



The effect of organizational culture, supplier trust and information sharing on supply chain viability

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Abstract

This study investigates the impact of intangible resources such as adhocracy culture (ADC), information sharing with suppliers (IS), and supplier trust (ST) on supply chain viability (SCV) under high inflation environment. To do this, a conceptual model is developed to analyze the associations between these suggested variables. Using on a cross-sectional survey, data are collected from 216 supply chain (SC) and production practitioners based in Türkiye who are medium- to senior-level managers. To analyze our theoretical model, we processed our data and model using lavaan package in R. The results show a significant relationship between ADC and SCV. Additionally, both of IS and ST capabilities are found to have a strong mediating effect on the ADC and SCV relationship. The results of this study will provide insight for managers and researchers to prevent the negative effects of SC disruptions due to the high inflation or other type of stress tests. Extant research has investigated the SCV with different crises like COVID-19 pandemic however, the study is the first research that examines SCV under high inflation stress test. Moreover, ADC, IS and ST have not widely appeared in SCV literature. In this regard, this research also contributes to the ongoing efforts of investigating the antecedents of SCV.

Keywords Supply chain viability · Adhocracy culture · Information sharing · Supplier trust

1 Introduction

In recent years, supply chains (SCs) have been interrupted due to various reasons such as pandemics and wars which have also adversely affected the world economy. This has increased the interest on resilience term in the SC literature. More precisely, the COVID-19 pandemic has changed the usual classic situation and severely strained SC ecosystems (Ivanov and Dolgui 2021). At that time, SCs designed

following an efficient and resilient logic, struggled to determine how to react and operate under the ‘super-disruptions’ (Tan et al. 2020), also called a ‘disaster’ (Ruel and El Baz 2023). Therefore, the concept of resilience has evolved into a different issue under the new normal conditions. The ‘viability perspective’ which examines adaptation to crises more broadly rather than ‘resilience concept’, has been one of the hot topics for researchers (Ivanov 2020; Ivanov and Dolgui 2020). According to the viability view, to act according

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to the newly formed conditions is vital for organizations (Ivanov 2020; Ivanov and Dolgui 2020). In short, supply chain viability (SCV) stands for the “*ability of a supply chain to maintain itself and survive in a changing environment through a redesign of structures and re-planning of performance with long-term impacts*” (Ivanov 2021).

As of the summer of 2023, in the new normal economic environment after the COVID-19 pandemic, the economic recession caused by Russia’s occupation of Ukraine, high inflation and strict monetary policies, is another problem for global markets (IMF 2023). Uncertainty in commodity markets and the severity of disruptions in SCs put a serious pressure on macro-financial indicators and adversely affect the depressed economic situation of states. According to economists, it is a high probability that inflation which has already risen in many countries due to SC interruptions and disruptions during the pandemic will be one of the most important problems in the following months and years (IMF 2022). Moreover, United Nations also reports that the war in Ukraine has adversely affected the fragile economy resulting from the pandemic, has increased food and commodity prices, and has exacerbated the global inflationary environment (UN 2023). Overall, all those geopolitical tensions, various environmental and social events continue to stress test for the global economy and SCs around the world. Therefore, the concept of SCV is becoming more important for organizations to ensure SC performance and competitiveness (ISCM 2023).

On a parallel track, operations and supply chain management (OSCM) literature points out that there is an association between SC risk management, operational performance, and organizational culture (Cadden et al. 2013; Eryarsoy et al. 2022; Acar et al. 2022). Indeed, the extremely competitive and dynamic market environment affects the organizational structures of institutions (Schleimer and Pedersen 2013). There are different organizational cultures which are mentioned in the literature. One of them is adhocracy culture (ADC) which is frequently discussed in recent studies as it is open to innovation, allows quick decision-making and action in the face of risks and pressures (Noone et al. 2024). This culture, which is based on a decentralized structure and task sharing, allows corporations to generate new ideas and knowledge. Therefore, investigating the relationship between viability, which is a broader concept than resilience, and ADC may be an interesting topic for academia. More precisely, ADC can add a certain sincerity to companies in their relationships with their suppliers.

Companies that are open to different ideas and thoughts seriously consider the comments which are sourced from their suppliers. This situation contributes to enhance information sharing (IS) and trust between buyers and suppliers. (Ha et al. 2011; Faruquee et al. 2021; Acar et al. 2022; Eryarsoy et al. 2022). As emphasized in the literature, such

collaboration between buyers and suppliers strengthens the SC competitiveness (Cao and Zhang 2011). Therefore, Hou et al. (2018) point out the values of IS and supplier trust (ST) to establish a long-term relationship between organizations. Moreover, to improve SC risk management (e.g., rapid response to consumers’ demand, forecasting sales and inventory management at low cost), collaboration with suppliers is required (Min and Mentzer 2004). These findings suggest the importance of IS and ST for the viable structure of the SC network, but the links between IS and ST have not yet been empirically examined. These two intangible capabilities are widely applied by managers within the organizations in last years. Therefore, discussing of both items are important not only for academia but also for business world.

Stress tests are relevant for understanding better SCV. Considering that most of articles discussing stress tests for SCV mobilized the COVID-19 situation (Simchi-Levi and Simchi-Levi 2020), there is a need to consider other types of stress tests. To fill this gap and as a response to the call by Ivanov and Keskin (2023) for further research to develop new methods for stress-testing SC, this research considers the high inflation rate as a crisis for operational processes. As far as the authors know, the problem of high inflation has never been discussed with the perspective of SCV. In this research, as considering the high inflation as a stress test, we examine the topic of SCV through the example of Türkiye for several reasons. First, it is the 19th largest economy in the world with a GDP of roughly \$906 billion. Second, Türkiye is a member of both OECD and the G20. Furthermore, Türkiye has been experiencing staggering rates of inflation in last years and as April 2023 it has the highest annual growth rate of inflation as 43.7% among the OECD countries (OECD 2023).

Considering these elements of discussion, the study investigates the antecedents of SCV during high inflation considering Turkish companies as a relevant sample. The focus of this research is to examine the suggested relationships between ADC, IS, ST and SCV. We expect that ADC has a positive impact on SCV. Moreover, the study presumes that IS and ST play a mediating role between ADC and SCV relationship for the hypothetical model. For this purpose, we mobilize the Resource Based View (RBV) that pinpoints there are many advantages in joint usage of organizational resources (Penrose 1959). The RBV put forward the importance of both tangible and intangible resources to achieve competitive advantage for organizations especially in dynamic ecosystems such as economic and social crisis (Wernerfelt 1984; Torgaloz et al. 2023).

The main questions raised within this research are as follows: RQ1. Does ADC within organization strengthen the SCV under high inflation environment? RQ2. Do the IS and ST play a critical role between ADC and SCV relationship? To answer these questions, and considering that there is a

call for more empirical research on SCV (Ali and Gossaye 2023), data were collected through cross-sectional surveys using items adapted from the literature. Responses from 216 SC managers provide in-depth insights into their firm's SCs. The theoretical model in the study was analyzed with structural equation modeling (SEM). The contribution of this study to the literature and the novelty of the research are two-folds: (i) We examine the effect of ADC which prioritize the decentralization within the organizations on the resilience of SC operations and (ii) we also examine the critical roles of IS and ST to provide viability in SCs under high inflation risk environment. The findings of the research seek to broad the perspective of practitioners to develop viable strategies to avoid SC disruptions. Under risk/shock situations, we present empirical evidence on the effects of ADC, IS and ST on SCV. We foresee that findings of the study will guide managers to develop effective strategies in order to prevent SC disruptions.

The rest of the study is organized as follows: Section 2 provides a brief state of the art on SCV. Then, the theoretical background and hypotheses development are depicted in Section 3. Section 4 describes the methodology followed by Section 5 which details the analysis. Results are discussed in Section 6. Finally, we present concluding remarks and future research directions in the last section.

2 State of the art on supply chain viability (SCV)

Ruel et al. (2024) argued that there is need for further research on the conceptualization of viable SCs. While SCV has been identified in the literature (e.g. Ivanov and Dolgui 2020; Ivanov and Das 2020), there is still relatively less theoretical understanding about the term. In addition, the research stream in OSCM is moving toward the issue of viability (Rostami et al. 2023). This brief state of the art aims to synthesize the knowledge and present critical factors that organizations need to consider for building viable SCs.

