ASYMMETRIES IN THE DRIVERS OF TOURISM COOPETITION IN CRAFT CENTRES

ASSIMETRIAS NOS DRIVERS DA COOPETIÇÃO TURÍSTICA EM CENTROS DE ARTEsanato

ASIMETRÍAS EN LOS IMPULSORES DE LA COOPETICIÓN TURÍSTICA EN LOS CENTROS DE ARTESANÍA

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Abstract

This research aimed to identify the asymmetries in the variables inducing coopetition in productive and commercial handicrafts arrangements and, to define the manager’s priorities to improve the performance of the coopetition network. The article demonstrates the use of decision matrices for tourism research and management. It uses a set of methodologies that can be replicated in other contexts. It is a quantitative research using Importance-Performance Analysis matrix, Penalty-Recompensation Contrast Analysis, Impact Asymmetry Analysis. The results indicated that participants’ profile variables have greater importance for horizontal coopetition network formation than context variables. To activate the willingness to coopetition in the participants of productive clusters, the elements related to management of the productive arrangement are neutral, those related to individual capabilities of the network participants are attractive, and those related to the products offered are mandatory or one-dimensional. The penalty indexes are higher than the reward indexes in most of the elements, therefore, changes in the variables impact a lot on the demotivation of the members, while motivating them towards coopetition will require more effort from the manager. This study contributed a list of variables to boost coopetition, as well as the elements that should receive priority from managers of local productive clusters.

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### Palavras-chave:

- Coopetição Turística;
- Assimetrias;
- *Importance-Performance Analysis (IPA)*;
- Análise de Contraste Penalidade-Recompensa (PRCA);
- Co-localização;
- Arranjos produtivos de artesanato

### Resumo

Esta pesquisa objetivou identificar as assimetrias nas variáveis indutoras da coopetição em arranjos produtivos e comerciais de artesanato e, definir as prioridades do gestor para melhorar a performance da rede de coopetição. O artigo demonstra o uso de matrizes de decisão para a pesquisa e gestão em turismo. Utiliza-se um conjunto de metodologias que pode ser replicada em outros contextos. É uma pesquisa quantitativa que utiliza a matriz *Importance-Performance Analysis*, Análise de Contraste Penalidade-Recompensa, Análise de Assimetria de Impactos. Os resultados indicaram que as variáveis de perfil dos participantes têm maior importância para formação de redes horizontais de coopetição do que as variáveis de contexto. Para ativar a vontade de coopetição nos participantes de aglomerados produtivos, os elementos relacionados a gestão do arranjo produtivo são neutros, os relacionados a capacidades individuais dos participantes da rede são atrativos e os relacionados aos produtos ofertados são obrigatórios ou unidimensionais. Os índices de penalidade são superiores aos de recompensa na maioria dos elementos, portanto, alterações nas variáveis impactam muito na desmotivação dos integrantes, enquanto motivá-los em direção a coopetição exigirá mais esforço do gestor. Esse estudo contribuiu com uma lista de variáveis para impulsionar a coopetição, assim como os elementos que devem receber prioridade de gestores de aglomerados produtivos locais.

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### Palavras clave:

- Coopetición turística;
- Asimetrías;
- Análisis de Importancia-Desempeño (IPA);
- Análisis de contraste de penalización-recompensa (PRCA);
- Co-ubicación;
- Agrupamientos productivos de artesanía.

### Resumen

Esta investigación tiene un doble objetivo. En primer lugar, identifica las asimetrías en las variables que inducen la coopetición en los clústeres productivos y comerciales de artesanía. La investigación generó implicaciones teóricas para el paradigma de la coopetición turística e implicaciones prácticas para la gestión de redes turísticas. Además, el estudio demuestra el uso de matrices de decisión para la investigación y gestión en turismo. Utiliza un conjunto de metodologías que pueden ser replicadas en otros contextos. Es una investigación cuantitativa basada en el Análisis de Importancia-Desempeño, el Análisis de Contraste de Penalización-Recompensa y el Análisis de Asimetría de Impacto. Los resultados indicaron que las variables de perfil de los participantes son más importantes para formar redes de coopetición horizontal que las variables de contexto. Para activar el deseo de coopetición en el participante de los clústeres, los elementos relacionados con la gestión del arreglo productivo son neutrales. En cambio, los aspectos relacionados con las capacidades individuales de los participantes de la red son atractivos, y los relacionados con los productos ofrecidos son obligatorios o unidimensionales. Los índices de penalización son más altos que los índices de recompensa en la mayoría de los elementos. Por lo tanto, los cambios en las variables impactan significativamente en la desmotivación de los miembros, mientras que motivarlos hacia la coopetición requerirá un mayor esfuerzo por parte del gestor. Este estudio aportó un listado de variables para impulsar la coopetición, así como los elementos que deben recibir prioridad por parte de los gestores de los clústeres productivos locales.
INTRODUCTION

In tourism, coopetition studies have focused on the tourism destination as the unit of analysis most often, analyzing situations of sharing natural tourism resources (Kylanen & Mariani, 2012), co-marketing of destinations (Wang & Krakover, 2008), development of integrated tourism circuits or routes (Oliveira-Ribeiro et al., 2021), or integrated management (Chim-Miki, Medina-Brito, & Batista-Canino, 2020). Also, some researchers analyze the formation of vertical networks, most often of lodging establishments (Bahar et al. 2022; Köseoğlu et al., 2021). Regardless of the unit of analysis, coopetition is seen as an intrinsic and emerging behavior of tourism (Köseoğlu et al., 2021), and as a strategy for generating collective competitive advantages for the destination that can be appropriated by stakeholders at the tourism enterprise level (Sigala, 2019).

