AN INTERVAL-VALUED SPHERICAL FUZZY SWARA-CRADIS APPROACH TO STRATEGIC PROBLEM-SOLVING IN LOCAL MEDIA BUSINESSES

Aleyna SARIGÜL MERT[1], Ahmet AYTEKİN[2*]

[1]*Graduate Education Institute, Artvin Çoruh University, Artvin, Türkiye,*
aleynasgl@ogrenci.artvin.edu.tr
[2]*Faculty of Political Sciences, Samsun University, Samsun, Türkiye, ahmet.aytekin@samsun.edu.tr*

Abstract: *This research aims to identify the key challenges faced by local media businesses, assess their severity, and propose strategic solutions. As social media and technological advancements continue to transform the media landscape, local media organizations are struggling with a wide range of problems. However, most existing strategies have failed to achieve their intended outcomes. The study employs a two-stage data collection process conducted in Artvin province, Turkey. In the first stage, the main challenges and potential strategic solutions were identified based on expert opinions. The problems of local media companies were categorized under the following dimensions: economic issues, technological and digital infrastructure, employment and skilled personnel shortages, structural and institutional challenges, legal and administrative barriers, content production and journalistic quality, distribution and accessibility, and media–political relations and ethical concerns. In the second stage, these problems and strategic solution proposals were evaluated based on experts' assessments using the Interval-Valued Spherical Fuzzy SWARA-CRADIS methodology. The findings indicate that local media businesses struggle not only with limited economic resources but also with difficult working conditions, insufficient leave, excessive workloads, and the migration of qualified personnel. The proposed strategic solutions focus on strengthening legal and regulatory support, focusing on local community engagement, and enhancing accessibility and content diversity.*

Keywords: *Local media, business, SWARA, CRADIS, interval-valued spherical fuzzy sets.*

1. Introduction

Local media businesses and their members operate with more limited resources compared to national media. Today, communication can be conducted quickly and effectively through various technological tools such as telephone, internet, television, and radio. Press is the activity of publishing regularly through various media or channels such as radio, newspapers, magazines, television, and the internet. Media, in addition to press activities, also includes entertainment. Media is a broader field of communication encompassing not only news but also entertainment,

---

[*] Corresponding author

culture, and advertising. Communication, press, media, and journalism, while having different focuses, are intertwined and complementary fields united in the function of conveying information to the public (Godwin, 2023).

The media sector, however, is rapidly responding to technological advancements and expanding its scope. Recently, social media activities have been increasing in significance within the media sector. Social media plays a significant role in the dissemination of information. Since the dawn of the journalism profession, media members have shared events, developments, and issues of public interest with the public through various communication tools. Technological advances and the globalization process have brought about a structural transformation in the media sector (Wilding et al., 2018).

This context will examine how local media has transformed itself across a chain of problems stretching from the past to the present, how it has grappled with existing structural obstacles, and how solutions can be formulated in this process. Focusing on a local region, Artvin, the research aims to identify the current problems faced by local media businesses, proposes strategic solutions to these problems, and prioritize them.

The research process, based on expert opinions, was structured in two stages. In the first stage, interviews with seven experts who have worked or currently work in the local media sector in Artvin will identify key problem areas and strategic solutions. In the second stage, the experts' prioritization of these problems and proposed solutions will be obtained through fully structured evaluation forms. The findings obtained in this context make contributions to a deeper understanding of the problems faced by local media enterprises and the development of applicable solutions to these problems.

Kaçar (2024: 628) stated that media professionals are vital to society and are aware of their roles in educating the public, bringing local issues to light, and supporting democratic processes. This is due to the fact that the emergence of digital technology has given local media a worldwide scope. It was emphasized that they experience dissatisfaction due to low incomes, difficult working conditions, and economic hardships, and that various environmental factors complicate their work processes (Kaçar, 2024: 644).

Despite fulfilling a critical role in informing the public and democratic participation, local media is understood to face economic, structural, and cultural challenges. Maintaining both the local press' content production capacity and its public role requires the development of policies to highlight and address these problems.

Gönenç (2012: 42), arguing that the press sector is among the sectors most acutely affected by financial difficulties, noted that the need for power and talent within press operators has increased in the face of developing technology. Gönenç (2012: 42), who stated that press organizations needed to undergo a mandatory capital restructuring, argued that content was created for commercial reasons and described newspapers as hollow and similar. He stated that the press sector needed to be freed from political and financial problems to solve its current problems (Gönenç, 2012: 43).

With the proliferation of the internet, the way people access news and follow current events has changed, leading to a transformation in journalistic practices. While the digitalization process necessitates the restructuring of traditional journalistic habits, some problems that may seem relatively minor for the national press create greater challenges for the local press (Arvas, 2019: 99).

Exploring the experiences of local media professionals, the challenges they face, and the impact of these challenges on the local media structure is an important and worthy topic for both assessing the current situation in the field and developing future improvement strategies.

2. Research Background

This section comprehensively addresses the fundamental issues facing local media businesses. Based on the literature review, the problem areas are grouped under eight main categories, encompassing a wide range of issues, from economic inadequacies to technological infrastructure deficiencies, and from content production to ethical violations. These categories include economic problems, technological and digital infrastructure issues, employment and qualified personnel shortages, structural and institutional issues, legal and administrative barriers, content production and journalism quality, distribution and access issues, media-politics relations, and ethical issues.

2.1. Economic problems

Local newspapers face serious challenges both in securing special advertisements and increasing newspaper sales. It has been stated that relying on official advertisements for survival is unsustainable and that changing this mindset will lead to increases in both special advertisement and advertising revenues and sales revenues (Aksoy, 2010). The overwhelming preference of advertisers for national media further exacerbates the disadvantage of local media in this area (Temel et al., 2012). Due to the low circulation and ratings of local media, large organizations in the region tend to prefer national media for advertising, reducing the chances of local newspapers receiving special advertisements (Temel et al., 2012).

2.2. Technology and digital infrastructure problems

Some local newspapers operating in Anatolia are experiencing serious difficulties due to technological deficiencies. These deficiencies have negative effects on many stages of the newspaper, from printing to distribution (Temel et al., 2012:131).

According to Uçak and Erkal (2019: 103), interviews and ongoing research on local newspapers reveal that technological advancements have not made the expected positive contribution to the local press. It is stated that the problems faced by the local press, as observed when the internet first began being used in newspapers in the 1990s, continue to be similar two decades later.

2.3. Content production and journalism quality

One of the key factors affecting local newspaper circulation is that most local newspapers feature news from the national press. Readers don't choose local newspapers when they want to learn about an event already covered in the national press (Köseoğlu, 2022: 31). According to Atabek (2005: 73), it is impossible for the local press in Türkiye to fulfill its democratic functions without addressing fundamental problems such as economic inadequacies, technological shortcomings, a shortage of qualified personnel, newspaper quality, low circulation, and distribution issues.

It is important that the media does not use its influence for personal gain or political purposes but acts within the framework of media ethics, taking into account the society's right to access accurate information (Yavalar, 2009:119-120).

2.4. Media-politics relationship and ethical problems

According to Karaduman's (2017: 288) assessments, the relations of local media organizations in Türkiye with politics and capital directly affect many processes from news production to distribution; economic difficulties, ethical issues, and limited broadcasting opportunities also stand out as problems of this structure.

The existence of newspaper publishers solely for the purpose of profiting from official advertising negatively impacts the quality of work and productivity of those genuinely

committed to journalism. Furthermore, the fact that some local capital groups, driven by commercial or political interests, use their communication tools for this purpose stands out as a significant problem that undermines the functionality of local media (Aran, 2013: 2).

2.5. Structural and institutional problems

Publishing newspapers solely focused on official advertising revenue in the local press does not contribute to the development of the sector (Bodur, 1996: 155). Local newspapers face numerous problems, including financial inadequacies, technical equipment shortages, legal obstacles, the supply of qualified personnel, relations with local administrators, distribution and printing processes, and printing subsidies (Köseoğlu, 2022).

2.6. Employment and lack of qualified personnel

It is emphasized that improving the economic conditions of newspapers is necessary to address these employment problems in the local press (Köseoğlu, 2022: 33). Despite the large number of graduates from communication faculties each year, the local media's inability to provide sufficient employment opportunities for these graduates leads to journalism being viewed as a short-term experience or adventure rather than a permanent career for young people. Consequently, some graduates choose national media organizations, while others pursue careers outside their field of study (Yavalar, 2009).

2.7. Distribution and access problems

One of the fundamental problems facing the local press is inadequate distribution, which prevents newspapers from reaching a wider audience. Many local newspapers are distributed only in limited areas; in some cases, they cannot even reach certain parts of the city where they are published (Temel et al., 2012).

Newspapers were previously classified as local, regional, or national based on their distribution areas due to their print formats. However, with digitalization, the geographical limitation of news has become less important; locality has begun to be evaluated more in terms of social relations. The access data newspapers obtain in the digital environment also supports this transformation (Özcan, 2016: 32-33).

2.8. Legal and administrative problems

Local media also faces various problems stemming from its unique structure. A significant portion of these problems stem from legal regulations (Temel et al., 2012: 134). Local media executives emphasize that the public's right to information is a fundamental right and that this right cannot be restricted in any way (Yavalar, 2009).