Risks for SCs increase as a result of disruptive events, due to the increase in uncertainties (Dubey et al. 2021). In the face of disruptions, SCs need to be viable to continue with the operations, in order to sustain the deliveries and profitability (Misbauddin et al. 2023). In this context, the term 'SCV' was designed as a response to the SC disruptions resulting from the COVID-19 pandemic (Liu et al. 2022). It is mainly about the ability of a SC to adapt, sustain, and thrive in uncertain and dynamic business environments. It is defined as the ability of a SC system to sustain itself after a disturbance, by redesigning its structure and re-planning perspective for the long-term (Ivanov 2018; Yin and Ran 2021). In the viable SC model, five dimensions are included (Ivanov 2022): organizational structure, informational

structure, technological structure, financial structure and process-functional structure, all of which refer to various organizational dimensions relevant to OSCM. Sardesai and Klingebiel (2023) considered SCV as being achieved through the adaptation policies and by measuring the effectiveness and efficiency of this adaptation. Ivanov (2022) and Lotfi and Weber (2022) suggested to include the terms as agility, resilience, and sustainability for an explanation of viable SC.

SCV is a new concept (Nasir et al. 2022), therefore it is likely to be confused with SC resilience. Zahari et al. (2023) argued that resilience and viability are inevitably closely linked, as both terms refer to issues of survivability. When explaining SCV, Ivanov and Dolgui (2020) applied a SC resilience perspective, by measuring the reaction to the disturbance via stability, reliability and robustness. In a similar vein, Ivanov (2022) argued that when a resilient SC can survive long-term disruptions by applying supply-demand management methods, it is considered as viable. While SC resilience is the ability to stand up to the effects of disruption and to achieve expected performance (Ivanov and Sokolov 2013), viability is a more behavior-driven quality (Ivanov 2020) with structural dynamics (Ivanov and Dolgui 2020). According to Sawik (2023), SC resilience is the case when there are relatively worse disturbances, whereas SCV is observed when facing severe crises. Some typical control mechanisms may not be adequate during crisis times and some structural redesign changes on the SCs may become relevant to ensure viability (Chowdhury et al. 2021). Recently, Ivanov et al. (2023) contended that viability extends resilience in that there is now more emphasis on the long-term and unpredictably huge disruptions. In other words, considering the ongoing debate, it may not be wrong to argue that SCV points to a broader term to comprise SC resilience. Sombultawee et al. (2022) argued that SC resilience and viability are similar but need to be differentiated and suggested that while resilience has a more emphasis on recovery to the original state; adaptation to the new situation is more important for SCV and that the environment with frequent disruptions would need more than just 'recovery'. SCV is not only about profitability or costs, but also about the behavioral transformations of dynamically structured or designed systems (Brusset et al. 2023); whereas resilience is viewed from a purely as a disruption-oriented perspective (Sharma et al. 2020). Finally, long-term adaptability to changing environments is more important than short-term resilience and agility when it comes to SCV (Ivanov 2022).

Overall, the conception of SCV encompasses several principles of organization and management considering theories of information, systems and network and the perspective of regarding organizations as 'open systems' is relevant to the discussion of viability, as open systems self-adaptation and control dimensions (Ivanov 2022). Therefore, there is

a need to understand how resources such as organizational culture (e.g. ADC) and capabilities (e.g. IS and ST) interplay with SCV concept. A structured exploration on the factors leading to SCV is critical for organizations to be able to allocate their resources so that they can ensure viable SCs. When facing a disruption, viable SCs can secure uninterrupted functions with their ability to adapt and recover (Ivanov 2022). Having an effective SC model could help an organization rebuild its SC structure (organizational, informational, technological, and financial) after a long-term crisis (Ivanov 2020) and thus achieve SCV.

Finally, times of high inflation have drastically changed the SCs with continuing uncertainties (Ivanov and Keskin 2023). Being a good example for super-disruptions, high inflation conditions may prove to be critical conditions to exercise and test their SCV. As high inflation conditions also bring along critical uncertainties for organizations with regard to managing their SCs, developing viability can be a good solution of being prepared. Identification of critical factors influencing SCV can help organizations to build adaptation and survival plans in the conditions of high inflation.

On one hand, some have viewed SCV as being not much different from SC resilience and criticised in that regard. Kumar et al. (2022) argued that viability is not a new concept and that it came forward with the recent SC related problems. On the other hand, as Ruel et al. (2024) have suggested, a classical resilience formula would be simply described as “disruption—backup—recovery—old normal”, whereas the viability profile would be clarified as “disruption—performance and structure degradation—adaptation-to-survive—search for ‘new normal’—stabilization in the ‘new normal’—performance recovery”. According to Ivanov et al. (2023), viability creates a holistic viewpoint that encompasses human-centeredness, sustainability, and resilience. In that manner, the bounce-forward-and-adapt view of an open, viable SC is extended by the concept of SCV from the bounce-back view of a more closed and resilient SC (Sawik 2023). Besides, there are criticisms towards SCV that it still lacks sufficient empirical proof. In that regard, this current study can be envisioned as an empirical contribution to the SCV literature.

SCV, a concept emergent from the crucible of the COVID-19 pandemic, represents a crucial yet incipient domain within SCM. While scholars such as Ivanov and Dolgui (2020) have begun delineating its contours, the field remains nascent, as acknowledged by Yu et al. (2023). The current discourse predominantly relies on qualitative methodologies (Sawik and Sawik 2023), with scant analytical or computational frameworks for operationalizing viability, particularly in the face of propagated disruptions (Sawik and Sawik 2023). Misbaudhin et al. (2023) underscore the absence of well-established measurement scales, positing

a formidable challenge in translating theoretical constructs into empirical research. Thus, the limitations of SCV lie in its infancy, marked by conceptual ambiguity and methodological lacunae.

3 Hypotheses development

It is well known that the performance of the organization is positively correlated with organizational culture, which is developed by sharing values and ideas (McDermott and Stock 1999). Specifically, culture can have a significant impact on how well an organization performs in the face of SC disruptions brought on by divergent orientations (Denison and Spreitzer 1991). Moreover, redesigning organizational structure is key to SCV (Ivanov 2022). As culture plays a significant role on structure, we may argue that a necessary reconfiguration of structure may require the involvement of cultural dimensions. This is one reason why culture is relevant to SCV. Besides, digitalization is another key factor for achieving SCV (Ruel et al. 2024). Accordingly, adhocracy culture (ADC) may act as a facilitator for increasing adaptation of digitalization. In other words, that ADC encourages innovative and pioneering activities (Grover et al. 2022) and thus can be considered as a promoter of SCV. The ability to adjust according to the changes within the environment is a crucial part of SCV (Fayezi et al. 2016). An organizational culture that promotes adaptability and innovation, such as an ADC, can play a significant role in achieving this goal. Developing a culture of collaboration was among the eight priorities suggested by Sharma et al. (2020) to meet the challenges of SCs during the pandemic. Similarly, Umar et al. (2021) pointed to the role of a collaborative culture on CS resilience and Sabahi and Parast (2020) emphasized the importance of an innovative culture for SC resilience. Enabling organizations to respond swiftly to changing circumstances. Zammuto and Krakower (1991) found that ADC is positively related with proactive strategies, which can be considered as part of SCV, as it is for SC resilience (e.g., Kim et al. 2015). In ADC, the emphasis is on the organization's capacity to adapt to a chaotic environment (Mikušová et al. 2023). This culture is flexible, externally focused, risk-taking and dynamic, allowing organizations to quickly respond to the forced changes and satisfy key external stakeholders (Noone et al. 2024; Boyd and Larson 2023; Misigo et al. 2019).

Recalling the similarity of the main premises of SC resilience and viability, as ADC can foster agility, innovation and collaboration, that are essential for ensuring the viability of SCs in today's dynamic business environments, we believe that ADC can also help to facilitate SCV. This agility is crucial for adjusting SC processes as part of SCV and for enabling organizations to respond swiftly to the changing

circumstances. Moreover, a culture of continual development is fostered by adhocracy cultures and for a SC to be viable, organizations must continually assess and improve their systems and procedures.