Tourism coopetition can be defined as a hybrid behavior of simultaneous cooperation and competition among one or more stakeholders for tourism destination development (Chim-Miki & Batista-Canino, 2018). This interaction of cooperating and competing, is a natural and emerging behavior in some contexts (Mariani & Kylanen, 2014; Monticelli et al., 2022), such as productive agglomerations or clusters (Cusin & Loubaresse, 2018; Felzensztein, Gimmon, & Deans, 2018) or tourism destinations (Della Corte & Sciarelli, 2012; Köseoğlu et al., 2021). A related factor in these contexts is co-location and goal alignment (Chim-Miki & Batista-Canino, 2018). Thus, certain environments that function as business ecosystems or clusters tend to expedite coopetition (Lehtonen, Ainamo, & Harviainen, 2020). Soon, relationships between partners evolve within these productive arrangements and can leverage coopetitive advantages (Dana et al., 2013).

However, in order to establish a consolidated and effective coopetition strategy, some items must be strengthened in the participants’ network. In this sense, scholars have devoted attention to two major groups of variables, one related to the context (Chim-Miki & Batista-Canino, 2016) and the other to the profile of partners (Czakon et al., 2020). The search to understand and identify the drivers of coopetition has guided studies in different sectors, as well as, researchers try to understand the typologies of this behavior so that it results in network effectiveness generating better performance for all. Thus, studies have considered coopetition at different levels such as individual, intra-organizational, inter-organizational, inter-network, and regional or society level (Oliveira-Ribeiro et al., 2022). In addition, the mediating power of elements external to the coopetition network has been analyzed, as this is a factor that minimizes the intrinsic tension between competitors, helping to consolidate the network and expand its results. This form has been referred to as mediated coopetition (Monticelli et al., 2023).

In tourism, this mediation can be carried out by business associations or destination network management organizations. In this situation of co-location, shared goals, and unified management are found commercial spaces created to boost tourism through craft sales centers. These elements represent a form of local productive and commercial arrangements, forming network structures of simultaneous cooperation and competition (competition) (Brandenburger & Nalebuff, 1996). An example of such co-location spaces that promote coopetition can be seen in the Artisan Village in the municipality of Campina Grande, Paraíba. The village was created in 2010 in order to foster the commercialization of handicraft products in the city and is attended by more than 300 artisans, who are divided into 77 commercial stands.
These clusters, to boost local development, can generate better results through the use of coopetition strategies, but they need to have a consistent environment, where the parties involved will seek the achievement of common goals beyond the individual ones, therefore requiring a chaining among stakeholders (Della Corte & Aria, 2016). The variables that drive the formation of the coopetition network can be at the same time impeding elements of its consolidation, because it is a feedback loop. For example, mutual trust grows as actions between partners are strengthened (Pesämaa, Pieper, Da Silva, Black, & Hair Jr, 2013); the perception of common goals and advantages of using coopetition grow as benefits become tangible (Ritala & Tidström, 2014). Thus, to identify in a coopetition network the gap between the importance of coopetition itself and the perception of its real performance is an essential point for the network management and establishment of actions towards the improvement of result derived from coopetition (Crick & Crick, 2021).

Considering the above, this research has two objectives. First, to identify the asymmetries in the variables that induce coopetition in productive and commercial handicrafts arrangements. Second to define the priorities of the productive arrangement manager to improve the performance of the coopetition network. The research contributes to the field of tourism theoretically and empirically. Theoretically it indicates a list of variables to boost coopetition, as this logic has been relegated to the background (Garraffo & Siregar, 2022). Furthermore, coopetition has been analyzed superficially from its antecedents and outcomes (Crick & Crick, 2021), as well as privileging internal factors within firms that lead to coopetition (Pietronudo et al., 2021). In this sense, this study extends this perspective by considering coopetition from both the profile dimension of firms and the context in which they are embedded (Greven et al., 2022). In addition, the research approaches this perspective from networks of handicrafts, an important product of the tourist destination. Empirically, it identifies the elements that should receive priority intervention from managers of local productive clusters for the consolidation of the coopetition strategy (Czakon & Czernik-Marsalek, 2021), as well as measures their effects for the consolidation of the coopetition network. Additionally, this research shows two methodologies that can be replicated in other contexts. This study is a quantitative research that makes an adaptation of the Importance-Performance Analysis (IPA) matrix, the Penalty-Reward Contrast Analysis (PRCA) and Impact Asymmetry Analysis.

