refers to the gap between individuals who have access to digital technologies and those who do not. Many elderly patients may lack access to the internet, smartphones, or the necessary technical skills to interact with AI tools. This can lead to a situation where only tech-savvy or higher-income elderly individuals benefit from AI-driven care, while more vulnerable populations are left behind [6].

To address this ethical concern, healthcare providers must ensure that AI tools are accessible to all elderly patients, regardless of their technical literacy or socioeconomic status. This may involve offering training for patients and caregivers, providing alternative non-digital care options, or designing AI systems that are intuitive and user-friendly.

6. Accountability and Liability

As AI systems take on more significant roles in decision-making, questions of accountability and liability become more complex. It is essential to clarify who is responsible when an AI-driven decision leads to an adverse outcome.

In many cases, AI tools provide recommendations that clinicians ultimately act on. This shared decision-making raises questions about who is responsible if something goes wrong: the clinician, the AI developer, or both.

Another area of concern is that AI systems are not infallible. Errors in data processing, model training, or algorithmic logic can lead to incorrect predictions or recommendations [7]. Determining liability in such cases is challenging, especially if the AI's decision-making process is not fully transparent. And what makes the issue of liability and accountability even more difficult to cope with is that the legal system is still catching up with AI technology, and there are few established precedents for dealing with AI-related liability in healthcare. This uncertainty can create legal risks for healthcare providers and developers.

To avoid the risk of occurrence of liability issues clear guidelines that delineate the roles and responsibilities of all parties involved in the use of AI tools, including clinicians, healthcare institutions, and AI developers, must be developed in the healthcare institution.

Maintaining a strong emphasis on human oversight in decision-making processes is another important point. Clinicians must have the final say in patient care decisions and make sure that they understand the limitations of AI tools.

And finally, keeping thorough documentation of how AI tools are used in patient care, including the rationale for following or disregarding AI recommendations, is necessary. This documentation can be crucial in resolving liability issues.

7. Ethical Decision-Making in End-of-Life Care

AI tools can influence critical decisions in hospice care, such as determining when to adjust treatment goals or when to transition a patient from curative to palliative care. These decisions are deeply personal and often involve ethical dilemmas.

AI tools may make recommendations based on statistical outcomes or generalized data, which may not always align with an individual patient's values, preferences, or end-of-life wishes.

Hospice care involves navigating complex emotional and ethical issues, such as balancing life-prolonging treatments with quality-of-life considerations. AI tools must be used in a way that respects the emotional and spiritual dimensions of end-of-life care. In some cases, AI might suggest interventions that are in the patient's best interest from a clinical perspective but may conflict with the patient's wishes [8]. Navigating these conflicts requires careful ethical consideration.

To mitigate the risk of ethical dilemmas in the final stages of a patient's life ethics training for clinicians on how to integrate AI tools into care while respecting patient autonomy and values should be provided. This training should include case studies and scenarios relevant to hospice care.

It is also important to design AI tools to prioritize patient values and preferences. For example, AI systems could be programmed to incorporate advance directives and living wills into their decision-making processes.

And finally, in cases where AI recommendations raise ethical concerns, ethics committees should be involved to provide guidance and ensure that decisions are made in the best interest of the patient, considering both clinical and ethical factors.

8. Trust and the Human Element of Care

Building and maintaining trust between patients, families, and healthcare providers is crucial in hospice care, where relationships are often deeply personal. The introduction of AI tools can disrupt these relationships if not handled carefully.

Studies show that patients and families may perceive AI as impersonal or as a replacement for human care, which could undermine trust in the healthcare provider [9]. Also, overreliance on AI tools could lead to a reduction in the human elements of care, such as empathy, compassion, and personal interaction, which are central to hospice care.

Trust in AI tools depends on their reliability, transparency, and the perceived alignment with patient care goals. If patients or caregivers believe that AI tools are making decisions that are not in the patient's best interest, trust can be eroded. To maintain trust in the use of AI-driven decision-making tools patients should have a clear understanding that a hybrid care model is being used. Hybrid care models combine AI-driven insights with human judgment and interaction. It should be communicated that AI tools are there to support, not replace, the human aspects of care.