It can be said that the long-standing problems of the local press remain largely the same, and these problems remain unresolved. Local media outlets often direct their search for solutions to the state, political power, and other political or economic power centers. This complicates the process of resolution. The local press must break free from this vicious cycle as quickly as possible and take action to produce solutions. This will not only make progress toward a solution but also reinforce its core values of independence and reliability (Akçakoca, 2006).

2.9. Contributions and research questions of the study

This research aims to present current and local implications specific to the field by revealing the problems faced by local media enterprises in Artvin and their severity. The findings will contribute to a better understanding of the current situation by shedding light on the functioning of the local media structure and the economic, technical, institutional, and professional challenges it faces. Among those who will benefit most directly from the research are managers and

employees of local media enterprises. The findings can support these enterprises in strategic planning, improving resource management, and making decisions regarding sustainability. Furthermore, local governments, public institutions, and civil society organizations can use these findings to create a roadmap for developing policies and support mechanisms for the media sector.

Furthermore, the research provides communication between academics and students with a theoretical and applied basis for new studies in local media. Identifying the problems related to local media will both deepen academic discussions and contribute to the rethinking of media policies at the local level. Consequently, this study has practical and theoretical value for both practitioners and researchers and serves as an important source of information for strengthening the local media structure. The research questions underlying each scientific study directly influence data collection and method selection. The following research questions were determined to align with the purpose and scope of this study:

• What are the problems of local media companies?
• What are the strategies that local media companies can adopt to solve these problems?
• What is the degree of importance and ranking of the problems of local media companies?
• What is the degree of priority and ranking of the strategies that local media companies can adopt to solve these problems?

3. The Proposed Decision-Making Approach

Multi-criteria decision analysis methods are used to model and solve problems that involve conflicting criteria. These methods have been used to solve problems of different structures in various fields. For example, various approaches and methods have been used in solving problems such as pallet truck selection (Ulutaş et al., 2022), evaluation of aspects of cognitive skills (Djukic et al., 2022), analysis of the development and effects of electronic commerce (Lukic, 2023), selection of promotion methods for a product group in a large retail chain (Rajkovic et al., 2020), examination of countries' effectiveness based on logistics performance index (Orakçı, 2024), personnel selection (Stanujkić et al., 2024), evaluation of water and wastewater infrastructure performance (Sevinçli et al., 2025), and selection of cordless upright vacuum cleaners (Orakçı, 2025). In this study, an MCDA methodology will be proposed for the problems of local media enterprises and their solutions.

Local media companies, like businesses in other sectors, must adapt to changing conditions. In particular, advances in communication technologies have diminished the power of local media companies in their respective regions, where they are the primary news source. However, it is clear that various factors have put local media companies in a difficult position. In this context, the study focuses on local media companies.

The multi-criteria decision analysis model defined under the Interval-Valued Spherical Fuzzy Set (IV-SFS) will be used to solve the problem examined in the research. Within this model, the weights of the criteria will be determined using the IV-SF-SWARA method. Strategies for solving local media companies' problems will be listed using the IV-SF-CRADIS method. IV-SFSs are extensions of SFSs that allow membership, non-membership, and hesitation levels to be specified as intervals.

Therefore, IV-SFSs enable modeling of uncertainty in a broader area (Kahraman and Gündoğdu, 2021; Chusi et al., 2024). The SWARA method allows experts or decision-makers to evaluate criteria by pairwise comparison according to their importance (Keršuliene et al., 2010). SWARA performs weighting based on pairwise comparisons with fewer comparisons than most commonly used methods, such as AHP. This approach is less complex than traditional methods.

3.1. Interval-Valued Spherical Fuzzy Sets

Let U be a discourse universe. Then, an IVSFS A can be defined as $A = \{\langle u, [\mu_A^L(u), \mu_A^U(u)], [v_A^L(u), v_A^U(u)], [\pi_A^L(u), \pi_A^U(u)]\rangle | u \in U\}$, where $0 \le \mu_A^L(u) \le \mu_A^U(u) \le 1$, $0 \le v_A^L(u) \le v_A^U(u) \le 1$, $0 \le \pi_A^L(u) \le \pi_A^U(u) \le 1$, ve $0 \le (\mu_A^U(u))^2 + (v_A^U(u))^2 + (\pi_A^U(u))^2 \le 1$. Here, $\mu_A^L(u)$, $v_A^L(u)$, and $\pi_A^L(u)$ are the lower bounds of the membership, non-membership, and indeterminacy degrees of element u in A, respectively. Likewise, $\mu_A^U(u)$, $v_A^U(u)$, and $\pi_A^U(u)$ are the upper bounds of the membership, non-membership, and indeterminacy degrees of element u in A, respectively. Moreover, $\langle[\mu_A^L(u), \mu_A^U(u)], [v_A^L(u), v_A^U(u)], [\pi_A^L(u), \pi_A^U(u)]\rangle$ is called an IV-SF number (IV-SFNS) (Kutlu Gündoğdu and Kahraman, 2019).

For the sake of simplicity in operations and notation, an IV-SFN ζ can be expressed as $\zeta = \langle[a,b], [c,d], [e,f]\rangle$. Here, the lower and upper bounds of the degree of membership are denoted by $[a,b]$, the lower and upper bounds of the degree of non-membership are denoted by $[c,d]$, and the lower and upper bounds of the degree of indecision are denoted by $[e,f]$ (Kutlu Gündoğdu and Kahraman, 2019).

Let $\zeta_j = ([a_j, b_j], [c_j, d_j], [e_j, f_j])$ be a collection of IVSFNs, where $j = 1, \dots, n$. In this context, $\zeta_1 = ([a_1, b_1], [c_1, d_1], [e_1, f_1])$ and $\zeta_2 = ([a_2, b_2], [c_2, d_2], [e_2, f_2])$ are two IV-SFNs. The basic operations for IV-SFNs are presented below. Furthermore, IV-SF Weighted Arithmetic Mean (IVSFWA), the measure of the distance of two IV-SFNs $d(\zeta_1, \zeta_2)$, the score function $\mathcal{S}(\zeta_1)$ and the accuracy function $\mathcal{A}(\zeta_1)$, where $\lambda > 0$, $0 \le w_j \ge 1$, $\sum_{j=1}^n w_j = 1$ (Kutlu Gündoğdu and Kahraman, 2019; Menekşe and Akdağ, 2022; Almulhim, 2024).

$$\zeta_1 \oplus \zeta_2 = \left\{\left[(a_1^2 + a_2^2 - a_1^2 a_2^2)^{\frac{1}{2}}, (b_1^2 + b_2^2 - b_1^2 b_2^2)^{\frac{1}{2}}\right], [c_1 c_2, d_1 d_2], \left[((1 - a_2^2)e_1^2 + (1 - a_1^2)e_2^2 \right.\right. \tag{1}$$
$$\left.\left. - e_1^2 e_2^2)^{\frac{1}{2}}, ((1 - b_2^2)f_1^2 + (1 - b_1^2)f_2^2 - f_1^2 f_2^2)^{\frac{1}{2}}\right]\right\}$$

$$\zeta_1 \otimes \zeta_2 = \left\{[a_1 a_2, b_1 b_2], \left[(c_1^2 + c_2^2 - c_1^2 c_2^2)^{\frac{1}{2}}, (d_1^2 + d_2^2 - d_1^2 d_2^2)^{\frac{1}{2}}\right], \left[((1 - c_2^2)e_1^2 + (1 - c_1^2)e_2^2 \right.\right. \tag{2}$$
$$\left.\left. - e_1^2 e_2^2)^{\frac{1}{2}}, ((1 - d_2^2)f_1^2 + (1 - d_1^2)f_2^2 - f_1^2 f_2^2)^{\frac{1}{2}}\right]\right\}$$

$$\lambda \cdot \zeta_1 = \left\{\left[(1 - (1 - a_1^2)^\lambda)^{\frac{1}{2}}, (1 - (1 - b_1^2)^\lambda)^{\frac{1}{2}}\right], [c_1^\lambda, d_1^\lambda], \left[((1 - a_1^2)^\lambda \right.\right. \tag{3}$$
$$\left.\left. - (1 - a_1^2 - e_1^2)^\lambda)^{\frac{1}{2}}, ((1 - b_1^2)^\lambda - (1 - b_1^2 - f_1^2)^\lambda)^{\frac{1}{2}}\right]\right\}$$

$$\zeta_1^\lambda = \left\{[a_1^\lambda, b_1^\lambda], \left[(1 - (1 - c_1^2)^\lambda)^{\frac{1}{2}}, (1 - (1 - d_1^2)^\lambda)^{\frac{1}{2}}\right], \left[((1 - c_1^2)^\lambda \right.\right. \tag{4}$$
$$\left.\left. - (1 - c_1^2 - e_1^2)^\lambda)^{\frac{1}{2}}, ((1 - d_1^2)^\lambda - (1 - d_1^2 - f_1^2)^\lambda)^{\frac{1}{2}}\right]\right\}$$

$$\zeta_1^C = ([e_1, f_1], [c_1, d_1], [a_1, b_1]) \tag{5}$$

$$\text{IVSFWA}(\zeta_1, \ldots, \zeta_n) = w_1 \cdot \zeta_1 + \cdots + w_n \cdot \zeta_n \tag{6}$$

$$= \left\{ \left[\left(1 - \prod_{j=1}^{n} (1 - a_j^2)^{w_j} \right)^{\frac{1}{2}}, \left(1 - \prod_{j=1}^{n} (1 - b_j^2)^{w_j} \right)^{\frac{1}{2}} \right], \left[c_j^{w_j}, d_j^{w_j} \right], \left[\left(\prod_{j=1}^{n} (1 - a_j^2)^{w_j} - \prod_{j=1}^{n} (1 - a_j^2 - e_j^2)^{w_j} \right)^{\frac{1}{2}}, \left(\prod_{j=1}^{n} (1 - b_j^2)^{w_j} - \prod_{j=1}^{n} (1 - b_j^2 - f_j^2)^{w_j} \right)^{\frac{1}{2}} \right] \right\}$$

$$d(\zeta_1, \zeta_2) = \frac{1}{4} (|a_1^2 - a_2^2| + |b_1^2 - b_2^2| + |c_1^2 - c_2^2| + |d_1^2 - d_2^2| + |e_1^2 - e_2^2| + |f_1^2 - f_2^2|) \tag{7}$$

$$S(\zeta_1) = \frac{a_1^2 + b_1^2 - c_1^2 - d_1^2 - (e_1/2)^2 - (f_1/2)^2}{2} \tag{8}$$

$$\mathcal{A}(\zeta_1) = \frac{a_1^2 + b_1^2 + c_1^2 + d_1^2 + e_1^2 + f_1^2}{2} \tag{9}$$