THEORETICAL REVIEW

Studies on coopetition have proliferated in the literature (Chim-Miki, Batista-Canino & Moreira, 2019; Klimas, Sachpazidu & Stanczyk, 2023), expanding the number of perspectives of analysis, levels and contexts of application, as well as elements or variables used by the authors, characterizing multidimensional constructs. Regardless of the level at which coopetition occurs, i.e., individual, intra-organizational, inter-organizational, or inter-network, the main findings of the literature allow us to state that there are variables related to the profile of the participant and others, to the context of the coopetition network. In this sense, factors such as trust, organizational culture, trust sharing, and governance have been considered as inducers of cooperation (Meena, Dhir & Sushil, 2022). At the same time, factors such as complementarity, reciprocity (De Araújo & Franco, 2017), level of competition (Chim-Miki & Canino, 2017), overlap, interdependence, and conflict of resources and interests have guided competition strategies (Dorn et al., 2016). However, coopetition-inducing variables have not been the main focus of empirical investigations to date (Klimas, Sachpazidu & Stanczyk, 2023).
Other groupings of variables with different nomenclatures can be found in the literature. For example, Czakon, Klimas, and Mariani (2020) expanded to contextual, behavioral, strategic, and managerial dimensions. Even though their model provides a greater level of detail, the variables included by the authors in their four dimensions can be regrouped into context and stakeholder profile, as the managerial dimension refers to resource heterogeneity, managers’ capabilities, access to new markets, and other elements that reflect context or profile. While the behavioral one is directly related to the profile of the participants in the network, the strategic one represents the fit between the network partners, so it mixes context and profile of the participants.

Felzensztein, Gimmon, and Deans (2018) studied the changes over time in cooperative relationships within clusters and their findings indicated that, as the cluster matured, the firms’ managers tended toward more individual than strategic coopetitive behavior, with coopetition being more dedicated to the most basic activities that seek cost reduction. In the opposite direction, the study of Monticelli (2015) verified that, in productive clusters of wineries, coopetition has been the strategy that helps in the process of internationalization of the companies, which tend to present greater cooperation to reach foreign markets, generating coopetitive advantages and at the same time present higher levels of competition with regard to domestic markets. However, the creation and capture of value remains a perspective that deserves attention (Volschenk, 2018), as it is a non-linear relationship, with interchangeable benefits (Minerbo, Samartini & Brito, 2023), associated with a cognitive, behavioral and emotional tension as a result of coopetition (Ryan-Charleton & Gnywali, 2022).

Intercluster asymmetries have also been studied longitudinally. Cusin and Loubaresse (2018) verified relationship asymmetry in intercluster relationships or between clusters located in close geographic areas showing the emergence of trust mechanisms driving coopetition. As the cluster evolves, employing the population ecology viewpoint, coopetition impacts the survival rate of firms due to the exploitation of coopetitive advantages (Chung & Cheng, 2019). In addition, coopetition can also be used as a mechanism for market protection and access to resources unavailable individually in a network, according to the dynamism of competitive and collaborative interactions among its participants (Dal-Soto & Monticelli, 2017).

The position of the firm in the production chain is a factor that drives or prevents coopetition, because the closer to the end customer, the greater the tendency to compete; conversely, firms in the production chain that are more distant from the end customer tend to cooperate (Arthanari, Carfi & Musolino, 2015; Bengtsson & Kock, 1999). This logic becomes difficult when the production clusters are of companies in horizontal chains, therefore, all with similar location in the production chain in terms of distance to the consumer market. In these situations, it is recommended the presence of an external element that manages the coopetition network, reducing the intrinsic tensions of this strategy modality (Hidalgo et al., 2022). Bengtsson and Kock (1999) stated that an integrated management system or governance is a way to induce coopetition relationships to achieve collective benefits in order to balance the process, resulting in improved competitiveness.

Specifically in tourism, coopetition have advanced from a logic of coopetition networks, mainly to foster tourism destinations (Cortese, Giacosa & Cantino, 2021; Nguyen, Johnson & Young, 2022) to a perspective that considers the interactions between different value chain participants (Fong, Fong & Wong, 2021), including the institutional environment (Czakon, Klimas & Mariani, 2020) and the inherent institutional logics (Fong, Wong, Hong, 2018). In these terms, knowledge from the sharing of ideas, previous experiences, and the ability to work together has been considered a core resource
that allows developing innovation in the tourism sector (Carvalho et al., 2020; Cortese, Giacosa & Cantino, 2021). To this end, the previous visualization of coopetitive advantages of the relationship between the parties is a relevant inducer of coopetition, mainly to enhance this strategy (Wang & Krakover, 2008).

Still on the sector, there is a differentiation between high-tech sectors such as microchips and low-tech sectors such as tourism. In high-tech sectors, the sector acts as a moderating variable between coopetition and organizational performance that have a positive correlation (Xie et al., 2023). However, the tourism sector, both in the contextual dimension in tourism destinations (Nguyen, Johnson & Young, 2022) and in the profile dimension (Czakon & Czernek-Marszalek, 2021), have been driven to coopetition in order to provide joint gains that are superior to the individual benefits that each participant in a network could obtain (Fong, Wong & Hong, 2021).