The importance of managing change to ensure SCV is recognized, especially in the face of complex factors like protectionist policies (Hofmann and Langner 2020; Aday and Aday 2020). Reconfiguration, as highlighted by Kumar et al. (2022) and Chandra and Grabis (2009), is a crucial criterion for achieving SCV, enabling the SC to adjust its structure by using least resources. Organizations with an ADC, which values the ability to deal with environmental changes, often adopt analyzer strategies that balance exploration and exploitation, demonstrating a high tolerance for risk (Quinn and Rohrbaugh 1983; Gupta 2011). Ultimately, the successful implementation of management techniques depends heavily on organizational values (Linnenluecke and Griffiths 2010), emphasizing the need for a culture that embraces agility, adaptability, and innovation to ensure the viability of SCs. While organizational culture has been related to SC resilience in several studies (e.g., Mandal 2017; Whiteside and Dani 2020; Acar et al. 2022), no study has so far explored the role of culture on SCV. Sparked by this gap, this study contends the first hypothesis as:

H1: There is a significant and positive relationship between adhocracy culture and supply chain viability.

ADC also serves as a valuable internal resource that companies can leverage to drive rapid product innovation, particularly during times of change (Noone et al. 2024). Strategic plans within ADC are attached on eagerness for continuous change and the acquisition of new knowledge (Misigo et al. 2019). This culture is strongly associated with perceptions of innovation, particularly in market-oriented contexts (Boyd and Larson 2023). Employees within organizations that embrace ADC are more open to share their knowledge and take risks to challenge routines and discover new solutions (Cavaliere and Lombardi 2015; Balaji et al. 2020). Additionally, organizations with ADC demonstrate increased maturity in information sharing compared to other cultural types (Gaál et al. 2010). Pereira and Mohiya (2021) noted that specifically ADC tends to stimulate information sharing. In fact, organizations with ADC stimulate trusting relationships, which in turn can improve information-sharing within the organization (Ng 2023). Thus, ADC stimulates information sharing and creates an environment where employees actively contribute to innovation and adaptability, leading to continuous improvement and success in the face of change. Accordingly, the second hypothesis is as follows:

H2: There is a significant and positive relationship between adhocracy culture and information sharing.

Balezentis et al. (2023) highlighted the importance of multiple interconnections between viable SCs and the related environment. These interconnections facilitate the exchange of information, resources, and feedback, enabling the SC to adapt and thrive in response to changing market conditions. Therefore, a widely-connected viable SCs not only owns strong internal capabilities but also establishes robust linkages with external stakeholders, creating a dynamic and responsive network which can further navigate challenges and capitalize on opportunities effectively. At this point, information sharing acts an enabler of better SC coordination and planning (Lee and Whang 2000). The study by Zhou and Benton Jr (2007) revealed that effective information sharing is significant in achieving good SC performance. In fact, information from suppliers, customers, and internal operations is processed using SC planning techniques (Zhou and Benton Jr 2007). Effective information sharing among SC partners specifically can enhance collaborative forecasting (Chen 2003). Besides, delivery performance can be improved by exchanging timely demand information within the SC (Bourland et al. 1996). In that regard, strengthening SC operations by being informed SC-wide can add to the viability.

Based on this, this study suggests the hypothesis below:

H5: There is a significant and positive relationship between information sharing and supply chain viability.

This study contends that one other variable that can explain the suggested relationship between adhocracy culture and SCV is the organizational ability and willingness to share information. Accordingly, it is contended that adopting ADC encourages the organization to share information with the stakeholders, mainly within the SC, which in turn increases SCV.

Accordingly, the following hypotheses is suggested:

H4a: Information sharing mediates the relationship between adhocracy culture and supply chain viability.

ADC places a strong emphasis on change that is designed to meet the needs of key external stakeholders (Misigo et al. 2019). The value orientation of an organization plays a role in shaping the dynamics of buyer-supplier relationships (Jajja et al. 2019). Specifically, ADC has been found to increase SC integration (Porter 2019). In fact, organizations with ADC tend to score high in terms of communication with suppliers and establish strong relations with them, eventually improving delivery performance (Sambasivan and Nget Yen 2010; Braunscheidel et al. 2010). Thus, ADC not only focuses on satisfying external stakeholders but also cultivates collaboration, information sharing, and integration with suppliers, leading to improved SC performance.

Dani et al. (2006) referred to an organization of high trust as having an ADC. This can be considered as organizations with ADC are more likely to develop trust to their supplier. In other words, trust to the supplier can be regarded as a two-dimensional term; one referring to how trustful the supplier is and the other is about how the organization is prone to establish trustful relations. In a similar vein, Mintzberg (1979) argued that organizations with adhocracies would be more likely to trust their stakeholders due to the high levels of flexibility and tolerance. Similarly, an empirical study by Owusu (2019) revealed that adhocracy cultures are the most prominent in predicting trust and improving relations with suppliers. Being informed of the related literature, the following hypothesis is suggested:

H3: There is a significant and positive relationship between adhocracy culture and supplier trust.

In order to improve collaborative relationships and boost SC performance, there needs to be more trust among SC partners (Zahari et al. 2023). Inter-organizational trust is accepted specifically as an important resilience attribute (Shi and Liao 2013). According to Zhu et al. (2024), when the cooperation within a SC is more widely-connected, SCV is higher. This notion is supported by Lotfi and Weber (2022), who argued that a viable SC is characterized by resiliency, sustainability, and agility in its network design, which points to the SC. Accordingly, when the SC network is sustainable and agile, this contributes to SCV. Zekhnini et al. (2021) emphasized the importance of organizations improving the selection of suppliers, by

considering factors such as resilience, sustainability, and digitalization capabilities, in order to ensure viability. Sharma et al. (2022) highlighted that SCV is dependent on the collaboration and buyer-supplier relationships. Viable SCs are those that establish multiple interconnections with the surrounding environment, emphasizing the importance of interconnectedness for their viability (Balezentis et al. 2023). Trust between SC partners can strengthen the organization's network capabilities to increase its capacity to deal with crises (Yin and Ran 2021), which is a large part of the viability debate. Accordingly, this study proposes the hypothesis below:

H6: There is a significant and positive relationship between supplier trust and supply chain viability.

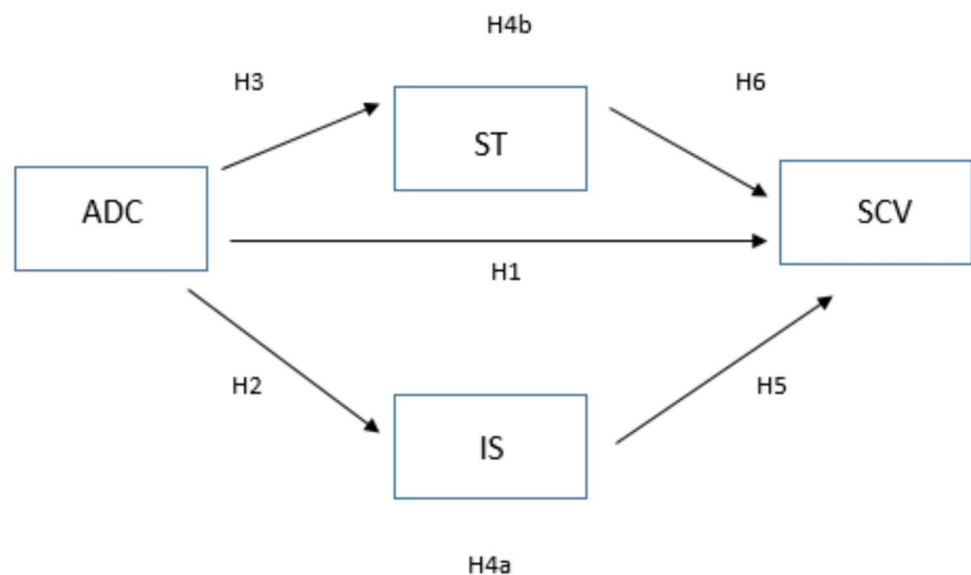
Sharma et al. (2020) argued that developing a culture of collaboration between SC entities, which will lead to trust, is essential for SC resilience, which is actually considered under the topic of SCV. As research on SCV is still in its infancy (Herbe et al. 2024), this study aims to provide a further insight into how it can be developed. The suggested mediation model is believed to contribute to this understanding.

Being informed of the relevant literature, the following hypothesis is proposed:

H4b: Supplier trust mediates the relationship between adhocracy culture and supply chain viability.

All hypotheses are shown in Fig. 1 below.