3.2. Interval-Valued Spherical Fuzzy SWARA-CRADIS

In this study, the IV-SF-SWARA-CRADIS methodology will be used to determine the severity of local media companies' problems and rank proposed solutions. Two stages can be identified following the process of determining the criteria and options. These are determining the criteria's weights and obtaining the full ranking of the options. However, it was concluded that it would be beneficial to provide detailed information on all steps related to the implementation of the proposed decision model in the following section (Keršuliene et al., 2010; Puška et al., 2022; Aytekin et al., 2024; Chusi et al., 2024).

Step 1 - Forming the first expert committee to determine the criteria and options related to the problem: The first expert committee is formed to identify the problems of local media companies and their solution strategies. Experts are selected from individuals with extensive experience in the field of local media and in-depth knowledge of the research topic. Members of the first expert committee are denoted by $E_1, \ldots, E_s$.

Step 2 - Determining the criteria and options: In this study, the problems of local media companies will be treated as criteria. The opinions received from the first expert panel members and the generated lists are combined. This process eliminates duplicate or incorrect statements. Then, the criteria set elements $C_1, \ldots, C_n$ and the option set elements $A_1, \ldots, A_m$ are created, with $j = 1, \ldots, n$ and $i = 1, \ldots, m$.

Step 3 - Determining the final expert panel: The suitability of the members of the first expert panel is verified, considering the possibility that they may not be suitable due to the time-consuming nature of the research. New members are selected to replace the unsuitable members. Thus, the expert panel members $U_1, \ldots, U_z$ are determined, where $k = 1, \ldots, z$.

Step 4 - The experts' evaluations regarding the importance of the criteria and the desirability/performance of the options are obtained using the linguistic expressions in Table 1.

Table 1. Linguistic phrases and their IV-SF number counterparts

Linguistic Phrases	Codes	IVSFNs					
		a	b	c	d	e	f
Very Very High	VVH	0.85	0.95	0.1	0.15	0.05	0.15
Very High	VH	0.75	0.85	0.15	0.2	0.15	0.2
High	H	0.55	0.65	0.25	0.3	0.25	0.3
Medium	M	0.5	0.55	0.4	0.55	0.35	0.4
Low	L	0.3	0.35	0.55	0.65	0.25	0.3
Very Low	VL	0.2	0.25	0.65	0.75	0.2	0.25
Very Very Low	VVL	0.1	0.15	0.85	0.95	0.05	0.15

The linguistic evaluations obtained are converted to the IV-SFN equivalents based on Table 1. Accordingly, $\tilde{\iota}_j^{(k)}$ represents expert k's evaluation of the importance level of criterion j, and $\tilde{x}_{ij}^{(k)}$ represents expert k's evaluation of the performance of option i on criterion j.

Step 5- Determining the experts' weights: To determine the weight values for the experts' evaluations, firstly, the experts are evaluated in the context of the factors of education (G_1), professional experience (G_2), institution (G_3), and position (G_4) using the linguistic expressions in Table 1. Accordingly, $\tilde{\xi}_{kg}$ represents the level of importance given to expert k's evaluations in factor g. Then, the integrated IV-SF importance values $\tilde{\xi}_k$ are obtained by Equation (6) to assign equal weight to the factors. After calculating $\mathcal{S}(\tilde{\xi}_k)$ values using Equation (8), the weight values for the experts are created with Equation (10).

$$\lambda_k = \frac{\mathcal{S}(\tilde{\xi}_k)}{\sum_{k=1}^z \mathcal{S}(\tilde{\xi}_k)} \tag{10}$$

Step 6 - Integrating criteria importance assessments: Experts' evaluations of criteria importance are integrated using Equation (6). Thus, the integrated IV-SF importance values of the criteria $\tilde{\iota}_j$ are obtained.

Step 7 - Generating positive importance scores for the criteria: To effectively implement IV-SF-SWARA, the positive importance scores for the criteria are calculated using Equation (11).

$$\varsigma_j = \mathcal{S}(\tilde{\iota}_j) + 1 \tag{11}$$

Step 8 - Creating the relative importance values of the criteria: The criteria are ranked from largest to smallest according to their ς_j values. Then, the jth ranked criterion is compared with the (j-1) criterion in the previous ranking ($c_j = \varsigma_{j-1} - \varsigma_j$). The relative importance value for the first ranked criterion is assumed to be $c_j = 0$.

Step 9 - Creating the adjusted relative importance values: The adjusted relative importance value κ_j is calculated for each criterion using Equation (12).

$$\kappa_j = \begin{cases} 1 & j = 1 \\ c_j + 1 & j > 1 \end{cases} \tag{12}$$

Step 10- Creating non-normalized criterion weights: For each criterion, unnormalized criterion weights $\acute{\omega}_j$ are calculated using Equation (13).

$$\acute{\omega}_j = \begin{cases} 1 & j = 1 \\ \dfrac{\acute{\omega}_{j-1}}{\kappa_j} & j > 1 \end{cases} \tag{13}$$

Step 11- Finding the weights of the criteria: The weight coefficients of the criteria are calculated via Equation (14).

$$w_j = \frac{\acute{\omega}_j}{\sum_{j=1}^n \acute{\omega}_j} \tag{14}$$

where $0 \leq w_j \geq 1$, $\sum_{j=1}^n w_j = 1$.

Step 12- Creating the integrated IV-SF decision matrix: Equation (6) combines the experts' evaluations of the options. Thus, the integrated IV-SF decision matrix $\tilde{X} = [\tilde{x}_{ij}]_{m \times n}$ is created.

Step 13- Determining the ideal and anti-ideal solution values: In this study, the ideal and anti-ideal solution values will be determined by considering the optimization aspects of the criteria and the linguistic expressions in Table 1. Accordingly, the linguistic expression for the VVL will be considered for cost-oriented criteria, and the IV-SFN equivalent of VVH linguistic expression will be considered for benefit-oriented criteria. The ideal solution value will be denoted by $\tilde{x}_{Bj}$, and the anti-ideal solution value will be denoted by $\tilde{R} = [\tilde{r}_{ij}]_{m \times n}$.

Step 14- Creating the weighted integrated IV-SF decision matrix: In order to reflect the criteria weights to the solution of the problem, the weighted integrated IV-SF decision matrix $\tilde{R} = [\tilde{r}_{ij}]_{m \times n}$, the weighted ideal solution value $\tilde{r}_{Bj}$ and the weighted anti-ideal solution value $\tilde{r}_{Aj}$ are created with the help of Equation (15).

$$\tilde{r}_{ij} = w_j \cdot \tilde{x}_{ij} \tag{15}$$

Step 15- Calculating the distances from the ideal solution: The distance of each option from the ideal solution is calculated using Equation (16) via Equation (7).

$$D_i^+ = \sum_{J=1}^{n} d(\tilde{r}_{ij}, \tilde{r}_{Bj}) \tag{16}$$

Step 16- Calculating distances from the anti-ideal solution: The distance of each option from the anti-ideal solution is calculated using Equation (17) via Equation (7).

$$D_i^- = \sum_{J=1}^{n} d(\tilde{r}_{ij}, \tilde{r}_{Aj}) \tag{17}$$

Step 17- Finding the benefit measures: Benefit measures for the options based on the ideal and anti-ideal solutions are obtained by Equations (18) and (19), respectively.

$$K_i^+ = \frac{min_i(D_i^+)}{D_i^+} \tag{18}$$

$$K_i^- = \frac{D_i^-}{max_i(D_i^-)} \tag{19}$$

Step 18- Finding the general benefit measure: The general benefit measures of the options are calculated using Equation (20).

$$\varphi_i = \frac{K_i^+ + K_i^-}{2} \tag{20}$$

The options are ranked from largest to smallest according to the value of φ_i and the solution of the problem is completed.

4. Results

The limited number of studies addressing the problems of local media companies and their solutions shaped the first phase of the research. At this point, consulting with experts who have worked directly with local media companies and are knowledgeable about the problems and solutions emerged as the appropriate approach. The following subsection will first focus on the process of determining the criteria and options. Then, the experts whose opinions will be sought at solving the problem at hand will be identified, and their qualifications will be outlined.