Thus, many elements influence the induction and subsequent consolidation over time of the coopetition network. Although the approaches in the literature are diverse, some variables show a higher level of consensus among the authors for their importance and are summarized in Figure 1. In this research, the 13 dimensions synthesized in Figure 1 represent the contexts of cooperation and competition and the variables adopted for the construction of the data collection instrument.

Figure 1: Context and profile dimension inducing coopetition
From this literature review focusing on the elements that represent coopetition-inducing variables that this paper develops, it seeks to verify intra-cluster asymmetries or horizontal productive clusters.

**METHODOLOGY**

This research had a quantitative, exploratory-descriptive methodology. On the one hand, it aimed to verify the level of perception among the participants of a network of artisans, micro entrepreneurs in a situation of co-location, about the degree of importance and performance given to variables that are drivers of the formation and consolidation of coopetition networks. On the other hand, we sought to identify the effects of variables on the intention to participate in the coopetition network, thus generating a list of priorities for the manager to improve the consolidation of this strategy.

The 22 variables used in the research were extracted from the literature. The theoretical basis and its constructs are present in Figure 1. The data collection instrument was a seven-point Likert scale questionnaire applied personally among the artisans co-located in the Artisan Village, located in the city of Campina Grande, in the hinterland of the state of Paraíba. The sampling was classified as intentional and systematic. Intentional because it represents a typical case of co-location of handicraft activity, and for the convenience of the researcher. Moreover, systematic, because the artisans were purposely chosen, considering the stores alternately, in order to avoid that the respondents were direct neighbors in the Artisan's Village. The approach consisted of a brief explanation about the research, followed by an invitation to answer the questionnaire. This procedure ensured that 50% of the businesses in the Vila do Artesão (Craftsman Village) were part of the sample of this study. The response rate was met, since the craftsmen were very receptive.

The Artisan Village, inaugurated in December 2010, is a space managed by the Municipal Development Agency (AMDE) seeking to encourage local craftsmanship and rescue the work and development culture of the municipality, boosting tourism, strengthening the local economy and fostering the generation of jobs and income. The space has more than 300 artisans who are divided into about 77 stands for the creation and commercialization of several products, representing a local productive and commercial cluster.

The data were analyzed using two techniques based on decision matrices. First, an adaptation of the Importance-Performance Analysis (IPA) Matrix method proposed by Martilla and James (1977) was used to evaluate the importance and performance of a product's attributes. The matrix is divided into four quadrants that help in decision making and strategy formulation (Figure 2):

- **Quadrant 1 (Q1) - Focus here** - Items that are very important, however present low satisfaction in relation to performance by the participants (consumers) assessment, i.e., this is where the manager should prioritize his actions.

- **Quadrant 2 (Q2) - Keep up the good work** - Both the importance and the performance of the item are considered high by the respondents, that is, these are items that should continue to be kept under priority attention.
• **Quadrant 3 (Q3) - Low priority** - Shows the items perceived as having low performance, but which are also not considered important to the respondents (consumers), and should therefore be the last on the manager’s priority list.

• **Quadrant 4 (Q4) - Possible overshoot** - The items in this quadrant present high performance, however, are evaluated as not so important, therefore, they are points in which investment should be lower, which indicates points of inversion in the manager’s priority.

The IPA matrix generates a visual result that is easy for managers to interpret based on the assumption of linearity between performance and satisfaction. At the same time, the technique provides a view of the greatest gaps between the importance of the attribute and its performance, facilitating a decision ranking for managerial actions. However, it is recommended that it be used in conjunction with other analysis techniques, because some attributes do not provide an increase in satisfaction in the same proportion as the increase in performance, which may lead to wrong decisions by the manager (Tontini & Silveira, 2005).

Thus, as a second technique, a matrix of Penalty-Reward Contrast Analysis (PRCA) built from the satisfaction score with 29 attributes was used. This technique considers the linear and non-linear relationships between satisfaction and attribute performance through a multiple regression equation with two dummy variables \( Y = \beta_0 + \beta_{1\text{neg}}X_{1\text{neg}} + \beta_{2\text{pos}}X_{1\text{pos}} \), which represent the Penalty and the Reward indices, that is, the effects that the variables generate on satisfaction or dissatisfaction.

Following Picolo & Tontini, (2008) two dummy variables were created to recode the database. To create the penalty-related set \( \text{Penalty} = X_{1\text{neg}} \), we converted the responses of the attributes whose satisfaction level was lowest, i.e., between one and three, which were all recoded to one, and all other responses, recoded to zero. The reward-related set \( \text{Reward} = X_{1\text{pos}} \) considered the highest satisfaction scores, so responses between five and seven were recoded to one and the rest of responses to zero. With this, when satisfaction is above four the reward dummy variable \( X_{1\text{pos}} \) is greater than zero, and when the penalty one \( X_{1\text{neg}} \) is equal to zero. The opposite occurs when satisfaction is below four. Thus, two regression coefficients are created for a single independent variable \( Y = \beta_0 + \beta_{1\text{pos}}X_{1\text{pos}} + \beta_{2\text{neg}}X_{1\text{neg}} + ... + \beta_{31\text{pos}}X_{26\text{pos}} + \beta_{32\text{neg}}X_{26\text{neg}} \).