Building trust in the process is also important. AI tools should be gradually introduced in hospice settings, providing education and support to patients, families, and healthcare providers to build trust and ensure that AI is seen as a beneficial addition to care. What is more, it should be emphasized that AI tools are used in ways that enhance, rather than detract from, the compassionate care that is the hallmark of hospice settings. For example, AI could be used to free up time for clinicians to spend more quality time with patients.

REGULATORY AND ETHICAL FRAMEWORKS

The rapid development and deployment of AI technologies in healthcare have outpaced regulatory frameworks. Current guidelines, such as those from the European Union's General Data Protection Regulation (GDPR) and the U.S. Food and Drug Administration (FDA), offer some protection for patient data and safety. However, there is a need for more comprehensive regulations that specifically address the ethical challenges posed by AI in geriatric care [10].

Ethical AI development should be guided by principles of beneficence (doing good), non-maleficence (avoiding harm), autonomy, and justice. AI developers and healthcare institutions must collaborate to establish transparent policies, conduct ethical impact assessments, and create oversight mechanisms to ensure that AI technologies are used responsibly in geriatric care.

CONCLUSION

AI has the potential to greatly improve geriatric care management by enhancing the efficiency and personalization of care. However, the ethical considerations discussed in this paper must be addressed to ensure that AI tools are deployed in a manner that respects the rights and dignity of elderly patients. By promoting autonomy, safeguarding privacy, ensuring informed consent, and addressing biases and accessibility issues, healthcare providers can harness the benefits of

AI while minimizing its risks. Future research and policy development should focus on creating ethical frameworks that guide the responsible use of AI in geriatric care, ensuring that the most vulnerable populations are not left behind.

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CALCULATION OF THE ACTUAL PRIME COST OF PRODUCTION IN MICRO AND SMALL ENTERPRISES

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ABSTRACT

The article aims to present the nature of prime costing in enterprises with limited numbers of nomenclatures, personnel and orders. These are micro and small enterprises with a small average number of staff, a relatively small annual turnover and asset value. They have relatively few resources for bookkeeping. For this article, the regulatory requirements in Bulgaria for the formation of costing, documentation of the calculation, the cost formation structure, and accounting of finished products are consistently examined. The above is exemplified with a specific case study.

Key words*: accounting, calculation, prime cost.*

INTRODUCTION

Every enterprise, regardless of its activity and size, faces various challenges in achieving sustainable business development. Among these challenges are [1, 2]: the provision of financial resources, stable economic indicators, project development and so on, on the one hand, and stability in the enterprise and management of its logistic activities at the input, as well as the actual business activities and their realization in the output of the enterprise, on the other. Achieving this sustainability requires mandatory compliance with the provisions of the Accounting Act and the National Financial Reporting Standards for Small and Medium-sized Enterprises. When developing its accounting policy, Accounting Standard 2 "Inventory Accounting" must be carefully analyzed. According to this standard, enterprises determine the cost accounting organisation and the method of formation of the prime cost of production and services by its requirements and the specifics of the production activity, as well as the type of output produced.

REGULATORY REQUIREMENTS

If calculation is envisaged, the actual prime cost of labour products in an expanded form, as in the case of large enterprises with complex organisation and production technology, the accounting of operating expenses with accounts of the "Operating costs" group is more than necessary. However, depending on the accounting policy developed and disclosed by the enterprise, it is also possible that costs are not accounted for in the activity cost accounts. That is permissible for enterprises [3-5]:

- with small economic power;
- with simplified production and
- accounting organisation and elementary technological mode.

Accounting Standard 2 defines the cost of production and cost of services as follows:

The cost of goods manufactured is equal to the sum of the value of the materials used, the cost of processing and the other costs associated with production of the relevant output. It should be noted that it does not include administrative, financial, exceptional and selling expenses. These costs are recorded as current in the period they are related to.