Fig. 1 Proposed Model



4 Research methodology

4.1 Measurement of variables

We settled the survey to measure our constructs as SCV, ADC, ST, and IS. ADC acts as our independent as it is posited to influence other constructs. It is the cultural framework within which other relationships interact and evolve. To measure ADC, we used 6 items measured using 7-Likert scale developed by Cameron and Quinn (1999). Both IS and ST are mediating variables. IS is considered as a process of information exchanged and shared across a SC for enhancing SC coordination and boosting its efficiency. IS is treated as a mediating variable because it is influenced by ADC and, in turn, affects SCV. We used three items measured using the 5-Likert instrument developed by Sezen (2008). ST, on the other hand, describes the level of trust between a firm and its suppliers. Trust is foundational for collaborative relationships and effective information sharing. ADC influences ST within SC, which then impacts SCV. We used five items using the 5-Likert scale to measure ST that was developed by Coote et al. (2003). The dependent variable SCV measures the ability of SC to maintain and sustain its operations in changing environments. This outcome variable is influenced by ADC directly and/or indirectly through mediators in the study. SCV is the dependent variable as it reflects the overall health of the SC. We used five items using the 7-Likert scale mobilized to measure it was developed by Ruel et al. (2024).

A self-administered questionnaire was designed for this study. Through an iterative process, the survey underwent multiple pilot phases to ascertain its content validity, refine its language, enhance its structure, and optimize its sequencing. Following this, a panel consisting of four academics and four business professionals with an expertise in OSCM, critically examined the survey and contributed to its finalization. In line with existing literature the questionnaire was meticulously settled to assess the underlying variables, namely SCV, ADC, ST, and IS. In order to achieve data homogeneity, this study exclusively focused on manufacturing companies.

4.2 Sampling and data collection

4.2.1 Initial pool identification

We gathered a list of 2500 manufacturing firms across a wide range of industries from the Istanbul Chamber of Industry and Izmir Chamber of Industry in Türkiye. This list was finalized considering its diversity and relevance to

our focus on manufacturing companies under high inflation conditions. From this list, we randomly sampled 1000 firms. This was crucial in order to ensure the sample representativeness across the population. We contacted the firms via email, using follow-ups through professional online networks like LinkedIn. This step was undertaken to maximize response rate. This dual-channel approach facilitated reaching representative respondents across various relevant departments such as but not limited to SCM, manufacturing and procurement.

4.2.2 Data collection and cleaning

From March to June 2023, survey data was gathered through email using an online questionnaire. As a result of this outreach, we contacted 521 managers. Each manager was provided with a detailed explanation of the survey's purpose. We paid special attention to emphasize the importance of clear understanding SC viability under high inflation conditions. Out of 521 managers contacted 224 of them fully completed our surveys. This reflects the targeted and informed approach of our outreach efforts. To ensure the quality and reliability of our dataset, we conducted a meticulous examination of the returned surveys. This process involved eliminating responses that were incomplete, improper, or duplicated. As a result, 216 questionnaires were retained for the final analysis.

4.2.3 Non-response bias

The distribution of respondent ranks is presented in Table 1. The data is spread across several sectors, with two-thirds originating from larger organizations. The automotive industry exhibits the highest level of concentration, with a concentration rate of 14%. Although most firms in various industries are classified as large (250 or more employees),

Table 1 The distribution of respondents, their firm sizes, and industry

		Firm Size		Totals	%
		Large	SME		
Level	Senior Manager	54	28	82	38%
	Medium Manager	92	42	134	62%
	Totals	146	70	216	100%
Industry	Chemicals	5	1	6	3%
	Textile	10	0	10	5%
	Energy	11	2	13	6%
	Food	13	5	18	8%
	Steel	15	5	20	9%
	Auto	24	6	30	14%
	Other	68	51	119	55%
	Totals	146	70	216	100%

the distribution of large and small firms across these industries exhibits significant variability. Moreover, non-response bias is not an issue for our study.

5 Analyses and findings

During the first step of analysis, we found that some variables did not conform to normal distribution. To resolve this issue, Templeton's two-step transformation approach (Templeton 2011) was used to normalize these variables to reach acceptable levels of normality. For the evaluation of our suggested theoretical model, the R language's lavaan package is considered. Figure 1 shows the research model. A confirmatory factor analysis (CFA) was conducted to verify the reflective constructs. Subsequently, each of the constructs' reliability and validity of the model were analyzed (Byrne 2013). We evaluated both convergent and discriminant validity aspects. Convergent validity involves how well the indicators of a construct come together to measure the underlying concept, whereas discriminant validity explores the uniqueness of the constructs. To gauge the comprehensive validity of our research framework, we utilized the techniques of Structural Equation Modeling (SEM) as outlined by Byrne (2013). There are two major reasons as to why we chose SEM over other methods. First and foremost, our study focuses on the direct and mediated links between ADC and SCV, with two mediators: IS and ST. SEM is ideal for analyzing complex relationships among observed and latent variables as it can simultaneously assess the relationship among the measurement and the structural model. The second reason for employing SEM is that it allows for the inclusion of latent variables measured by various indicators. Furthermore, SEM enables us to assess the adequacy of our model in capturing intricate connections among variables.

To ensure the validity of our SEM model, it is critical to assess the interrelationships among our constructs and check for the multicollinearity within our data. This process involves critically examining the consistency between our suggested model and the dataset, while also checking for multicollinearity that might influence the link among our constructs. To this end, Table 2 shows the correlation values.

5.1 Reliability and validity

5.1.1 Construct validity and reliability

To assess uni-dimensionality and construct validity, a Confirmatory factor analysis (CFA) was applied. We utilized maximum likelihood estimations when calculating the parameters of the model. The χ^2 statistic was 387.93 (degrees of freedom = 217, $p < 0.05$), with the χ^2/df ratio at a value of 1.78 which is less than 3.0 (between 0 and 3

with lower values suggesting a better fit). The other indices GFI=0.87, AGFI=0.83. These results are near to 1.0 (considering that a value of 1.0 indicates perfect fit). CFI=0.91, TLI=0.90, and RMSA=0.06. All of these indicators show that the measurement model met the required threshold values. The findings of all constructs showed that the measurement models for all four constructs indicated construct validity.

In this research, the Cronbach's alpha values for each construct were also calculated. These values for ADC, IS, ST, and SCV constructs were as 0.94 ($\mu=4.6$, $\sigma=1.2$), .83 ($\mu=3.87$, $\sigma=0.87$), .93 ($\mu=3.74$, $\sigma=0.79$), and .93 ($\mu=5.1$, $\sigma=1.2$) respectively. Additionally, Table 3 provides more detailed information.

In addition, the standardized regression weights for all variables are greater than .60 and significant for $p < .01$. Cronbach's alpha (CA) values measure the constructs' internal consistency and exceeded .80, showing satisfactory construct reliability levels (Bagozzi and Yi 1988).

Table 3 also shows the results of multicollinearity analysis using the variance inflation factor (VIF) values. The detailed information is given in Table 3. Generally, VIF values exceeding 5 (Hair et al. 2010) or 10 (Chatterjee and Hadi 2012) suggest noteworthy collinearity for a variable. Every calculated VIF value was below the critical threshold of ten, leading us to the conclusion that multicollinearity does not present a substantial concern.

5.1.2 Convergent and discriminant validity

Convergent and discriminant validity stand as crucial components of construct validity, evaluating the instrument's effectiveness in measuring the intended construct. To evaluate convergent validity, we employed the Average Variance Extracted (AVE) measurement technique. In accordance with the guidelines provided by Fornell and Larcker (1981), AVE values that surpass 0.50 are generally deemed as satisfactory. Moreover, the presence of statistically significant Standardized Regression Weights (SRW) indicates that every observed variable significantly predicts its corresponding underlying construct (Table 3). We therefore conclude that convergent validity is substantiated.