Thus, two multiple regression analyses were conducted separately for each set of dummy variables as independent variables and coopetition intention as dependent variable. The result was plotted in a four-quadrant classification matrix: attractive, one-dimensional, neutral, and mandatory elements (Matzler & Saurwein, 2022). Next, the Impact Range Satisfaction Analysis (IRSA) was calculated by summing the absolute values of the penalty and reward indices associated with each attribute. Finally, to measure the attribute’s potential to generate satisfaction (Satisfaction Generating Potential - SGP) and dissatisfaction (Dissatisfaction Generating Potential - DGP), the following equations were used:

\[
SGPi = \frac{ri}{RICSi} \\
DGPi = \frac{pi}{RICSi} \\
IAi = SGPi - DGPi \\
RICSi = pi + ri
\]
In this equation, $ri$ is the reward index for attribute $I$; $pi$ is the penalty index for attribute $I$; $RICSi$ indicates the range of impacts on overall customer satisfaction measured by the sum of the penalty and reward indices.

Next, the Impact Asymmetry Analysis ($IA = SGPi - DGPi$) was performed. Finally, Mikulić and Prebežac’s (2008) classification for the magnitude of $AI$ was adopted, namely: frustrating ($AI \leq -0.7$); dissatisfying ($-0.7 < AI \leq -0.2$); hybrid ($-0.2 < AI < 0.2$); satisfying ($0.2 \leq AI < 0.7$); and delightful ($AI \geq 0.7$).

RESULTS AND DISCUSSION

Importance and Performance Analysis

Of the 22 variables analyzed, there was a concentration of 54.5% in Q1 (Figure 2), evidencing coopetition inducing points that are not presenting an adequate performance in Vila do Artesão. These are, therefore, the priority items in the managerial action of the manager of this productive and commercial cluster in order to optimize the coopetition networks.

Figure 2: Importance-Performance Matrix of the coopetition variables

Source: Prepared by the authors.
Four of these Q1 variables presented an I-P Gap greater than four points, that is, a high mismatch between importance and performance, being variables related as mutual trust, harmony to work together towards collective goals. Sharing of ideas, trust in the manager, and visualization of common goals also showed marked gaps (Table 1). These points are considered essential in the coopetition literature acting both as inducers and as impediments to the formation and consolidation of networks based on coopetition strategies (Czakon & Czernek, 2016).

### Table 1: Quadrant 1 Variables (Focusing Efforts) and their I-P Gaps

<table>
<thead>
<tr>
<th>Variables</th>
<th>Importance</th>
<th>Performance</th>
<th>Gap I-P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existence of a common and shared objective (V1)</td>
<td>6</td>
<td>3.14</td>
<td>2.86</td>
</tr>
<tr>
<td>Sharing of ideas (V2)</td>
<td>5.1</td>
<td>2.06</td>
<td>3.04</td>
</tr>
<tr>
<td>Existence of co-work (V3)</td>
<td>6.8</td>
<td>1.89</td>
<td>4.91</td>
</tr>
<tr>
<td>Joint effort towards collective goals (V4)</td>
<td>6.2</td>
<td>1.69</td>
<td>4.51</td>
</tr>
<tr>
<td>Level of mutual trust (V5)</td>
<td>6.5</td>
<td>2.03</td>
<td>4.47</td>
</tr>
<tr>
<td>Level of harmony (V6)</td>
<td>6.3</td>
<td>1.8</td>
<td>4.5</td>
</tr>
<tr>
<td>Trust in manager for individual decisions (V7)</td>
<td>5.9</td>
<td>3.09</td>
<td>2.81</td>
</tr>
<tr>
<td>Trust in the manager for collective decisions (V8)</td>
<td>6.1</td>
<td>2.89</td>
<td>3.21</td>
</tr>
<tr>
<td>Commercial positioning generated by this in the Craftsman Village (V9)</td>
<td>5</td>
<td>3.43</td>
<td>1.57</td>
</tr>
<tr>
<td>Level of individualism (V12)</td>
<td>4.8</td>
<td>2.71</td>
<td>2.09</td>
</tr>
<tr>
<td>Level of governance (V13)</td>
<td>4</td>
<td>2.43</td>
<td>1.57</td>
</tr>
<tr>
<td>Existence of joint defense against external context (V15)</td>
<td>5.09</td>
<td>3.5</td>
<td>1.59</td>
</tr>
</tbody>
</table>

Source: Prepared by the authors.

On the other hand, the second highest concentration of variables was in Q2, with seven variables (32 %). This quadrant indicates ‘Continue the good work’, because these are variables considered important by the participants and evaluated with good performance (Figure 1). It can be observed that in this group of variables are those that represent external competition, the levels of dependence, complementarity and diversity, as well as the craftsmen’s view on the importance of partnerships among them. Therefore, coopetition can develop economies of scale and mitigate risks through market commonality and resource similarity (Chen, 2008). Despite being in Q2, therefore, well-positioned variables, there are still Gaps to be minimized by the network that point to the need for differentiation between intra-cluster products, as can be observed by the I-P Gap of variables V16, V17 and V20 (Table 2).
The IPA analysis did not indicate variables for Q3, in which should be the items of low priority for the managerial action of the productive cluster because they are considered of low importance by the network participants. This result is desired in an IPA matrix, because it demonstrates that there is an adjustment of vision and resources between the governance of the network and its participants, considering the strategies of competition and cooperation.