The first phase of the study required identifying the problems and proposed solutions. As recalled from the literature section, various studies have examined the problems of local media companies and content creators. However, it was observed that no study specific to Artvin had been conducted. Considering Artvin's geographical, economic, social, and cultural characteristics, it was deemed a sound approach to consult with experts who have worked in the local media sector. Therefore, instead of simply relaying the problems outlined in the literature to experts, it was decided to develop lists of problems and proposed solutions through interviews to obtain their opinions openly and without directing them.

The study methodology necessitated interviews with experts in two different time periods. The first involves listing the problems and proposed solutions. The second involves gathering feedback after finalizing these lists to determine the priority of the problems and proposed solutions. During this process, a second study was conducted with new experts, different from the first group but with expertise in the field. The experts participating in the study are individuals who have worked or are currently working actively in the local media sector in Artvin province, have professional experience in the media field, and possess practical knowledge and experience in the sector. In this study, the problems of local media enterprises will be used as criteria.

4.1. Determining the weight coefficients of criteria

The study adopted a two-stage data collection approach. The first phase aimed to identify local media's problems and solution strategies at their source. In this context, the opinions of seven local media experts, coded D1, ..., and D7, were obtained. Compiling these opinions resulted in the identification of 32 problems and seven solution strategies, as listed in Table 2. Each "X" in Table 2 indicates that the relevant expert voiced the problem or strategy in the row.

Table 2. Determining the list of criteria.

Codes	Problems	Experts						
		D1	D2	D3	D4	D5	D6	D7
C1	Workplace rent	X						
C2	Inability to find qualified personnel	X	X	X				X
C3	Insufficient advertising	X		X				X
C4	Lack of advertisements from the Press Advertisement Institution (BİK)	X						X
C5	Difficult geographical conditions	X	X	X			X	X
C6	Costs	X		X	X	X	X	
C7	Difficulty in obtaining information from authorized institutions	X		X		X	X	
C8	Lack of competition	X		X				
C9	Impacts of social media journalism	X	X	X		X		
C10	Low wages		X	X				

C11	Trust in press personnel	X		X			
C12	Insufficient equipment	X	X				
C13	BİK's demands	X					
C14	Limited news sources	X	X			X	X
C15	Perception of female journalists	X		X			
C16	Politicians' interference in news	X		X	X		
C17	Employers' political identities	X					
C18	Prioritizing bilateral relations	X	X		X		
C19	Employing uninsured personnel	X					
C20	Negative contribution of employees to local media	X					
C21	Employees' lack of continuity at work	X					
C22	Difficulty in transportation		X	X			
C23	Small-town reputation/lynching		X	X			
C24	Qualified personnel's desire to migrate	X			X		
C25	Limited rights of press members in small cities	X					
C26	Limited areas of activity in small cities	X					
C27	Employers' lack of professional expertise/lack of knowledge	X					
C28	Media outlets' failure to adapt to digital transformation Not being able to make it work	X			X		
C29	Pursuing journalism as a second career	X					
C30	Difficult working hours/Lack of days off		X	X	X		
C31	Lack of respect for the profession		X	X			
C32	Excessive workload		X	X			

The second data collection phase included the 32 criteria (problems) and 7 strategies (solution suggestions) identified in the first phase. The evaluations of the criteria's importance by the seven experts, identified with codes U1,..., and U7, are given in Table 3.

Table 3. Expert Assessments on the Importance Levels of the Criteria.

Expert	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
U1	M	M	H	H	H	VH	M	H	VH	VVH	H	H	H	VH	M	H
U2	VH	M	VL	M	VVH	H	M	L	H	L	M	VL	H	VH	M	M
U3	H	VH	H	M	H	H	H	M	VVH	H	M	H	H	VH	H	VH
U4	VH	VH	VVH	L	VVH	H	L	H	H	H	VVH	H	VH	M	L	L
U5	VH	VH	VVH	H	M	H	L	L	M	M	M	H	VVH	H	VL	M
U6	VH	H	VH	H	H	VH	H	H	H	H	H	H	M	H	M	H
U7	VH	VVH	H	M	VH	H	M	M	H	VH	L	H	VH	H	M	H

Expert	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30	C31	C32
U1	VH	VH	VH	H	H	H	VH	VH	VH	VH	VH	H	H	VH	VH	VVH
U2	H	M	L	L	M	VH	M	M	M	VH	H	H	H	H	M	VH
U3	H	H	L	L	VH	VH	VH	VH	VH	VH	H	M	H	VVH	M	VH
U4	M	H	L	VL	VL	VH	VH	H	H	M	H	M	M	VH	M	VH
U5	H	H	M	L	M	H	VH	VVH	VVH	VVH	VVH	H	VVH	VVH	H	H
U6	M	H	H	H	H	VH	H	VH	H	H	H	H	H	H	H	H
U7	M	VH	H	M	M	VH	VVH	VVH	VVH	H	H	H	M	VVH	H	VVH

64

The linguistic evaluations in Table 4 were carried out to give different weights to the evaluations of the experts by taking into account education, professional experience, institution of employment, and position.

Table 4. Linguistic importance of experts' evaluations

Factor	U1	U2	U3	U4	U5	U6	U7
Education	VH	H	H	H	H	H	H
Professional Experience	M	VH	L	VH	H	VH	H
Institution	VH	VH	VH	H	H	M	H
Position	H	VH	M	H	VH	VH	M

As a result of the calculations included in the methodology section, the experts' weight values were found as follows: $\lambda_1 = 0.1625$, $\lambda_2 = 0.1915$, $\lambda_3 = 0.1075$, $\lambda_4 = 0.1406$, $\lambda_5 = 0.1406$, $\lambda_6 = 0.1602$, $\lambda_7 = 0.0970$.

After converting the experts' linguistic evaluations into their IV-SFN equivalents, the aggregation process was performed. In this context, the integrated IV-SF criterion importance values are presented in Table 5.

Table 5. IV-SF Importance Values of Criteria

C1						C2						C3						C4					
a	b	c	d	e	f	a	b	c	d	e	f	a	b	c	d	e	f	a	b	c	d	e	f
0.70 56	0.80 70	0.16 01	0.22 34	0.03 75	0.05 58	0.67 39	0.78 06	0.19 08	0.26 94	0.05 17	0.07 25	0.68 49	0.81 14	0.17 07	0.22 67	0.02 77	0.05 46	0.50 48	0.58 31	0.26 86	0.34 97	0.08 70	0.11 80

C5						C6						C7						C8					
a	b	c	d	e	f	a	b	c	d	e	f	a	b	c	d	e	f	a	b	c	d	e	f
0.71 00	0.83 31	0.14 97	0.20 52	0.03 52	0.05 84	0.63 24	0.73 76	0.15 58	0.20 26	0.04 65	0.06 93	0.47 26	0.54 10	0.33 24	0.44 47	0.09 17	0.12 43	0.47 61	0.55 70	0.28 55	0.36 10	0.07 61	0.10 65

C9						C10						C11						C12					
a	b	c	d	e	f	a	b	c	d	e	f	a	b	c	d	e	f	a	b	c	d	e	f
0.63 91	0.75 18	0.16 37	0.21 86	0.05 09	0.07 52	0.62 44	0.74 28	0.17 52	0.23 91	0.04 90	0.07 54	0.59 24	0.70 08	0.23 29	0.31 49	0.07 16	0.09 91	0.50 84	0.60 53	0.23 97	0.29 40	0.05 98	0.08 84

C13						C14						C15						C16					
a	b	c	d	e	f	a	b	c	d	e	f	a	b	c	d	e	f	a	b	c	d	e	f
0.66 72	0.78 14	0.16 75	0.22 39	0.04 56	0.06 86	0.65 71	0.75 97	0.15 50	0.20 86	0.04 72	0.06 82	0.45 64	0.51 39	0.36 69	0.50 01	0.10 00	0.13 48	0.54 27	0.63 03	0.24 67	0.32 20	0.07 62	0.10 41

C17						C18						C19						C20					
a	b	c	d	e	f	a	b	c	d	e	f	a	b	c	d	e	f	a	b	c	d	e	f
0.57 83	0.66 88	0.20 38	0.27 52	0.07 57	0.10 17	0.61 10	0.71 06	0.17 60	0.23 35	0.05 93	0.08 29	0.51 55	0.60 60	0.25 54	0.33 08	0.06 26	0.08 98	0.41 73	0.49 31	0.33 79	0.41 81	0.06 72	0.09 70

C21						C22						C23						C24					
a	b	c	d	e	f	a	b	c	d	e	f	a	b	c	d	e	f	a	b	c	d	e	f
0.53 31	0.61 68	0.26 44	0.34 85	0.08 00	0.10 87	0.70 43	0.80 84	0.13 98	0.18 60	0.03 18	0.05 12	0.70 70	0.81 46	0.13 88	0.19 39	0.03 81	0.05 77	0.73 15	0.84 48	0.12 98	0.18 48	0.03 24	0.05 26

C25						C26						C27						C28					
a	b	c	d	e	f	a	b	c	d	e	f	a	b	c	d	e	f	a	b	c	d	e	f
0.70 65	0.82 35	0.14 08	0.19 72	0.03 80	0.05 97	0.70 77	0.81 90	0.13 63	0.18 92	0.03 60	0.05 67	0.65 73	0.77 51	0.14 86	0.19 62	0.04 12	0.06 58	0.53 84	0.62 83	0.22 43	0.28 67	0.07 70	0.10 57

C29						C30						C31						C32					
a	b	c	d	e	f	a	b	c	d	e	f	a	b	c	d	e	f	a	b	c	d	e	f
0.61 37	0.72 78	0.19 62	0.25 85	0.06 05	0.08 68	0.74 80	0.86 59	0.11 47	0.16 08	0.02 24	0.04 48	0.57 66	0.66 56	0.20 79	0.28 23	0.07 80	0.10 43	0.74 34	0.85 81	0.10 83	0.15 41	0.02 34	0.04 51

The results in Table 4.6 were obtained by applying IV-SF-SWARA to determine the weight coefficients of the criteria.