We employed three methods to confirm discriminant validity. The first approach involved the theoretical framework proposed by Fornell and Larcker (1981). As detailed in Table 4, it is evident that the square roots of AVE for each unique construct surpass the corresponding inter-construct correlation values. This pattern signifies a satisfactory level of discriminant validity. Second, following Venkatraman (1989) to further scrutinize the discriminant validity. A significant reduction in the χ^2 scores for the unconstrained model provide strong statistical evidence corroborating the model's discriminant validity. Venkatraman (1989) suggests

Table 2 Correlation matrix

	SCV1	SCV2	SCV3	SCV4	SCV5	IS1	IS2	IS3	ADC1	ADC2	ADC3	ADC4	ADC5	ADC6	ST1	ST2	ST3	ST4	ST5
<i>Mean</i>	5,20	5,16	5,04	5,32	5,66	4,68	4,50	4,40	4,98	4,73	3,88	3,74	3,75	3,66	3,64	3,85	3,69	3,94	3,94
<i>Std. Dev.</i>	1,47	1,43	1,39	1,41	1,33	1,69	1,63	1,68	1,50	1,69	0,83	0,85	0,86	0,87	0,86	1,12	1,11	1,04	1,01
SCV1	1,00	.673**	.677**	.660**	.598**	.402**	.355**	.363**	.383**	.423**	.438**	.574**	.524**	.460**	.395**	.435**	.439**	.359**	.387**
SCV2		1,00	.770**	.602**	.528**	.374**	.374**	.363**	.493**	.514**	.499**	.506**	.540**	.396**	.293**	.359**	.357**	.318**	.296**
SCV3			1,00	.722**	.583**	.394**	.381**	.347**	.477**	.545**	.541**	.627**	.613**	.510**	.397**	.401**	.443**	.358**	.386**
SCV4				1,00	.655**	.375**	.430**	.359**	.445**	.474**	.456**	.613**	.586**	.557**	.357**	.400**	.406**	.292**	.291**
SCV5					1,00	.449**	.458**	.410**	.530**	.565**	.560**	.580**	.587**	.468**	.450**	.516**	.491**	.389**	.351**
IS1						1,00	.577**	.509**	.315**	.327**	.330**	.385**	.301**	.317**	.390**	.379**	.358**	.324**	.311**
IS2							1,00	.655**	.336**	.300**	.301**	.382**	.402**	.310**	.380**	.419**	.422**	.350**	.336**
IS3								1,00	.289**	.288**	.305**	.413**	.356**	.357**	.364**	.421**	.388**	.420**	.374**
ADC1									1,00	.851**	.794**	.662**	.733**	.472**	.308**	.307**	.279**	.256**	.236**
ADC2										1,00	.894**	.720**	.752**	.556**	.379**	.380**	.316**	.296**	.307**
ADC3											1,00	.769**	.747**	.606**	.355**	.341**	.285**	.268**	.293**
ADC4												1,00	.778**	.714**	.434**	.422**	.419**	.369**	.390**
ADC5													1,00	.632**	.318**	.349**	.317**	.249**	.258**
ADC6														1,00	.316**	.304**	.273**	.255**	.270**
ST1															1,00	.845**	.800**	.764**	.761**
ST2																1,00	.822**	.818**	.787**
ST3																	1,00	.792**	.768**
ST4																		1,00	.858**
ST5																			1,00

**Correlation is significant at the 0.01 level (2-tailed)

Table 3 Assessment of the measurement model

Item	Item Question	Model SRW ^a	VIF
SCV1		0.79	2.75
SCV2		0.69	2.84
SCV3		0.81	3.56
SCV4		0.83	3.08
SCV5		0.76	2.79
ADC1		0.74	4.03
ADC2		0.80	6.93
ADC3		0.83	6.06
ADC4		0.92	3.77
ST1		0.90	4.14
ST2		0.93	5.14
ST3		0.89	3.94
ST4		0.87	4.97
ST5		0.85	4.34
IS1		0.69	1.57
IS2		0.83	2.04
IS3		0.77	1.83
IS4		0.75	2.16

^aModel standardized regression weights are significant at $p < 0.01$

that a χ^2 difference value associated with a p -value below 0.05 typically provides confirmation of discriminant validity. Table 5 presents the results of six pair-wise discriminant validity tests supporting for the stated criterion. As a third approach, the discriminant validity was achieved through the Heterotrait-Monotrait (HTMT) ratio criterion, as suggested by Franke and Sarstedt (2019). This technique confirms discriminant validity when HTMT values do not exceed 0.9. Tables 4 and 5 reveals four distinct constructs, thereby providing strong support for the discriminant validity.

5.1.3 Common method Bias (CMB)

We conducted an examination for the existence of Common Method Bias (CMB), a potential issue in research where predictor and response variables originate from the same source, potentially leading to erroneous associations. To determine whether CMB was a significant factor in our

Table 5 Assessment of Discriminant Validity

Test #	Description	Chi-squared Constrained Model (df)	Chi-squared Unconstrained Model (df)	Difference
1	ADC–IS	77.81, df=31	63.53, df=30	14.28***
2	ADC–SCV	270.96, df=85	266.88, df=84	4.08**
3	ADC–ST	96.47, df=40	71.80, df=39	24.67***
4	IS–SCV	144.28, df=61	132.19, df=60	12.43***
5	IS–ST	93.25, df=25	37.54, df=24	55.71***
6	SCV–ST	180.96, df=73	158.58, df=72	22.38***

* $p < .1$; ** $p < .05$; *** $p < .01$

study, we utilized the single-factor test outlined by Harmon, operationalized through Confirmatory Factor Analysis (CFA) (Malhotra et al. 2006). Using this approach, we explored whether a predominant portion of the variance in our study could be attributed to a single factor, which serves as an indicator of significant CMB. The results, however, suggested that the common method variance accounted for a mere 16.81% ($0.41^2 = .1681$) of the total variation, well below the critical threshold of 0.50 (Podsakoff and Organ 1986).

Hulland et al. (2018) criticize using only original CFA and Harman single factor without marker variable to assess common method bias. We therefore designated three competing models. The first one contained the original confirmatory factor model, the second one used a common latent factor which connects all the indicators without marker variable (Harman single factor with CFA), and the third one included all indicators and the marker variable. In the third model, items from SCD construct that were not included in the instrumental variable analysis for endogeneity, due to their absence of correlation with other model constructs. These items are given in Appendix 1. Comparing these models (Model 1: $\chi^2/df=2.42$, $NFI=0.91$, $CFI=0.95$, $RMSA=0.08$, Model 2: $\chi^2/df=2.79$, $NFI=0.90$, $CFI=0.93$, $RMSA=0.08$, Model3: $\chi^2/df=2.72$, $NFI=0.88$, $CFI=0.92$, $RMSA=0.08$) indicated no significant difference in model fit (Table 6). Therefore, common method bias is not a concern for this study.

Table 4 Discriminant validity using Average Variance Extracted (AVE)a, and Heterotrait Mono-Trait (HTMT)

[AVE] [HTMT]	CR	AVE	MSV	ADC	IS	SCV	ST
ADC	0.949	0.789	0.306	<i>[.915] • [n/a]</i>			
IS	0.897	0.636	0.458	<i>[.445] • [.497]</i>	<i>[.821] • [n/a]</i>		
SCV	0.938	0.792	0.458	<i>[.671] • [.720]</i>	<i>[.563] • [.645]</i>	<i>[.847] • [n/a]</i>	
ST	0.840	0.567	0.413	<i>[.404] • [.419]</i>	<i>[.456] • [.509]</i>	<i>[.499] • [.531]</i>	<i>[.917] • [n/a]</i>

^aItalicized values on the diagonal are the square root of the AVE values

Table 6 Common method bias tests

Correlation between	Original corrected correlation (first model)	Harman single factor with CFA (second model)
ADC–IS	.46***	.38***
ADC–SCV	.68***	.63***
ADC–ST	.41***	.29***
IS–SCV	.64***	.55***
IS–ST	.52***	.46***
SCV–ST	.55***	.40***

* $p < .05$; ** $p < .01$; *** $p < .001$

5.1.4 Endogeneity

To comprehensively investigate the potential concern of reverse causality between ADC, ST, IS, and SCV, as emphasized by Lu et al. (2018), we considered it imperative to evaluate the existence of endogeneity. Consequently, we carried out a comprehensive series of tests to ascertain the potential impact of endogeneity. In particular, we employed a model featuring two instrumental variables to investigate the possible presence of endogeneity. Our instruments consisted of the average of four items related to SC digitalization (SCD) and the position of the respondent (1 for senior manager, 0 for middle-manager respondent).

To evaluate the endogeneity, we employed both the Durbin–Wu–Hausman. A suitable instrumental variable should exhibit no correlation with the errors but should demonstrate a strong correlation with the explanatory factor(s).