In turn, three variables are in Q4, evidencing variables that are obtaining high performance, but that participants do not grant high importance, that is, they represent inadequate efforts of the network management, pointing to a mismatch of action. These variables are related to the existence of so-called “flagship” products, mechanisms to prevent new craftsmen from joining the network, and the levels of internal competition among craftsmen in the village (Table 3). In this sense, the ability to compete can be increased through coopetition, protecting the geographic market of operation and raising barriers to new entrants (Dal-Soto & Monticelli, 2017). The I-P Gaps of these three variables were negative, that is, they are resulting in higher performance than importance, according to the perspective of the participants of the coopetition network. They also pointed out a high dispute between them, but that this has no influence on the formation and consolidation of coopetition strategies, as well as consider that it is given too much importance to some products essential to the Artisan Village, but this does not change the formation of the coopetition network between them.

Table 2: Quadrant 2 Variables (Continue the good work) and their I-P|TR5~|89I Gaps

<table>
<thead>
<tr>
<th>Variables</th>
<th>Importance</th>
<th>Performance</th>
<th>Gap I-P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance of long-term partnership among artisans (V10)</td>
<td>6,6</td>
<td>5,71</td>
<td>0,89</td>
</tr>
<tr>
<td>Willingness to make sacrifices for the benefit of the Artisan Village (V11)</td>
<td>6,8</td>
<td>6,2</td>
<td>0,6</td>
</tr>
<tr>
<td>The commercialization in the Village is highly dependent of some products offered (V16)</td>
<td>5,6</td>
<td>4,34</td>
<td>1,26</td>
</tr>
<tr>
<td>The variety of products is essential to complement the offer of the Village (V17)</td>
<td>6,66</td>
<td>4,5</td>
<td>2,16</td>
</tr>
<tr>
<td>In Campina Grande there are many similar handcraft sales locations (V18)</td>
<td>4,3</td>
<td>4</td>
<td>0,3</td>
</tr>
<tr>
<td>Agreste Paraibano has a great offer of similar products (V19)</td>
<td>4,8</td>
<td>4,17</td>
<td>0,63</td>
</tr>
<tr>
<td>Few new products appear in the Village (V20)</td>
<td>5,9</td>
<td>4,6</td>
<td>1,3</td>
</tr>
</tbody>
</table>

Source: Prepared by the authors.
Table 3: Quadrant 4 Variables (Superfluous Effort) and their I-P Gaps

<table>
<thead>
<tr>
<th>Variables</th>
<th>Importance</th>
<th>Performance</th>
<th>Gap I-P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some products are essential to the commerce of the Artisan Village (V14)</td>
<td>3,1</td>
<td>5,51</td>
<td>-2,41</td>
</tr>
<tr>
<td>There is difficulty for new craftsmen to enter the Village (V21)</td>
<td>3</td>
<td>4,46</td>
<td>-1,46</td>
</tr>
<tr>
<td>Dispute among craftsmen about the products they commercialize (V22)</td>
<td>1</td>
<td>6,6</td>
<td>-5,6</td>
</tr>
</tbody>
</table>

Source: Prepared by the authors.

The results found through the IPA Matrix indicate that the governance of Vila do Artesão and its coopetition network have the greatest asymmetries related to the profile variables of the participants that show low capacity to work together, to develop mutual trust (both among the network participants and between the participant and the network manager), low degree of sharing of ideas and high individualism. On the other hand, the external competitive context variables are driving the union in coopetition networks to remain active in the market, therefore, the craftsmen visualize advantages against other clusters.

Therefore, these findings indicate that internal competition is not affecting the decision to be coopetitive, despite the low trust among the members of Vila do Artesão. Therefore, the fact of being a horizontal coopetition network in which the position of all firms is close to the consumer market is not an impediment to coopetition strategies (Arthanari, Carfi & Musolino, 2015).

Penalty-Reward Contrast Analysis (PRCA), Impact and Impact Asymmetry (IA)

The results of the Penalty-Reward Contrast Analysis (PRCA) showed that they are elements of attraction for the artisan to participate in the coopetition networks, that is, elements that generate high reward. Therefore, the following are elements that help the manager to consolidate the use of this strategy in the Artisan Village of Campina Grande: the existence of a common and shared objective, the work together, the effort in common for collective goals, the difficulty for new artisans to enter the village, the commercialization in the Village of some products considered irreplaceable, and the levels of competition generated by industrialized substitute products and other handicraft centers in the outskirts of the city (Q1 in Figure 3). These results corroborate the literature on coopetition in a business context. For example, they align with what De Araújo and Franco (2017) pointed out about complementarity and common goals. As for factors related to competition, similar results were found by Chim-Miki and Canino (2017).