Table 6. The results of IV-SF-SWARA

Criterion	ς_j	c_j	κ_j	$\acute{\omega}_j$	Weights	Rank
C30	0.6348	0	1	1	0.0392	1
C32	0.6264	0.008	1.008	0.992	0.0389	2
C24	0.5985	0.028	1.028	0.965	0.0378	3
C5	0.5663	0.032	1.032	0.935	0.0367	4
C25	0.5586	0.008	1.008	0.928	0.0364	5
C26	0.5581	0.001	1.001	0.927	0.0364	6
C23	0.5527	0.005	1.005	0.922	0.0362	7
C22	0.5472	0.005	1.005	0.917	0.0360	8
C1	0.5362	0.011	1.011	0.907	0.0356	9
C3	0.5230	0.013	1.013	0.895	0.0351	10
C13	0.4879	0.035	1.035	0.865	0.0339	11
C27	0.4854	0.003	1.003	0.863	0.0338	12
C2	0.4762	0.009	1.009	0.855	0.0335	13
C14	0.4699	0.006	1.006	0.849	0.0333	14
C9	0.4485	0.021	1.021	0.832	0.0326	15
C6	0.4385	0.010	1.010	0.823	0.0323	16
C10	0.4259	0.013	1.013	0.813	0.0319	17
C29	0.3991	0.027	1.027	0.792	0.0311	18
C18	0.3951	0.004	1.004	0.789	0.0309	19
C11	0.3425	0.053	1.053	0.749	0.0294	20
C17	0.3303	0.012	1.012	0.740	0.0290	21
C31	0.3241	0.006	1.006	0.736	0.0289	22
C28	0.2739	0.050	1.050	0.701	0.0275	23
C16	0.2615	0.012	1.012	0.692	0.0271	24
C12	0.2391	0.022	1.022	0.677	0.0265	25
C21	0.2344	0.005	1.005	0.674	0.0264	26
C19	0.2276	0.007	1.007	0.669	0.0262	27
C4	0.1975	0.030	1.030	0.650	0.0255	28
C8	0.1604	0.037	1.037	0.626	0.0246	29
C7	0.1009	0.060	1.060	0.591	0.0232	30
C20	0.0624	0.038	1.038	0.569	0.0223	31
C15	0.0403	0.022	1.022	0.557	0.0218	32

According to the results in Table 4.6, the most important criterion was C30, "Difficulty in working hours/Lack of days off." The intense workload and irregular working hours faced by local media employees lead to physical and psychological burnout, which both reduces workforce productivity and hinders sustainable employment in the sector. Therefore, this criterion was considered a priority problem by experts. The second most important criterion was C32, "Excessive workload." The staff shortage and the multitasking expectations experienced by local media companies make excessive workload a chronic problem at the institutional level. Consequently, excessive workload stands out as one of the main factors reducing job satisfaction and weakening employee loyalty in the sector. The third most important criterion was C24, "Desirability of migration of qualified personnel." The migration tendency of qualified personnel stands out as a structural problem in terms of the corporate sustainability of local media companies. This trend leads to the erosion of institutional memory and a decline in broadcasting quality in the long term, creating a deepening quality problem in the sector.

4.2. Determining the ranking orders of options

In the first phase, where problems were identified, solution strategies were also determined. In this context, the strategies in Table 7 were derived based on the opinions received from experts D1,..., and D7.

Table 7. Determining options for solving the problems

		Experts						
Codes	Strategies	D1	D2	D3	D4	D5	D6	D7
A1	Digital Transformation and Technology Utilization			X	X			
A2	Diversification of Revenue Models	X		X		X		
A3	Focus on Local Communities		X	X				
A4	Innovative Advertising Models		X				X	
A5	Training and Capacity Building		X	X				
A6	Legal and Regulatory Support	X	X	X	X		X	X
A7	Accessibility and Diversity		X	X			X	X

The experts' linguistic assessments of the solution strategies were obtained using the linguistic assessment scale presented in the previous section. Accordingly, the expert assessments are presented in Table A1 in Appendix.

The experts' linguistic assessments were converted to their IV-SFN equivalents. Then, the aggregation process was performed using Equation (6), and the integrated IV-SF decision matrix was created. The elements of the integrated IV-SF decision matrix are presented in Table A1. In this study, only C11 of the criteria is benefit-oriented, while the others are cost-oriented. In this context, the linguistic expressions "VVH" were adopted as the ideal solution and "VVL" were adopted as the anti-ideal solution for C11. Similarly, the "VVL" expression was adopted as the ideal solution and "VVH" expression as the anti-ideal solution for the remaining criteria. After reflecting the weight coefficients of the criteria on the solutions, the distances from the ideal and anti-ideal solutions were calculated. Upon completion of the IV-SF-CRADIS process steps, the ranking results in Table 8 were obtained.

Table 8. The results of IV-SF CRADIS

	D_i^+	D_i^-	K_i^+	K_i^-	φ_i	Rank
A1	1.9822	1.6096	0.7323	0.7539	0.7431	7
A2	1.9644	1.6203	0.7389	0.7589	0.7489	6
A3	1.7450	1.8348	0.8318	0.8594	0.8456	2

A4	1.8463	1.7422	0.7861	0.8160	0.8011	5
A5	1.8207	1.7567	0.7972	0.8228	0.8100	4
A6	1.4515	2.1351	1.0000	1.0000	1.0000	1
A7	1.7480	1.8319	0.8304	0.8580	0.8442	3

An examination of the results in Table 8 reveals that strategy A6 "Legal and Regulatory Support" ranks first. This strategy's top ranking demonstrates that the legal framework plays a decisive role in resolving the structural and administrative challenges faced by local media companies. In this context, the top ranking of the legal and regulatory support strategy can be considered one of the most concrete indicators of the need for structural transformation in the local media sector.

The second-best solution is A2 "Focus on the Local Community." The prominence of this strategy highlights the need for local media companies to strengthen their interactions with the local community to sustain their existence and fulfill their social functions. This strategy directly contributes to addressing structural problems faced by local media companies, such as a lack of community connection, ineffective content due to lack of interest, and a lack of economic sustainability.

The third best solution is A7 "Accessibility and Diversity." It reflects the need for local media companies to adopt a more inclusive broadcasting approach that appeals to all segments of society. The prioritization of this strategy demonstrates local media's desire to reach not only a specific demographic but also a broader social segment, including individuals from diverse age groups, cultural identities, and socioeconomic backgrounds. Especially as digital transformation accelerates, access to media content requires diversification not only technically but also culturally and linguistically. This strategy has the potential to overcome one of the fundamental challenges of local media: limited audiences. Increasing accessibility requires developing the capacity to broadcast across different platforms, while diversity requires producing content in accordance with the principle of pluralism.

5. Discussions

The first phase of the research aimed to identify the problems faced by local media outlets operating in Artvin province and the strategies they propose to address these problems. Experts with extensive experience and in-depth knowledge of the subject were contacted in Artvin's local media. Seven experts identified the key problems faced by local media outlets and proposed solutions. In this section of the research, the problems and proposed solutions identified based on expert opinions were evaluated within the framework of thematic categories established through a literature review to facilitate a more systematic and analytical analysis.

Research findings indicate that the most significant problem in local media management is "difficult working hours/lack of days off." In other words, insufficient leave puts local media employees and companies in a difficult situation. Businesses with insufficient financial and material resources are on one side, while employees who are about to burn out are on the other. This finding is consistent with the research findings of Yavalar (2009). The fact that experts are local media employees and that their working hours can cover any time of day, any day of the week, has contributed to this result. The limited financial resources of local media organizations result in employees not receiving their salaries on time, which seriously undermines their ability to provide employment (Yavalar, 2009: 33).

Research findings indicate that the second most significant problem is "excessive workload." In local media organizations, trying to handle numerous tasks with a limited number of staff leads to imbalances in the division of labor and places intense pressure on employees.

This finding supports the research findings of Bodur (1996) and Akçakoca (2006). In small-scale local newspapers operating in print shops, the division of duties between designers and technical staff is not clear. Because the business is generally run by a few people, it's impossible to speak of an organizational structure. This, combined with the low level of institutionalization in local media organizations, reveals that this lack of organization has become one of the fundamental problems in the sector (Bodur, 1996: 153). According to Akçakoca (2006), some local media organizations employ flawed practices, such as assigning job descriptions based on existing staff rather than a needs-based approach to staff recruitment. In some cases, it's been observed that individuals are given irrelevant titles or that managerial titles are given to units that don't actually exist, undermining the institutional structure (Akçakoca, 2006: 35).