The cost of goods manufactured is determined by the labour and social security costs of the personnel engaged in the supply of the service and the relevant part of the general production costs. The cost of services rendered does not include labour and other costs related to sales and general administrative staff, financial as well as exceptional expenses. These costs are reported as current in the period they are related to.

Once reported as expenses by type (by economic elements), according to the Bulgarian legal requirements (Accounting Act and the provisions of the applicable accounting standards), the expenses are distributed according the area of business, i.e. business activity.

Expenditure having the character of internal turnover related to domestic consumption (e.g. own-produced fodder) is not recorded as ex-

penses by type, but instead is directly attributable to the business. These costs have to be documented primarily in the same way as expenses by type. Precisely for this reason, they are also called 'bought-in' costs.

DOCUMENTATION OF THE CALCULATION

The calculation formula is not standardized. Depending on the accounting policy applied according to the owner's requirements and the management, there is a difference in the forms used [3]. In some cases, the calculations are too general, in others the costs are differentiated by calculation articles.

These issues shall be specified, developed and shown in the accounting policy of the company. The calculation form must be part of the content of the rules on documentation and document flow, which in turn is seen as an intrinsic component of internal regulatory documents (acts) of the enterprise.

In order to achieve some unification, the following model accounting calculation for determining (calculating) the actual cost of goods manufactured could be recommended (Table 1).

Calculation No.
to determine the actual cost of goods manufactured
on ..... in 2024

Order No.	Items of calculation	Measure / Quantity			
		Plan		Report	
		General	Per unit	General	Per unit
	Total				

City
Date

Chief Accountant:
Calculator:

PRIME COST STRUCTURE

The cost of production has to be prepared in a certain order and form. There is no single recommended nomenclature of elements for the cost of goods manufactured in the industry [6-9], as costs are specific for each type of activity and depend on its size. The cost structure is not the same across industries and sub-industries. It is determined by the characteristics of the products, the raw materials processed, the organisation, technical equipment of the production, etc. Cost accounting for industrial activities has to be implemented through the “Expenditure on operating activities” account. Analytical accounting has to be organised for each account by type of production or by type of products made. For each analytical account, the expenditure is monitored by calculation articles. They are determined by the undertaking concerned. As an example of nomenclature, the following can be proposed:

1. Costs of raw materials.
2. Costs of fuels and energy (supplies).
3. Costs of hired services.
4. Depreciation and amortisation expenses.
5. Salaries, wages and other remuneration (payroll) costs.
6. Social security and welfare allowance expenses.
7. Scrapping (obsolete assets) expenses.
8. Other expenses.

REPORTING OF FINISHED GOODS

Finished goods are defined as fully completed products that have passed all stages of manufacturing and testing and meet the standards and conditions of customer contracts. After they leave manufacturing, goods are examined and marked, after which they are handed over to the finished goods warehouse in exchange for a warehouse receipt.

Finished goods are accounted for in the "Production" account with analytical accounts by type of finished product, grouped by material accountable employees. They are documented in the actual factory production cost.

The following typical business operation is required: an increase in finished goods in the warehouse and a decrease in production at actual factory prime cost is recorded. Based on the warehouse warrant and the costing calculation, the Production account is debited, and the Operating Expenditure account is credited.

CASE STUDY

A company has the following position in some accounts at the end of an accounting period:

1. Operating expenses: 68,700 BGN
Including a batch of:
- Raw materials and supplies: 50,700 BGN
- Salaries and wages: 16,000 BGN
- Social security and welfare: 2,000 BGN

2. Shop floor costs: 2,500 BGN

3. General production costs: 4,700 BGN

During the reporting period, the following transactions were also carried out:

1. 100,000 kg of finished goods "A" was produced and delivered to the finished goods warehouse in exchange for warehouse warrant No. 3.

2. 50,000 kg of finished goods were sold for 0.80 BGN according to invoice No. 5.

What is required:

Summarized accounts to be opened and filed.

Calculation to determine the factory.