In accordance with the two-stage least squares (2SLS) procedure (Table 7), we first regressed ADC on instrumental variables Position and SCD. Position and SCD has significant coefficients of 0.55 ($p < 0.01$) and 0.34 ($p < 0.001$) respectively, lending credibility to their use as instrumental variables. In the second stage, we applied the residuals from the first stage as an additional regressor in our model where the mediator served as the dependent variable (ST).

Our 2SLS estimate for the ADC parameter was 0.35 ($p < 0.01$), suggesting a strong positive relationship with the

Table 7 Endogeneity Test

Endogeneity Test for ADC	ADC (OLS)	ST (OLS)	ST(2SLS)
Variable/Factor	First Stage	Second Stage	
ADC		.35**	.35**
Position	0.55**		
SCD	0.34***		
Error		−0.16	

Wu-Hausman test statistic $F(1,213) = 4.15$

P value = 0.052

dependent variable. However, when we included the residuals from the first stage regression as a control in the second stage, the coefficient estimate for these residuals was -0.16 , a statistically non-significant value. This lack of significance indicates that the residuals from the first stage regression were not significantly associated with the dependent variable, providing evidence that ADC was not endogenous in our model.

5.2 Hypotheses testing

We employed Structural Equation Modeling (SEM) analysis to evaluate the hypotheses. The results of the structural model displayed in Figs. 2 and 3. The model fit indices - including the chi-square statistic, degrees of freedom, and various fit indices - fall within the accepted ranges. This suggests the model aligns well with our data. Specifically, we observed a χ^2 of 336.463 with a significance level less than 0.01, and $df = 128$. The ratio of χ^2 to degrees of freedom amounted to 2.63. In terms of fit indices, the Goodness of Fit Index (GFI) was 0.86, Adjusted Goodness of Fit Index (AGFI) was 0.81, Comparative Fit Index (CFI) was 0.94, Tucker-Lewis Index (TLI) was 0.93, Incremental Fit Index (IFI) was 0.94, Relative Fit Index (RFI) was 0.88, and the RMSEA was 0.08. These indices align with the accepted standards outlined by Schumacker and Lomax (2016), substantiating the good fit of our model with the data.

In the research, H1, H2, H4, and H5 are significant. In other words, the relationships between ADC and SCV (H1), ADC and ST (H2), ADC and IS (H3), ST and SCV (H5) and IS and SCV (H6) revealed standardized regression weights of .44, .41, .46, and .23 and .33 respectively.

With regard to the mediation hypotheses (H4a and H4b), the traditional Sobel test approach (Baron and Kenny 1986) was first employed to check the mediation effects of IS and ST on the relationship between ADC and SCV. The findings revealed that IS fully mediates the relationship between ADC and SCV (Sobel test statistics = .59; $p < .05$). In addition, ST shows a full mediating effect on the link between ADC and SCV (Sobel test statistics = 1.29; $p < .05$). Such findings validate the full mediation effects of IS and ST. Indeed, they indicate that the effect of ADC and SCV is fully mediated by IS and ST, confirming both H4a (ADC $\rightarrow$ IS $\rightarrow$ SCV) and H4b (ADC $\rightarrow$ ST $\rightarrow$ SCV). The detailed information is given in Table 8.

6 Discussion

This study broadens the OSCM literature via investigating the effects of organizational factors (i.e. ADC, IS and ST) on SCV. Up to date, although some studies have shown the importance of organizational capabilities on SC resilience

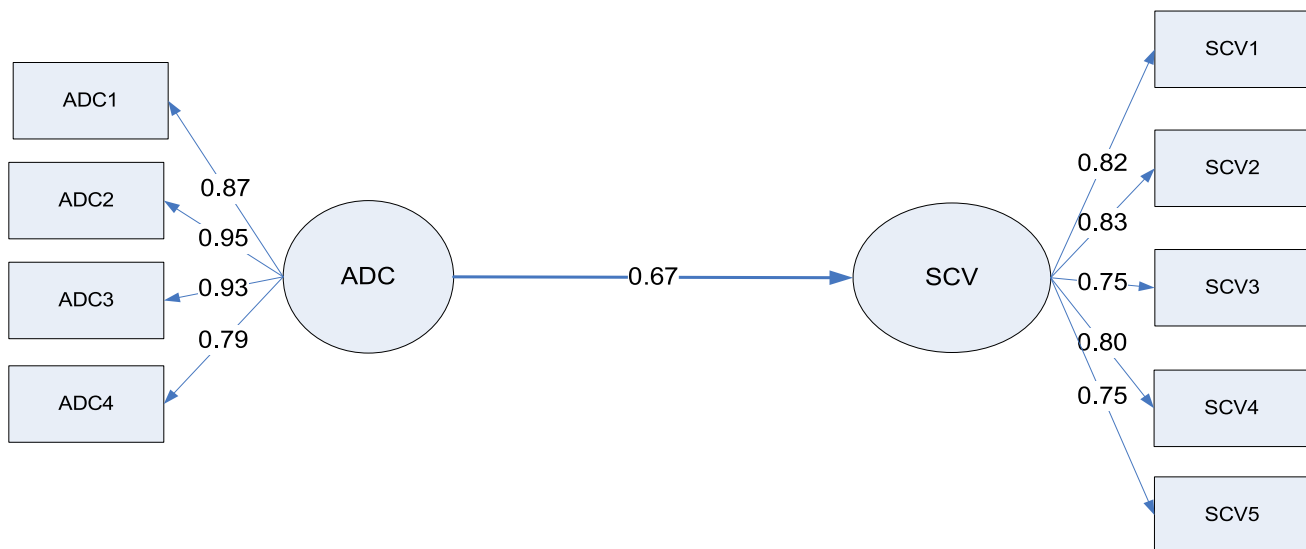


Fig. 2 Results of the model without mediation

(Norman et al. 2005; Acar et al. 2022; Eryarsoy et al. 2022), there is hardly any study examining the impact of those on SCV. This study indicates that organizational resources,

as intangible resources (Wernerfelt 1984; Torgaloz et al. 2023), are an interesting paradigm for SCV and that RBV tenets are applicable for SCV conceptualization. In other