Research findings indicate that the third most important problem is the "desire to emigrate qualified personnel." This result, which also affects the quality of work, confirms the research findings of Temel et al. (2012) and Bodur (1996). The lack of qualified human resources in local media organizations in Türkiye is striking. The frequent distinction between the educated and the uneducated complicates this situation further. The local media's reluctance to innovation and its inability to meet the financial expectations of communication faculty graduates make it difficult to find qualified personnel in the sector. The inability to pay salaries sufficient to provide development opportunities for existing employees further exacerbates this problem (Temel et al., 2012: 132). To compete with the national press and effectively fulfill its public function, the local press must strengthen its capital structure, expand its staff with qualified personnel, and particularly focus on local news. The success of this process depends largely on the presence of experienced and educated management staff (Bodur, 1996: 155). Artvin's limited population and challenging geographical conditions directly impact the city's young population. An examination of demographic data for Artvin reveals a relatively low proportion of children, while a higher proportion of working-age individuals and elderly people are prominent. The lack of sufficient employment opportunities in the province leads to out-migration, particularly among working-age individuals. Strengthening existing employment opportunities and creating new ones are considered important solutions to prevent migration (Doğanay and Orhan, 2014: 18-19).

When the results in terms of solution strategies are examined, the most frequently cited solution recommendation by experts is "legal and regulatory support." Improvements in this area enable local media businesses to more effectively combat legal uncertainties. The development of legal support mechanisms, in turn, protects media professionals' freedom of expression and facilitates their resilience to external pressures. This result reflects the findings of studies by Aksoy (2010), Bodur (1996), and Akçakoca (2006). A large portion of local newspapers have become heavily dependent on official advertisements to sustain their revenues and have shaped their publishing policies according to the criteria set by the Press Advertisement Institution. This poses the risk of straying from the fundamental function of journalism. For a long-term sustainable media structure, a model based on reader loyalty and local advertising support must be developed, moving beyond advertising revenue. This will be possible if the local press produces high-quality, original content that is sensitive to the needs of its community. Local media plays a critical role in both the development of local democracy and the support of local development. The establishment of public incentive and support mechanisms is also a crucial need (Aksoy, 2010: 125-127).

It appears difficult for the press and printing sector to develop within the framework of existing legal regulations, as the legislation in this area dates to a time when there was no organized professional structure and widespread vocational training. Therefore, the need for new legal regulations tailored to sectoral needs is increasing (Bodur, 1996: 158). According to Akçakoca (2006), in the local press, the hardest-working reporters are generally appointed to editorial positions based on seniority. Appointing individuals who lack knowledge of news

content to responsible editorial positions leads to legal problems. Due to budget constraints, professional staff cannot be employed, and this situation obviates departmental distinctions within newsrooms. However, social change necessitates specialization in every field in the press (Akçakoca, 2006: 36).

Research findings indicate that the second most frequently cited solution strategy is "focusing on the local community." This solution aims to strengthen media organizations' social ties and enable them to provide more effective services tailored to the needs of the local population. This result is consistent with the research findings of Temel et al. (2012) and Akçakoca (2006). Media owners may own various media outlets, including newspapers, television, and radio, in addition to a single publication. The fact that local media are unaware of their own potential is also a significant problem. The lack of full understanding among local citizens of the region further exacerbates this problem, hindering the strengthening of the local press (Temel et al., 2012:135).

According to Akçakoca (2006), the local press often lacks the established sections of the mainstream press, such as magazines, culture and arts, lifestyle, interviews, and economics. The primary reasons for this are the lack of specialized personnel in these areas and the perceived lack of need for more newspaper pages. However, such content not only increases the number of pages but also has the potential to positively impact circulation by better meeting the expectations of the target audience (Akçakoca, 2006: 37).

The third most frequently mentioned solution was "accessibility and diversity." This solution strategy, which enables the presentation of content that appeals to different social segments, contributes to the media's broader reach and strengthens social representation. This proposal reflects the results of studies by Temel et al. (2012) and Parlak (2018). News published in local media is observed to be limited in content and often monotonous and has received intense criticism. Furthermore, studies have shown that newspaper news does not attract the attention of residents (Temel et al., 2012:132).

Parlak (2018) states that, thanks to the opportunities offered by the internet, society's demand for real-time information has increased, and this situation has made the place of concepts such as breaking news and fact-checking in traditional journalism questionable. Nowadays, information is considered an element that must be shared as soon as it is accessible. This transformation has made not only traditional media representatives but also digital actors such as bloggers, citizen journalists, social media users, and hosting providers influential in the production and circulation of news (Parlak, 2018: 60). According to Akçakoca (2006), the effectiveness of local media depends on accurately analyzing problems and developing appropriate solutions and recommendations. In this context, local media must be able to create a strong public opinion in their region and achieve concrete results by establishing a connection between the local and global levels (Akçakoca, 2006: 25).

The significant importance of economic problems parallels the research conducted by Yavalar (2009). It appears that economic inadequacies underlie many of the problems faced by local media. It is argued that for freedom of thought and expression to function effectively, the state must provide support to the local press. This support can be provided through various means, such as reducing input costs, distributing advertisements fairly, establishing infrastructure, and improving distribution capabilities (Yavalar, 2009: 128). Furthermore, Büyükbaykal (2012) stated that the local press, which serves as a mediator and informer of the public, must constantly renew itself to adapt to changing and evolving global conditions. He stated that not only the problems faced by the local press but also the consequences of these problems should not be ignored, and that solution-oriented approaches should be adopted (Büyükbaykal, 2012: 86). Furthermore, Yavalar (2009) stated that local media employees, in addition to their existing problems, also experience a lack of in-service training for professional development. He argued that various

conferences and seminars should be organized, and these events should be supported with the necessary resources to make the local media more functional and qualified (Yavalar, 2009: 121).

The analysis revealed that the problems identified in the literature largely overlap with those gleaned from expert opinions. Research indicates that economic factors are increasingly prominent among the challenges faced by local media companies, and that conditions are becoming increasingly challenging. Small-scale local media organizations serving a specific region must employ personnel, provide infrastructure, and meet technological needs with limited resources. The sustainability of these businesses depends on maintaining a minimum income-expense balance; otherwise, the resulting economic problems negatively impact corporate operations and employees.

The results indicate that local media companies face economic challenges, a lack of adaptation to digital transformation, a shortage of qualified personnel, structural and administrative problems, and legal and administrative obstacles. Furthermore, issues related to content production and journalism quality, access and distribution challenges, and ethical issues in media-political relations directly impact the sector's sustainability and the understanding of quality journalism.

6. Conclusions

This study aimed to identify the fundamental problems faced by local media organizations and analyze their significance based on data. Within the scope of the research conducted on the example of Artvin province, the existing structural, economic, and technological problems of local media organizations were addressed with a holistic approach, and strategic recommendations were developed to address these problems.

In this study, a multi-criteria decision analysis model based on the IV-SFSs was chosen to achieve more realistic and reliable results in decision-making processes characterized by uncertainty and subjective assessments. In this context, the identified problems were considered as criteria, and the weighting coefficients representing their significance were determined using the IV-SF-SWARA method. Solution strategies were prioritized using the IV-SF-CRADIS method. This approach clearly demonstrated the significance of the problems and enabled the ranking of applicable solutions.

A comprehensive literature review was conducted in the study. As a result of the literature review, problem groups were identified under eight main headings. These headings are as follows: These can be expressed as economic problems, technological and digital infrastructure problems, lack of employment and qualified personnel, structural and institutional problems, legal and administrative obstacles, content production and journalism quality, distribution and access problems, media-politics relations and ethical problems.

The research was designed to collect data in two stages. In the first stage, key problem areas and proposed solutions were identified through expert opinions. A total of thirty-two different problems and seven proposed solutions were identified by the experts. The research clearly revealed the challenges local media are facing regarding economic sustainability, adapting to the digitalization process, staff shortages, and professional standards. Thus, it is believed that the study will help local media stakeholders assess their own situation and shape media policies in a more targeted manner. Furthermore, strengthening the connection between local media and the public can also indirectly contribute to local democracy and participation. In this respect, the research goes beyond being merely an academic study and can serve as a guide for policymakers and practitioners in the field of local media.

The thirty-two different problems identified within the scope of the research, based on expert opinions, reveal the multifaceted structural and sectoral challenges facing local media

enterprises. Among these problems, "difficult working hours/lack of leave days," "excessive workload," and "desirability of qualified personnel to migrate" stand out. The findings demonstrate that problems related to human resources and working conditions pose a critical risk to the sustainability of local media businesses. Experts ranked the strategies they developed to address these issues by priority. In this framework, "legal and regulatory support" ranked first, "focusing on the local community" ranked second, and "accessibility and diversity" ranked third. These findings demonstrate that both the problems and proposed solutions were consistently and systematically evaluated from an expert perspective. Furthermore, priority areas to consider in policy development to strengthen local media businesses were also identified.

These problems and proposed solutions were evaluated thematically, along with the problems categorized under eight main headings in the literature review. The literature review revealed that most studies conducted nationwide are province-specific, and each province has its own unique set of problems. In this context, the problems identified in this study conducted in Artvin largely overlap with those faced by sector representatives in other cities. In other words, the problems of the local media sector are similar. The data sources for both phases of the research consisted of seven experts who have worked or currently work in the local media sector in Artvin.