Summarized accounts as follows:

Dt	Operating expenses		Ct
Raw materials	50,700	76,000	Cost of goods manufactured
Salaries and wages	16,000		
Social security and welfare	2,000		
Shop floor costs	2,500		
General production costs	4,800		
	76,000	76,000	

Dt	Finished goods		Ct
Cost of goods manufactured	76,000	76,000	Dispatched and realised production

Dt	Sales of manufacturing products		Ct
Products in store	38,000	40,000	Realised production

Dt	Customers		Ct
Realised production	40,000		

Dt	Shop floor costs		Ct
Balance c/d	2,500	2,500	Cost allocation

Dt	General production costs		Ct
Balance c/d	4,800	4,800	Cost allocation

Calculation No. 1

to determine the factory cost of goods manufactured
of the 100,000 kg of finished goods "A" produced in January 2024

Order No.	Title of expenditure	Report	
		General	Per unit
1	Raw materials and supplies	50,700	0.507
2	Salaries and wages	16,000	0.160
3	Social security and welfare	2,000	0.020
4	Shop floor costs	2,500	0.025
5	General production costs	4,800	0.048
	Total factory production prime cost	76,000	0.760

Unit factory production cost of goods manufactured = 76,000 / 100,000 = 0.76 BGN

Calculator: ..... Chief Accountant: .....

CONCLUSION

The accounting of micro and small enterprises is usually limited to the processing of already prepared primary accounting documents, prime cost calculation, preparation of ledgers of various characters, and financial statements. The accountant has limited time to do what is necessary and to meet the tight deadlines set by the tax laws. It therefore requires excellent organisation and preparation in advance, which consists of the establishment of a practical chart of accounts, a rapid but precise costing scheme and a compact accounting policy.

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OPPORTUNITIES FOR APPLICATION OF TELEMEDICINE SERVICES FOR GERIATRIC PATIENTS-TOURISTS

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ABSTRACT

Telemedicine is the delivery of health care and the exchange of health information at a distance. The prefix "tele" comes from Greek and means "at a distance"; therefore, we can call telemedicine medicine at a distance. The use of secure video and audio chat links enables healthcare professionals to treat patients who live in places with limited access to medical care or people who are temporarily outside their permanent residence, i.e. tourists, as patients.

The purpose of this paper is to examine the possibilities provided by telemedicine for the provision of health services and the improvement of "doctor-patient-tourist" communication by providing easy access to medical specialists, especially when the person in need is not at the location of his or her permanent residence.

***Keywords**: telemedicine, information technology, geriatric patient-tourists*

INTRODUCTION

Telemedicine makes healthcare more accessible, more cost-effective and intensifies patient's involvement. It is becoming an increasingly important part of the medical practice given the drive to reduce the cost of medical care. Its application saves time for the patient, who is able to discuss their health when it comes to milder, non-urgent conditions, rather than visiting a primary care specialist or emergency room. In this sense, through the use of telecommunications infrastructure and information technologies, and in full compliance (when using videoconferencing tools) with the Health Insurance Portability and Accountability Act (HIPAA), it covers the entire spectrum of medical activities, including diagnosis, treatment and prevention of diseases, continuing education of health care providers and consumers, and research and evaluation [1]. Because of all these, telemedicine services are defined as medical services provided at a distance. With telemedicine, people do not need to schedule an in-person doctor's appointment to receive treatment.

STATE OF TELEMEDICINE SERVICES

The European common market in healthcare is developing successfully despite the existence of very different healthcare systems. As cross-border healthcare activities increase, patients are treated in other member states much more often than in the past, especially since there are waiting lists in some countries. In addition, physicians are requesting a variety of telematics information from their colleagues more often than before, and health care professionals, hospitals, and laboratories are increasingly using information and communication technologies to communicate and receive health data for treatment and other purposes.

Consumers, on the other hand, use the Internet to search for medical information or to order a medicinal product from pharmacies located in other countries. Many of these developments are related to e-Health. In turn, it is described as the application of information and communication technologies across the range of functions that affect the healthcare sector. According to the European Commission, e-Health encompasses the following four interrelated application categories:

- clinical information systems;
- telemedicine and home care, systems related to personal health and services for remote monitoring of patients, teleconsultation, telecare and teleradiography;
- integrated regional and national networks for health information, distribution of electronic health systems and services related to e-prescriptions or e-referrals;

- secondary use of non-clinical systems (such as dedicated systems for researchers as well as support systems).