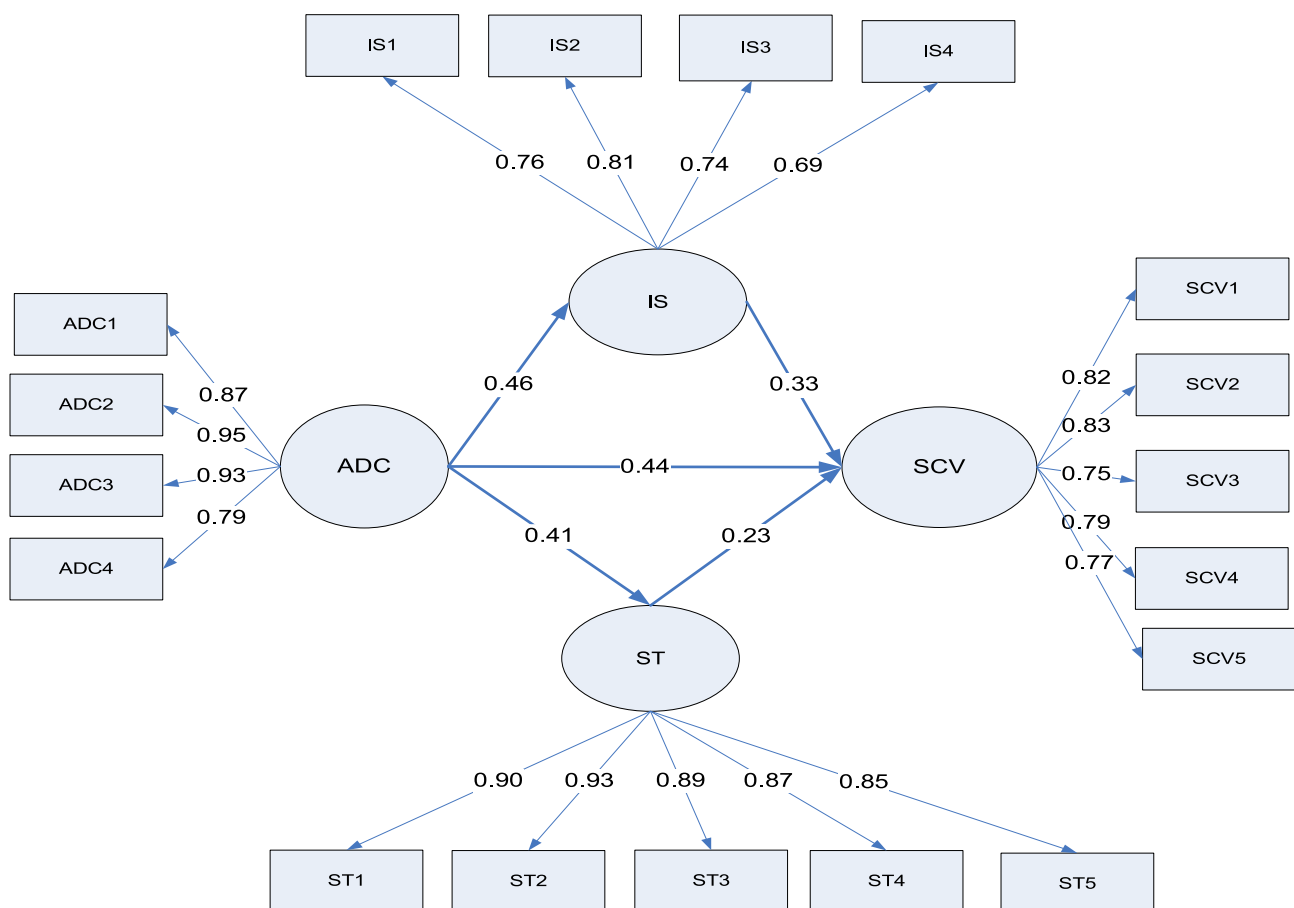


Fig. 3 Results of the model with mediation. * $p < .05$; ** $p < .01$

Table 8 Hypotheses testing results

Hypotheses	Total effect	Direct effect	Indirect effect (CI)	Level of support
<i>Direct effects</i>				
H1: ADC → SCV	.67**		–	Supported
H2: ADC → IS	–	.46**	–	Supported
H3: ADC → ST	–	.41*	–	Supported
H5: IS → SCV	–	.33**	–	Supported
H6: ST → SCV	–	.23**	–	Supported
<i>Indirect effects</i>				
H4a: ADC → IS → SCV		.44	.152* (.067–.192)	Supported
H4b: ADC → ST → SCV		.44	.094** (.032–.146)	Supported

* $p < .05$; ** $p < .01$ (two-tailed)Bootstrapping $N = 5000$

words, the research contributes to a better understanding of the importance of ADC, IS and ST in the organization and its inter-organizational relationships. As mentioned before, although there is much research in the strategy and organizational behavior literature regarding organizational resources (Quinn and Rohrbaugh 1983; Hartnell et al. 2011), we prove again that organizational theory should be more mobilized in OSCM. Therefore, we seek to fill this gap for OSCM literature and, the current study offers different views on viability from the perspective of RBV. This point of view has not been tested up to date with high inflation environment.

In short, the research analyzes the effects of ADC, IS and ST on SCV under the pressure of high inflation. A proposed model based on discussed variables is considered to investigate the seven different hypotheses.

Findings of the study point out the importance of ADC, IS and ST for SCV. The outcomes indicate that ADC triggers the SCV. Moreover, both IS and ST mediate the relationship between ADC and SCV. Literature shows that ADC can help corporations to communicate with stakeholders and this situation leads positive outcomes (Ogbonna and Harris 2000). In this context, like the findings of Sakikawa (2022) and Noone et al. (2024), results of the paper indicate that ADC has a positive effect on SCV. Furthermore, our findings related to the importance of IS and ST for SCV are parallel with literature (Zhao et al. 2023; Cao and Zhang 2011; Hou et al. 2018).

6.1 Theoretical implications

In the existing OSCM literature, a few studies consider the importance of organizational culture (Noone et al. 2024). To complement relevant research, we examine how organizational capabilities such as ADC, IS, and ST are effective in sustaining the viability of operational flow in times of unexpected shock and under stress test (i.e., inflation). The results of the research indicate the positive effect of ADC on SCV, and the mediation effects of IS and ST for this

relationship under high inflation environment. Therefore, we draw attention to the importance of having these competencies for organizations to survive better through shocks and crises.

The ADC's focus point is "to foster adaptability, flexibility and creativity if uncertainty, ambiguity, and information overload are typical" (Cameron and Quinn 2011, 49). Therefore, this type of organizational culture may have different advantages in dynamic, competitive and stress environments such as producing new products and services and deciding fast (Andrianu 2020). Literature reveals that ADC helps organizations to organize the relationships with stakeholders and therefore this is considered as an advantage for the coordination of operations (Ogbonna and Harris 2000). Moreover, Sakikawa (2022) and Noone et al. (2024) show that ADC affect SCV positively. In addition, an important feature of ADC is decentralization (Woickicki 2019; Chege et al. 2022). Decentralized structures allow organizations to respond to the shocks quickly in times of crisis (Zammuto and O'Connor 1992) and leads to flexibility in organizational decision-making (Hill et al. 2000). In contrast, centralization may constrain organizations in their production operations (Argyris and Schön 1978). Furthermore, according to the literature, organizations which have ADC can easily communicate with suppliers and customers and this situation affects organizational performance positively (Ogbonna and Harris 2000). To sum up, similar to the findings of previous studies (e.g. Sakikawa 2022; Noone et al. 2024), analyses of this study show that ADC has a positive effect on SCV. In other words, similar to the relation of organizational culture to the SC resilience largely referred within the literature (e.g., Mandal 2017; Whiteside and Dani 2020; Acar et al. 2022), the research emphasized the importance of ADC for SCV.

This study proposes a theoretical model that assumes ADC is an antecedent to SCV, while asserting that ST and IS have mediating effects in this relationship. At the end of analysis, our results confirm that both ST and IS have a mediating effect. Literature claims that IS provides advantages

to members in the SC (Zhao et al. 2023). Similarly, this research reveals the importance of IS for SCV. In addition, extant research shows the significance of ST for the SC (Cao and Zhang 2011; Hou et al. 2018). Like IS, our findings also indicate the importance of ST for SC operations. Many studies claim IS and ST enables firms to achieve competitiveness and sustainability (Alzoubi and Yanamandra 2020; Ramakrishna 2016; Ciccullo et al. 2018; Hou et al. 2018), with preparing organizations to respond to the different disruptions effectively (Bargshady et al. 2016; Mustafid and Jie 2018). In short, similar to the research by Yin and Ran (2021) and Zhao et al. (2023) showing that ST and IS can strengthen the organization's resilience capability, this study points out the critical role of these resources for SCV. Moreover, the study aligns with the theoretical framework of RBV by highlighting that an ADC is a valuable intangible resource that can positively influence SCV when supported by effective IS and ST. So, from a RBV perspective, the organization's unique resources and capabilities play a pivotal role in achieving SCV that can be considered as a sustainable competitive advantage.

In addition, this research is the first to mobilize the measurement scale of SCV developed by Ruel et al. (2024) and it reveals that the scale was very applicable to understand and measure the SCV, both by the participants and the researchers. Considering the feedback from the respondents, the scale was very helpful to conduct and easy to use for the framework of this study. In conclusion, the results of this study show compatibility with the literature in that all hypotheses were supported and may serve as an example for future (and needed) empirical SCV research.

6.2 Managerial implications

In addition to the aforementioned theoretical contributions, the results of this study present some valuable management insights for organizations. The findings indicate that ADC, IS and ST are critical for SCV. Therefore, decision makers should consider these three factors in operational processes. Different managerial implications that may be helpful for practitioners are as follows.

Specifically, our results provide practical implications in terms of understanding how the interplay of organizational and relational resources can help build SCV. First, fostering an adhocracy culture should be a top priority for businesses, since it serves as a foundation for their long-term resilience. This type of culture, in fact, promotes the creation of supplier trust. In other words, a company that values decentralization can also communicate this mindset to its SC partners. Second, establishing a good-quality relationship with stakeholders, including trust, is very vital for organizational survival, and for operational viability. Against any future disruption, as in the case of COVID-19, companies need to

be prepared by establishing trust-based relations with their suppliers.