Neutral elements were primarily related to the management of the Village itself performed by the Municipal Development Agency (AMDE), and by the level of regional competition. On the other hand, unidimensional elements, that is, elements that can generate high impact in both reward and penalty, therefore, affect positively and negatively the consolidation of the coopetition network, were related to the trust that the Village management will make adequate decisions for the craftsman, the competitive positioning that the productive cluster provides, the long term partnerships,
the level of individualism, the representativeness of AMDE, the dependence for some products and the internal competition among craftsmen (Figure 3). It is observed that part of the variables are related to network governance, meeting what Bengtsson and Kock (2000) and Mariani and Kylanen (2014) indicate about the minimization of tensions in the coopetition network and its consequent consolidation depend on a body that mediates this strategy. On the other hand, issues of individualism and long-term vision arise, which are more internal characteristics, therefore, depend on the individual profile of coopetitioners as Czakon et al. (2020) demonstrated.

Finally, the promotion of idea sharing, the generation of mutual trust to form strategic alliances, the focus on cooperation for marketing, the variety of products and their complementarity, and the competition of similar products in the city are mandatory elements on the manager’s agenda, as they negatively impact the consolidation of the coopetition strategy (Figure 3). Pesâmaa et al. (2013) and Meena, Dhir, and Sushil (2022) stress the importance of mutual trust to accelerate the coopetition network.

Figura 3: Attribute matrix according to the magnitude of the Penalty and Reward coefficients

Source: Prepared by the authors.
On the one hand, the Impact Range Satisfaction Analysis (IRSA) and Impact Asymmetry analysis (Table 4) show that variables V15 and V16 have the highest impact on the penalty. The existence of joint defense against external context (V15) has penalty index of 7.546, i.e., it is the measure of negative impact on craftsman’s willingness to participate in the coopetition network.

The second element that generates the highest penalty was marketing in the Village being highly dependent on some products offered (V16) which obtained Penalty Index = 5.039, which represents how much this element reduces the willingness of the artisan to join the coopetition strategies. The third most penalizing element was the Level of harmony (V6) with Penalty coefficient = 4.144. These elements should be a priority on the agenda of the productive cluster manager to avoid that the participants of the handicrafts productive cluster become demotivated and the coopetition network is not consolidated.

On the other hand, the three elements that generate better reward rates, i.e., positively impact on the consolidation of coopetition networks were: Trust in the manager for individual decisions (V7) with reward rate = 1.021; the state of Paraíba has a large supply of handcrafted products just like the ones I produce (V30= 0.869), and there is a large supply of handcrafted products in the hinterland of Paraíba (V29 = 0.708). Thus, these are elements to strengthen the artisan’s intention to participate in the coopetition network. Trust in the manager becomes paramount to meet what Bengtsson and Kock (1999) previously proved, that is, an integrated management system or governance can induce coopetition relationships toward the creation of collective benefits, process balance, and improved competitiveness.

Overall, the findings resulting from IRSA and IAA help to minimize the gap pointed out by Garraffo and Siregar (2022) that a list of variables to drive coopetition has been relegated to the background. Table 4 shows all the reward and penalty indices for each variable, so it represents a prioritization scale for the craft tourism network manager.

### Table 4: IRSA and IAA results

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Penalty Indices</th>
<th>Reward indices</th>
<th>RICS</th>
<th>Satisfaction Generating potential (SGP)</th>
<th>Dissatisfaction generating potential (DGP)</th>
<th>Impact asymmetry</th>
<th>Factor¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>1_VC</td>
<td>-2,308</td>
<td>0,560</td>
<td>2,868</td>
<td>0,20</td>
<td>0,80</td>
<td>-0,61</td>
<td>Unsatisfactory</td>
</tr>
<tr>
<td>2_VC</td>
<td>1,599</td>
<td>-0,107</td>
<td>1,706</td>
<td>0,06</td>
<td>0,94</td>
<td>-0,87</td>
<td>Frustrating</td>
</tr>
<tr>
<td>3_VC</td>
<td>-1,083</td>
<td>0,494</td>
<td>1,577</td>
<td>0,31</td>
<td>0,69</td>
<td>-0,37</td>
<td>Unsatisfactory</td>
</tr>
<tr>
<td>4_VC</td>
<td>-0,947</td>
<td>0,170</td>
<td>1,118</td>
<td>0,15</td>
<td>0,85</td>
<td>-0,70</td>
<td>Frustrating</td>
</tr>
<tr>
<td>5_CM</td>
<td>3,092</td>
<td>-0,173</td>
<td>3,265</td>
<td>0,05</td>
<td>0,95</td>
<td>-0,89</td>
<td>Frustrating</td>
</tr>
<tr>
<td>6_CM</td>
<td>-4,144</td>
<td>-0,437</td>
<td>4,581</td>
<td>0,10</td>
<td>0,90</td>
<td>-0,81</td>
<td>Frustrating</td>
</tr>
<tr>
<td>7_CM</td>
<td>1,352</td>
<td>1,021</td>
<td>2,373</td>
<td>0,43</td>
<td>0,57</td>
<td>-0,14</td>
<td>Hybrids</td>
</tr>
<tr>
<td>8_CM</td>
<td>-0,994</td>
<td>-0,108</td>
<td>1,102</td>
<td>0,10</td>
<td>0,90</td>
<td>-0,80</td>
<td>Frustrating</td>
</tr>
</tbody>
</table>
It is worth noting that the penalty indices were higher than the reward indices, which is reflected in the Impact Analysis of the elements on the intention to participate in the coopetition network. The AI results showed a higher number of unsatisfying (37.9%) and frustrating (37.9%) elements than satisfying (13.8%), delightful (3.4%) or hybrid (6.9%) elements (Table 4). Therefore, the manager should pay special attention to these elements in order to generate the consolidation of the network and the coopetition strategy.