E-health itself has an impact on healthcare. Health systems are part of wider systems such as social systems and society. Therefore, societal developments, such as developments in information and telecommunication technologies, as well as related regulations, significantly affect health systems. Some important European rules that may apply to e-Health relate to the processing of personal data, the provision of information society services, the use of medical products, the conclusion of distance contracts and agreements.

DEVELOPMENT OF TELEMEDICINE SERVICES

Health is the basis of human life and therefore it should be the subject of efficient policies and actions in the member states of the European Community and on a global scale. In Bulgaria, the provisions of the European regulations governing social and health insurance issues are directly applicable – in the context of the right to free movement of people within united Europe.

Bulgarian citizens, who have uninterrupted right of health insurance according to Bulgarian legislation, can use, if necessary, medical assistance in the countries of the European Community, when they reside on a different basis in the other countries of the European Union (EU) and the European Economic Area (EEA).

Electronic health care is a key point in the developed plan of action and achievement of a European space for electronic health care. The challenges facing e-health care include the development of common standards and compatibility of health products, systems and services at the European level.

The following priorities are identified as leading in the National Strategy for Health Care Development:

- Provision of on-line health services;
- Implementation of electronic health cards;
- Implementation of personal electronic health records;
- Implementation of software applications for complex processing and exchange of information in real time, including: electronic directions, recipes, expert conclusions, laboratory and diagnostic data and others;
- Construction of complex and integrated hospital information systems, as well as with external applications. Development of electronic medical records;
- Construction of the necessary infrastructure for the normal operation of the health care system – networks, connecting devices and others;
- Building a suitable infrastructure for the implementation of telemedicine applications.

By definition, e-health is a rapidly developing field in which medical informatics, public health, the provision of health services and information through the use of modern information and communication technologies interact. It characterizes technological development to improve health services at local, regional and global levels.

Doctors in Europe store and send patient data, such as laboratory test results, electronically. Partially integrated health care is offered, so that at the next examination the relevant specialist will have the data from previous visits available.

Electronic health care is highly dependent on economic policy, investment models and infrastructural changes in health care facilities to provide an opportunity to implement modern technological solutions. A necessary factor is the price policy and legal framework, as well as the organization of this new type of payments and services. There are no regulations and standards for the exchange of information, for the transfer of personal data, for their processing and storage. The better service and provision of health care implemented with the means of electronic health care is conditioned by the modernization of the health policy of the country. Business models and management approaches should seek first of all the benefits for the patient and their satisfaction with the provided health services through easier access [3]. Professional communities should be also motivated by promoting and presenting the benefits of:

- data presentation methods;
- access methods;
- data integration methods;
- network services.

Regardless of the increasingly widely recognized role of IT in the field of health care and the advantages of electronic health care and, in particular, telemedicine services, proven by global experience, their introduction is associated with overcoming a number of obstacles:

- Difficulties in converting the current data - need for integration and digitization;
- Unification of medical files – at present, the information about each patient is stored by

him, on the one hand, and locally, in the hospital, on the other. By connecting all participants in the health care process, there will be an ongoing update and a unified database. In general, this is a problem with all information systems, not just medical ones;

- Confidentiality – in the field of health care, this parameter applies to both information stored on paper and data in electronic form;
- Hardware limitations – for the operation of a system working with electronic health records, it is necessary to have a sufficient number of computers, desktop and portable ones, in each medical facility;
- Inertia – most large organizations are resistant to change.