The findings of the research largely align with studies in literature. Furthermore, participants evaluated the problems and proposed solutions from their own perspectives. The literature review revealed that local media companies have been grappling with these problems for years, that the problems are increasingly intensifying, and that various solution strategies have been developed, but they have not achieved their objectives sufficiently.

More comprehensive research is needed to address the problems faced by local media companies. By utilizing broader datasets and methodologies to enhance the sustainability of local media businesses, researchers can conduct more in-depth analyses of the social impact and economic challenges of local media. Such studies will significantly contribute to the strengthening of local media and their future development.

Acknowledgments

References

Akçakoca, O. (2006). *Konya yerel basının yapısal ve içerik analizi ile bir yerel basın model önerisi*. Yayınlamamış Yüksek Lisans Tezi, Selçuk Üniversitesi Sosyal Bilimler Enstitüsü, Konya.

Aksoy, S. (2010). *Türkiye'de Yerel Basının Sorunları: Kayseri Örneği Üzerine Teorik ve Uygulamalı Bir Çalışma*. Yayınlamamış Yüksek Lisans Tezi, Erciyes Üniversitesi Sosyal Bilimler Enstitüsü, Kayseri.

Aran, E. (2013). *Yerel medyanın sorunları ve çalışanlarının yaklaşımı: Denizli alan araştırması, Yayınlamamış Yüksek Lisans Tezi*. Gazi Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.

Arvas, İ. S. (2019). Dijital haberleşme çağında yerel basının karşılaştığı sorunlar. *Erciyes İletişim Dergisi*, *6*(1), 97-110.

Atabek, N. (2005). Tarihsel süreçte Türkiye'de yerel basın ve yerel yönetimler. *İstanbul Üniversitesi İletişim Fakültesi Dergisi*, (23). 63-74.

Aytekin, A., Korucuk, S., & Görçün, Ö. F. (2024). Determining the factors affecting transportation demand management and selecting the best strategy: A case study. *Transport policy, 146*, 150-166.

Bodur, F. (1996). *Yerel Basında Yönetim ve Örgüt Yapısı:(Uygulamada Karşılaşılan Sorunlar ve Bir Model Önerisi)* (Doctoral dissertation, Anadolu University (Turkey)).

Büyükbaykal, G. N. (2012). Türkiye'de yerel basının işlevi ve önemi. *İstanbul Üniversitesi İletişim Fakültesi Dergisi| Istanbul University Faculty of Communication Journal, 23*, 83-88.

Chusi, T. N., Qian, S., Edalatpanah, S. A., Qiu, Y., Bayane Bouraima, M., & Ajayi, A. B. (2024). Interval-valued spherical fuzzy extension of SWARA for prioritizing strategies to unlock Africa's potential in the carbon credit market. *Computational Algorithms and Numerical Dimensions, 3*(3), 217-227.

Djukic, T., Karabašević, D., & Popović, G. (2022). Evaluation of aspects of cognitive skills using the piprecia method. *Ekonomika, 68*(4), 1-14.

Doğanay, H., & Orhan, F. (2014). Artvin ilinde nüfusun başlıca özellikleri. *Doğu Coğrafya Dergisi*, 19(31), 1-22.

Godwin, N. (2023). Traditional VS New Media: An examination of news consumption patterns amongst media users. *World Journal of Advanced Research and Reviews, 18*(03), 1658-1663.

Gönenç, Ö. (2012). Medyanın sorunları. *İstanbul Üniversitesi İletişim Fakültesi Dergisi| Istanbul University Faculty of Communication Journal*, (24).

Kaçar, F. (2024). Dijital Çağda Yerel Medya Çalışanlarının Sorunlarının Tespitine Yönelik Nitel Bir Araştırma: Şanlıurfa İli Örneği. *Erciyes İletişim Dergisi, 11*(2), 627-650.

Kahraman, C., & Gündogdu, F. K. (2021). Decision making with spherical fuzzy sets. *Studies in Fuzziness and Soft Computing, 392*, 3-25.

Karaduman, M. (2017). Yerel medya çalışanlarının eğitim düzeyleri ve mesleki yeterlilikleri: Antalya örneği. *Akdeniz Üniversitesi İletişim Fakültesi Dergisi, 28*, 184-301.

Keršuliene, V., Zavadskas, E. K., & Turskis, Z. (2010). Selection of rational dispute resolution method by applying new step-wise weight assessment ratio analysis (SWARA). *Journal of Business Economics and Management, 11*(2), 243-258.

Köseoğlu, A. (2022). *Yerel medyada dijitalleşme*. İksad Yayınevi.

Kutlu Gündoğdu, F., & Kahraman, C. (2019). Spherical fuzzy sets and spherical fuzzy TOPSIS method. *Journal of Intelligent & Fuzzy Systems. 36*(1), 337-352.

Kutlu Gündoğdu, F., & Kahraman, C. (2019). A novel fuzzy TOPSIS method using emerging interval-valued spherical fuzzy sets. *Engineering Applications of Artificial Intelligence, 85*, 307-323.

Kutlu Gündoğdu, F., & Kahraman, C. (2019). A novel VIKOR method using spherical fuzzy sets and its application to warehouse site selection. *Journal of Intelligent & Fuzzy Systems, 37*(1), 1197-1211.

Lukić, R. (2023). Analysis of development and effects of electronic trade in Serbia based on SF-TOPSIS and TOPSIS methods. *Anali Ekonomskog Fakulteta u Subotici, 59*(50), 131-146.

Menekse, A., & Akdag, H. C. (2022). A novel interval-valued spherical fuzzy CODAS: Reopening readiness evaluation of academic units in the era of COVID-19. *Journal of Intelligent & Fuzzy Systems, 43*(5), 6461-6476.

Orakçi, E. (2024). EATWOS, OCRA ve REF III teknikleriyle ülkelerin lojistik performans indeksine dayalı etkinliklerinin incelenmesi. *İktisadi İdari ve Siyasal Araştırmalar Dergisi (İKTİSAD), 9*(25), 590-611.

Orakçı, E. (2025). Şarjlı dik süpürge seçiminde çok kriterli karar verme: LOECI ve REF teknikleri ile bütünleşik bir analiz. *Nicel Karar Yöntemleri Değerlendirmeleri*, 39-59.

Özcan, A. (2016). Yeni iletişim teknolojileri, yerel gazetecilik ve yerellik algısı. *Marmara İletişim Dergisi, 26*, 17-36.

Özcan, A. (2019). Gümüşhane Yerel Basını: Tarihsel Köken, Sorunlar ve Çözümler. *Gümüşhane Üniversitesi İletişim Fakültesi Elektronik Dergisi, 7*(2), 1006-1033.

Parlak, M. O. (2018). Yeni medya ve haberciliğin dönüşümü. *Ufuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 7(14), 59-82.

Puška, A., Nedeljković, M., Prodanović, R., Vladisavljević, R., & Suzić, R. (2022). Market Assessment of Pear Varieties in Serbia Using Fuzzy CRADIS and CRITIC Methods. *Agriculture, 12*(2), 139.

Rajkovic, J., Postin, J., Konjikusic, M., Rusic, A. J., & Nikolic, M. (2020). Multi-criteria ranking of available forms of promotional activities: A case analysis. *Anali Ekonomskog Fakulteta u Subotici, 56*(43), 153-169.

Sevinçli, B. G., Bedirhanoğlu, Ş. B., & Karamaşa, Ç. Van Gölü Havzası kentlerinin su ve atıksu altyapı performanslarının LOPCOW-CRADIS bütünleşik ÇKKV yöntemi ile değerlendirilmesi. *Yüzüncü Yıl Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, (Van Gölü Havzası Özel Sayısı)*, 186-207.

Stanujkić, M., Popović, G., Karabašević, D., Šarčević, M., Stanujkić, D., & Novaković, S. (2024). Approach to the personnel selection in a group decision-making environment based on the use of the MULTIMOORA and PIPRECIA-S methods. *BizInfo Blace, 15*(1), 19-26.

Temel, M., Korkmaz, A., Somuncu, B., & Şilen, K. (2012). Yerel medya çalışanlarının sosyo-demografik özellikleri ve sektör sorunlarına bakışı: Kayseri ve Nevşehir yerel medyasına yönelik alan araştırması. *Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 9(19), 125-157.

Uçak, O., & Erkal, A. (2019). Osmanlı'dan günümüze Türkiye'de yerel basının gelişim süreci. *Selçuk İletişim, 12*(1), 92-122.

Ulutaş, A., Stanujkic, D., Karabasevic, D., Popovic, G., & Novaković, S. (2022). Pallet truck selection with MEREC and WISP-S methods. *Strategic Management-International Journal of Strategic Management and Decision Support Systems in Strategic Management, 27*(4), 23-29.

Wilding, D., Fray, P., Molitorisz, S. & McKewon, E. (2018). *The Impact of Digital Platforms on News and Journalistic Content*. University of Technology Sydney, NSW.

Yavalar, D. E. (2009). *Yerel medya bağlamında Kocaeli medyası ve sorunları* (Master's thesis, Sosyal Bilimler Enstitüsü).

Appendix A

Table A1. Evaluation on alternatives provided by experts.