**FINAL CONSIDERATIONS**

This research sought to identify the asymmetries in the variables inducing coopetition in productive and commercial arrangements of handicrafts and define priorities for managers. To this end, the analysis method was applied an IPA (Importance-Performance Analysis) matrix with 22 variables related to the context and the profile of participants in the coopetition network, and a Penalty-Reward Contrast Analysis (PRCA) with 30 elements. The sampling was with artisans located in the Artisan Village of Campina Grande, Paraíba, which is a productive and commercial arrangement in a governance system mediated by a municipal public body.
The research presented three main findings. The first finding points out that in horizontal coopetition networks situated in the productive chain near the consumer market, the variables with the greatest importance to boost coopetition are related to the profile of the participants, among them, the ability to work together, willingness to make personal sacrifices for the sake of the collective, ability to visualize coopetitive advantages, maintain long-term partnerships and develop levels of mutual trust. The context variables in this type of co-located horizontal network take a back seat to their importance in forming and consolidating coopetition strategies. This finding complements the literature in the area (e.g., Bengtsson & Kock, 1999) that considered all variables equally for horizontal or vertical networks. The IPA results also identified in a hierarchical manner which variables should be prioritized in the manager's actions, in order to obtain better consolidation of the coopetitive strategies. Therefore, the governance of Vila do Artesão needs to focus on the items of the first quadrant.

The second finding deals with intracluster asymmetries in terms of the variables that can lead the network to better efficiency and effectiveness in its coopetitive strategies. The I-P Gap values show the greatest asymmetries, being ability to work together, common effort for collective goals, harmony, mutual trust, trust in governance, sharing of ideas, and visualization of common goals. The Gap indicates asymmetry between the thinking and acting of the network participant, since the performance ranking depends on the participant more than on the governance itself. Considering this constraint from the attitude of the participant in the network, the participation of an agent that mediates the anticipation of conflict situations is suggested (Mariani & Kylanen, 2014).

The third finding is the identification of the key elements for the manager, and their hierarchy considering how positively (reward) or negatively (penalty) they impact the artisan's intention to participate in the coopetition network. The results of the Penalty-Reward Contrast Analysis (PRCA) plus the Impact Range Satisfaction Analysis (IRSA) and Impact Asymmetry are shown as a tool capable of prioritizing actions for the manager of handicraft productive clusters to consolidate networks and coopetition strategies that contributed to the development of the tourism destination, because handicrafts are an important product in the tourism offer.

In summary, the findings of this research indicate that to drive the willingness to cooperate in the participants of productive clusters, the elements related to the management of the productive arrangement are neutral, while those related to the individual capabilities of the network participants are attractive and those related to the products offered are mandatory or one-dimensional. Also, they indicate that the penalty indexes are higher than the reward indexes in most of the elements, therefore, there is a higher probability of demotivation of the members than motivation to participate in the coopetition network. This scenario confirms the difficulty of maintaining a competitive cooperation network in tourism.

Therefore, from these findings, a joint action between the co-located companies in the Artisan Village and the governance body is recommended in order to decrease these asymmetries, thus improving the collective result and decreasing dissatisfaction among the network participants. The present research generated theoretical implications by pointing out the most important variables to consolidate coopetition tourism networks in the context of co-location or productive clusters. It also generated methodological implications by detailing the techniques used and demonstrating the power of decision matrices for tourism analysis, which can be translated into tourism management.
tools. Therefore, the research complements the tripod of findings, bringing practical and managerial implications, in this case directly to AMDE, which is the managing body of the Artisans' Village of Campina Grande, Brazil.

Despite the methodological protocols adopted, this research is not without limitations. The sample was reduced, despite being adequate to the analyzed universe, in this case, a productive handicraft cluster. However, this conditions the results to a limited context that implies restrictions in terms of generalization of the identified results. Thus, further future research is recommended in larger horizontal networks, and in mixed networks of the entire tourist destination, as well as of other sectors to confirm the theoretical assumptions that this research found.

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REFERENCES


AUTHORS’ CONTRIBUTION

Adriana Fumi Chim-Miki: Conceptualization, Data curation, Data analysis, Receiving funding, Research, Methodology, Project management, Validation, Data design and presentation, Writing the original manuscript.

Jefferson Marlon Monticelli: Conceptualization, Writing the original manuscript, Research, Writing - proofreading and editing.

Rui Augusto da Costa: Conceptualization, Methodology, Providing tools, Writing - proofreading and editing.