The standard medical practice as such is the practice from the time of Hippocrates – the face-to-face contact with the suffering patient, the personal experience that implies his or her further treatment and the legitimacy according to the laws in Bulgaria are only part of the advantages and established standards of work. On the other hand, the paperwork that is still a common practice in our health care, the possibility of a deliberate or accidental error, the lack of sufficient practical experience in the specific case mark this model of work as outdated, unsatisfactory and risky for the patient's health. However, telemedicine faces many other problems that lead to fear and reluctance to adopt the new. It imposes a modern standard of work, a guarantee for the patient of several expert opinions to prevent and minimize the possibility of errors in deciding on the final diagnosis, providing care 7 days a week, 24 hours a day. Of course, the difficulties and obstacles to this scheme of work are related to the will of medical experts placed in a competitive regime, the lack of ethical and legal frameworks to limit abuse, as well as the required skills to work with information technologies are only part of the barriers to the implementation and institutionalization of this service model [4].

The main areas of application in telemedicine today are:

- clinical telemedicine;
- military and other specialized types of telemedicine;
- various information systems applicable in health care, with diverse functions;
- distance learning and retraining of experts as well as creation
- of new health attitudes, consumer standards;
- mass cultural practices of users of these expert activities and services that live in the complex dynamics between health and illness.

Telemedicine practice can be conditionally divided into the following components:

- technical devices for recording and taking data over the required distance – "remote turning" to a specialist;
- technologies for making medical decisions;
- experts for interpretation of specialized information;
- real-time remote patient management agreement.

The need for specialized information is caused by the subject of medical work and practice related to: prevention of diseases and accidents, promotion and protection of health; alleviating the pain and suffering caused by the disease; care and treatment for people with diseases, and care for those of them who cannot be cured; avoiding premature death and ensuring a peaceful death; striving for application of the information to increase the expert qualification.

Building a global telemedicine system is one of the challenges of the new century. Such a project is in accordance not only with the general trend of globalization in society and with the rapid development of information technologies, but also in accordance with the aspiration for ever higher quality of medical care [2].

TELEMEDICINE, GERIATRIC AND HEALTH TOURISM – RELATIONSHIP AND DEPENDENCE

Geriatric medicine is a specialized branch of health care that focuses on the unique medical needs of the elderly population. It addresses the complexities of aging by promoting the well-being and quality of life of older adults. By adapting health care to the specific needs of older adults, geriatric medicine aims to improve the functionality, independence, and overall health of older adults, recognizing the importance of preserving dignity and optimizing the later stages of their lives [6].

In recent times, the world has seen an increase in the interest in health tourism on the part of tourists from the so-called "third age", which is associated with the growth of urbanization and industrialization, the fast pace of life and the many stressful situations, the growth of the information flow, the unfavourable ecological situation and the immobility characteristic of modern

man's life and work. Urbanization, transportation, irrational nutrition, immobilization and environmental problems have a detrimental effect on human physical and mental health. These are factors that lead to a rapid increase in cardiovascular diseases – hypertension, heart and brain infarction, allergic diseases, metabolic-endocrine diseases, etc.

Modern civilization, as the doyen of health tourism in Bulgaria, S. Stamatov, has successfully pointed out [5], brings with it chronic, massive and costly to society morbidity, called the diseases of modern civilization.

European citizens, including the Bulgarian, live longer and longer: the average life expectancy in Bulgaria is gradually and continuously increasing. A healthier lifestyle and improved medical and hygienic care have a significant contribution to this process. This also affects the age structure of the population, increasing the average age and thus the percentage of old people. According to some general projections, their number is expected to almost triple by 2050, which will also increase the number of vulnerable, infirm old people. The rapid aging of society requires proactive measures and readiness to deal with the problems of the aging population.

Specialized treatment abroad is a growing trend of demand and supply of specific medical services and packages of procedures aimed at foreign patients and clients. Combining the accessibility of medical services with the professional experience of the medical staff, Bulgaria is among the countries that have the potential to become a preferred destination for the so-called medical tourists.

CONCLUSION

Today, we are experiencing both qualitative and quantitative changes in patient mobility as people travel from richer to less developed countries to access health services. Such a change is mainly driven by the relatively low cost of treatment in less developed countries, the availability of cheap flights, and increased marketing and online information for consumers about the availability of medical services.

Digital health technologies used in medical and restorative tourism will increasingly find their wide application, regardless of the age of patient-tourists, with a view to facilitating access to specialized medical care and improving the quality of life.

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