		C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30	C31	C32
U1	A1	L	VH	VVH	H	H	VH	M	VH	VH	VH	M	VH	H	VVH	VH	VH	H	M	M	L	H	H	H	VH	M	VH	VH	VVH	H	H	VH	M
	A2	L	H	VVHH	VH	H	VH	M	VH	VH	VH	H	VH	H	VH	VH	VVH	VH	VVH	M	L	H	VH	VH	VH	H	VH	VH	VH	VH	H	VVH	H
	A3	M	VH	H	M	H	H	H	VH	VH	H	H	VH	M	VH	H	VVH	VH	VH	M	L	M	H	VH	H	H	VH	VH	VH	H	H	H	M
	A4	L	H	VH	M	H	VH	M	VH	VH	VH	H	VH	H	VH	H	VVH	H	H	H	L	H	H	M	VH	H	VH	H	H	M	H	M	M
	A5	H	VH	H	H	H	VH	M	VH	H	VH	H	VH	H	VH	VH	VH	H	H	H	L	H	VH	M	VH	H	H	H	VH	M	M	M	M
	A6	L	M	M	H	M	M	M	H	VH	M	H	H	M	M	M	VVH	M	M	H	M	M	M	M	H	VH	M	M	M	M	M	M	M
	A7	L	H	H	VH	H	VH	H	VH	VH	VH	H	VH	H	H	H	VVH	H	M	M	L	H	H	M	VH	H	H	M	VVH	M	M	M	M
U2	A1	VH	L	VL	M	H	H	M	L	H	M	H	M	H	M	M	M	H	H	L	L	M	VH	M	L	H	H	H	VH	H	H	M	H
	A2	M	M	L	L	L	M	M	L	L	L	L	H	L	L	L	M	H	H	L	L	H	H	M	M	H	L	H	H	H	H	M	H
	A3	M	M	L	L	M	H	M	M	M	L	M	H	H	L	L	M	H	H	L	L	H	H	M	M	H	H	H	H	H	H	M	H
	A4	H	L	M	M	M	H	M	M	H	L	L	H	H	H	M	M	M	M	L	L	H	M	M	M	H	H	H	H	H	H	M	H
	A5	M	M	M	M	L	H	M	H	H	L	M	H	H	H	M	L	H	M	L	M	H	H	H	M	H	H	H	H	H	H	M	H
	A6	M	L	L	M	L	M	M	M	M	M	M	L	M	M	L	L	L	H	M	M	M	L	M	M	M	L	L	L	L	L	M	L
	A7	M	L	L	H	L	H	M	M	H	L	M	H	M	M	L	M	H	L	M	M	M	H	M	M	M	H	M	M	M	H	L	M
U3	A1	M	VH	VVH	M	VH	VVH	H	VH	VVH	H	H	VH	M	VH	H	M	H	VH	H	VH	H	H	M	VH	H	VH	VVH	VVH	VH	H	VH	VH
	A2	H	H	VH	H	VH	VH	M	VH	VH	VH	H	VH	H	VH	H	M	H	H	VH	VH	H	H	H	VH	H	VH	VVH	VH	VH	H	VH	VH
	A3	M	H	VH	M	VH	M	M	M	H	M	H	M	M	VH	M	L	M	H	M	H	H	VH	VH	VH	VVH	VH	H	H	VH	VH	VH	VH
	A4	M	VH	VVH	H	M	VH	M	H	VH	M	M	VH	M	H	M	M	M	H	M	H	H	M	M	VH	H	M	VVH	VH	M	H	VH	H

75

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	A5	H	VH	H	H	H	VH	M	M	H	H	H	H	H	H	M	M	M	H	M	H	VH	H	H	VH	H	H	VVH	VH	VH	VH	VH	VH
	A6	H	M	M	M	H	VH	H	H	VH	H	H	M	H	H	H	H	M	H	H	H	M	M	H	M	M	M	H	VH	VH	M	H	H
	A7	VH	H	VVH	M	VVH	VH	H	H	H	H	H	VH	H	VH	VH	M	M	M	VH	VH	VH	VVH	VH	H	VH	VVH	VH	VH	VH	VH	VH	VH
U4	A1	VH	VH	VH	M	H	H	L	H	H	VH	VH	H	VH	H	H	VL	M	H	L	VL	L	H	H	VVL	H	H	VVH	H	L	VH	VL	H
	A2	VH	H	H	H	H	VH	L	VH	H	H	VH	H	VH	H	H	L	M	M	L	VVL	L	H	H	L	H	H	H	H	L	H	L	VH
	A3	VH	L	M	M	L	L	L	L	L	H	VVH	H	H	H	H	L	M	L	VVL	VVL	L	H	M	M	M	H	H	H	L	L	L	VVH
	A4	VH	H	H	H	H	VH	L	VH	H	VH	H	VH	L	M	M	L	M	H	L	VVL	M	H	H	H	M	M	VH	VH	H	H	L	H
	A5	VH	VL	VL	VL	H	H	VVL	H	H	M	H	VH	L	L	VL	L	H	H	VVL	VVL	H	H	VH	M	M	H	H	H	H	VVH	L	VH
	A6	VH	VL	VL	VL	M	L	VVL	VVL	H	L	VL	L	VVL	VL	VL	L	L	H	VVL	VVL	L	H	H	M	M	H	H	H	L	H	L	H
	A7	VH	H	L	L	H	M	VVL	L	VH	L	VH	VH	VL	VH	VL	VL	M	M	VL	VVL	L	VH	H	M	H	H	VH	H	H	H	L	VH
U5	A1	VH	VVH	VH	M	VL	VVH	VL	H	VVH	VVH	L	VH	M	M	VL	VL	VL	VVL	M	L	VL	L	L	H	VH	VH	L	H	VH	M	L	M
	A2	VH	VH	H	M	M	VVH	L	H	VVH	VH	L	VVH	M	M	VL	VL	VL	H	L	VL	L	L	H	VH	VH	M	H	VH	M	L	M
	A3	VH	VVH	M	M	VL	VVH	L	M	M	M	VVH	H	M	VL	M	M	H	L	M	L	L	H	VH	VH	L	H	VH	M	L	M
	A4	VH	M	VVH	VH	VL	VVH	L	L	VH	H	L	VVH	L	M	VL	L	L	M	M	L	L	L	VH	VH	VH	L	H	VH	M	L	M
	A5	VH	H	VVH	M	VL	M	VL	M	H	H	H	M	L	H	VL	L	M	L	M	VL	L	L	VH	VH	VH	L	H	VH	M	L	M
	A6	VH	L	L	VL	VL	VL	VL	VL	L	VL	H	VL	L	VL	VVL	H	VVH	M	M	M	VL	L	L	L	L	L	L	L	L	L	L	M
	A7	VH	M	VL	VL	VL	VL	VVL	VL	L	VL	M	L	VL	VL	VVL	H	VVH	M	H	L	VL	L	L	L	L	L	L	L	L	L	L	M
U6	A1	H	H	VH	VH	VVH	VVH	M	M	VH	VL	VH	VVL	M	H	H	H	L	H	L	L	L	VL	M	VL	M	L	L	VL	M	H	VL	VL

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
	A2	VH	M	VH	H	VH	VH	H	M	VVH	L	H	VL	M	H	M	VH	M	H	L	L	L	L	M	VL	M	L	L	VL	M	H	VL	VL
	A3	M	L	VH	H	H	H	H	M	VVHV	L	H	VL	L	M	H	M	M	H	L	L	L	L	M	L	M	L	L	VL	M	H	H	H
	A4	H	H	VH	M	M	H	H	L	VVH	L	H	L	L	M	H	M	L	H	L	VL	L	L	L	VL	M	L	L	VL	M	H	H	H
	A5	M	H	H	H	M	H	M	M	VVH	VL	H	VL	M	M	M	M	M	H	L	L	L	L	M	L	L	L	L	L	M	H	H	H
	A6	L	M	M	VH	M	M	M	M	M	VL	M	M	L	L	M	L	L	M	L	VL	L	L	L	L	L	L	M	M	M	H	M	
	A7	L	H	VH	H	H	H	M	L	VH	L	H	VL	M	L	M	M	M	H	L	L	L	L	M	VL	M	L	L	L	M	H	H	H
U7	A1	M	VVH	VVH	M	H	VVH	VVH	H	VVH	H	L	H	M	VH	M	H	M	VH	H	VVH	VVH	VVH	M	M	H	M	M	H	L	H	M	H
	A2	H	H	H	VH	L	VVH	M	VH	H	VVH	M	VH	H	VH	H	H	H	H	VH	VVH	VV	H	M	H	H	M	M	H	H	VH	VH	H
	A3	L	M	M	M	M	L	H	M	H	L	H	L	L	H	VH	L	M	H	M	VVH	L	L	H	L	M	H	L	L	M	L	L	L
	A4	VH	H	VH	H	H	H	M	H	VH	M	M	H	M	H	M	M	M	M	VH	H	H	M	VVH	VVH	VVH	H	VH	H	VVH	H	VVH	
	A5	H	VVH	H	H	H	VH	M	H	M	H	H	H	H	H	M	M	M	H	VH	H	M	H	H	H	VVH	VVH	VVH	VH	H	VH	H	
	A6	H	VH	M	H	H	VH	VVH	H	VVH	VH	VH	H	H	H	VH	VH	M	H	VVH	VVH	VH	M	H	M	VH	M	M	H	M	VVH	H	VH
	A7	H	H	VH	H	VH	VH	VVH	H	VH	H	H	H	H	VH	H	M	M	M	H	VVH	VVH	VH	M	H	VVH	VH	H	H	VH	VVH	VH	H