Classical organizational structures usually consider stable economic environments and contain hierarchical structure. However, in recent years the business world has had chaotic situations. Traditional organizational structures may be late in responding to change and crises, but ADC enables organizations to be flexible and effective in unpredictable times because it gives importance to flexibility, innovation and cooperation (Galbraith 2014). According to literature, organizations with ADC are more innovative (Mintzberg 1989). Therefore, many global companies such as Google, NASA, UNICEF, Wikipedia have adopted this culture in their organizations. At this point, the top management of organizations should give more authority to the employees and support self-improvement activities such as in-house training, promotion for projects and cooperation with customers (Puddu 2023). Developing ADC in OSCM requires strong leadership support and endorsement of innovation and risk-taking. Empowerment is key because it grants employees the autonomy and authority to make decisions. Encouraging a culture of open idea-sharing and fostering a continuous learning environment allows for the exploration of new approaches that may be necessary to foster SCV. Acceptance of failure (which often happens when dealing with super-disruptions – as shown during the COVID-19 context) as part of the learning process is vital to encourage OSCM employees to take innovative decision and, somehow, calculated risks. Additionally, fostering cross-functional and inter-organizational collaboration breaks down barriers and encourages diverse perspectives. Overall, managers are encouraged to consider that ADC empowers individuals, fosters creativity, and enables adaptability, resulting in a dynamic and innovative OSCM environment. However, we recognize that implementing ADC in a high inflation environment may pose challenges, such as resource constraints and increased risk perception. However, we believe it is achievable with creative resource allocation, fostering adaptability and emphasizing long-term vision (at the heart of SCV) amidst short-term pressures. Rethinking SC strategies and prioritizing high-impact initiatives are essential for success in a dynamic economic landscape.

Until the Covid-19 pandemic, companies often considered trust internally and in their relationships with customers. However, in recent years, the frequent interruption of SCs due to economic and social problems has given institutions a different perspective. In other words, managers have better grasped the importance of trust in the supplier. The importance of trust in suppliers plays a critical role in organizing a sustainable SC. Trust between suppliers and buyers strengthens transparency. Once this trust is built, managers within the network seek to protect the interests of the SC. While this provides new opportunities when things go well,

it ensures sustainability in unexpected crises (Vitasek et al. 2022).

According to SC experts, improved coordination in SC, high quality and reduced operational costs are directly related to IS and ST (Koçoğlu et al. 2011; Hou et al. 2018). Information is an intangible capability for corporations. Wal-Mart, Toyota, Chevron and Dell have organized IS effectively, and therefore they gain competitive advantage against to competitors (Hult et al. 2006; Zaim 2005). In comparison to tangible resources, a value of IS increases rather than decreases with sharing. IS in SC needs technological infrastructure (e.g., ERP) and this point is so crucial to improve SC performance. Therefore, companies should invest their technological capacities to organize IS with suppliers effectively. Especially in unexpected crisis environments, we can think that the technological infrastructure and IS will accelerate the decision-making processes of companies and therefore this supports the SCV environment.

In addition, as part of potential high-impact initiatives, leveraging technology and data analytics facilitates agile decision-making, and continuous monitoring ensures progress and enables ongoing adjustments. Therefore, digitalization should be considered as a way to improve both IS and ST. As mentioned in the literature, digitalization is a part of SCV (Hofmann and Langner 2020). Especially after the COVID-19 pandemic, SC digitalization has become a necessity for SC survivability. The McKinsey report states that institutions that digitize their SCs can increase their annual revenue by 2–3% (Gezgin et al. 2017). However, despite several advantages, many organizations are still undecided. It can be said that a significant number of organizations on a global scale are distant from digitalization (Hippold 2021). Lack of trust for SC data, confidentiality issues between SC entities, supply and questions about its true value are major factors that prevent companies from digitizing in their operations (Chang et al. 2023). Therefore, managers must effectively manage IS with both suppliers and retailers to ensure the accuracy of SC data and increase trust. In short, digitalization and IS are complementary elements for each other.

7 Conclusion

Nowadays, there are many different factors that have disrupted SC operations. In particular, with the COVID-19 pandemic, organizations have noticed the severity of SC disruptions. This study investigates the impact of organizational resources such as ADC, IS and ST on SCV under the pressure of high inflation which have experienced by many countries in last times. A theoretical model based

on organizational capabilities is proposed to investigate the effects of variables on SCV. Seven different hypotheses were posed and tested with the help of different measurement scales adapted from the literature. Survey respondents are medium-to-senior level managers who have detailed knowledge of the company's SC and production operations. We used the lavaan package in R to test the proposed research model and covariance-based Structural Equation Modeling (SEM) as a method. The model proposed in the study was empirically validated with 216 participants survey. Five of the seven hypotheses (H1, H2, H3, H5, H6) point to direct effects between ADC, IS, ST and SCV. H4a and H4b claim that IS and ST mediate the relationship between ADC and SCV.

Our findings highlight the importance of organizational resources such as ADC, IS and ST for SCV. This topic has not been studied up to date under high inflation stress test. While our findings indicate that IS and ST mediate the relationship between ADC and SCV, future research may enrich this model by including different organizational structure types as: network, functional, flat and hierarchical structures. Moreover, further research can be conducted to explore questions as: “which types of cultures other than ADC such as; clan, hierarchical, learning and competing play an important role for SCV?” and “In which sectors (manufacturing or service) does the SCV become increasingly important?”. Additionally, future studies can also analyze the effects of digitalization on SCV, because there are lots of discussions on this issue within the academic and business environment. We believe these questions can be investigated using quantitative (e.g., survey-based methodology) or qualitative research methods (e.g., in-depth practitioners' interviews). Furthermore, future research can explore whether triggers of SCV change under different stress tests like political crises or not. Moreover, in this study we have considered only manufacturing companies in order to ensure the level of homogeneity. Forthcoming research can also compare the findings of this study with those of organizations which operate within a service industry.

Like any study, this research also comes with certain limitations. The questionnaire was collected from only one country, so our advice to researchers is to test the theoretical model with datasets collected from different countries. In addition, although the survey considers tall manufacturing industry, one specific sector can be focused on and examined in a further study. Finally, different moderators such as local/foreign firms and organization age can be added to the conceptual model.

Appendix 1 Measurement of constructs*

Construct	Items	Source
Supply Chain Viability (SCV)	My company is able to: SCV1 Build sustainable operational systems SCV2 Develop systems able to respond to new market models (e.g., omni-channel) SCV3 Develop systems able to respond to new business models (e.g., circular economy) SCV4 Develop systems able to respond to positive disruptions (e.g., innovations) SCV5 Implement S&OP process	Ruel et al. 2024

Construct	Items	Source
Adhocracy Culture (ADC)	ADC1 The organization is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks. ADC2 The leadership of the organization is generally considered to exemplify entrepreneurship, innovation or risk-taking. ADC3 The management style in the organization is characterized by individual risk-taking, innovation, freedom, and uniqueness. ADC4 The glue that holds the organization together is commitment to innovation and development. There is an emphasis on being the cutting edge. ADC5 The organization emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued. ADC6 The organization defines success on the basis of having the most unique or the newest products. It is a product leader and innovator.	Cameron and Quinn 1999

Construct	Items	Source
Supplier Trust (ST)	ST1 My supplier is honest and truthful. ST2 Promises made by my supplier are reliable. ST3 My supplier is open in dealing with me. ST4 I have great confidence in my supplier. ST5 My supplier has a high degree of integrity.	Coote et al. 2003
Information Sharing (with suppliers) (IS)	IS1 Our firm and its suppliers share their capacity planning information IS2 Our firm can easily monitor the status of its orders IS3 Our firm can easily find information about the suppliers' products and prices	Sezen 2008
Supply Chain Digitalization (SCD)	SCD1 In general, your company always applies digital technologies to transact with suppliers. SCD2 Your company transacts with a high proportion of customers through digital technologies SCD3 Your company conducts high transactional volume with customers through digital technologies. SCD4 In general, your company always applies digital technologies to transact with customers	Liu and Chiu 2021

*Seven-point Likert, ranging from 1 (strongly disagree) to 7 (strongly agree) for SCV, ADC and SCD, five-point Likert, ranging from 1 (strongly disagree) to 5 (strongly agree) for ST and IS

Data availability Data can be available upon request by email.

Declarations

Competing interests The authors report there are no competing interests to declare.

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