



# Managerial Paradox Toward Flexibility: Emergent Views Using Thematic Analysis of Literature

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**Abstract** *The organizational flexibility finds a substantial place in the literature; however, limited evidence of its institutionalization by managers is noticed. This paper analyzes the managerial paradox toward flexibility in managing business complexity, uncertainty handling, organizational reorientation, and structuring decisions across organizational functions. Thematic analysis is used to investigate the managerial flexibility paradox. The literature is identified in three categories related to workplace, frameworks or concepts, and business environment. It further shows two kinds of orientations: the first one deals with concerns in the implementation of flexibility, and the second showcases the concomitant benefits or performance. The literature related to concerns deals with uncertainty and risk management, while the performance-related literature deals with the augmentation of flexibility theories. The practicing manager seeks advice in the literature to implement the concepts of flexibility and finds its limited availability. This is the prime reason for the emergence of managerial paradox. This paper recommends that future contributions should emphasize the guidelines for flexibility adoption while expounding the flexibility*

*theories. The findings presented in this paper can potentially draw the attention of academicians and practitioners to devise the ways to implement and enhance organizational flexibility.*

**Keywords** Flexibility paradox · Flexibility practices · Flexibility implementation · Managerial flexibility · Organizational flexibility · Workplace flexibility

## Introduction

Managerial flexibility is valued as a strategic asset (Tendam 1987). The importance of managerial flexibility resulted in “Managerial Flexibility Act 2001” introduction in the US senate (Managerial Flexibility Act 2001). This is legislator visualization flexibility that provides freedom to manage and influence the employee’s management, retirement, personal property, separation, and retirement provisions. The literature suggests the need for flexibility for organic structure, innovation, planning, and entrepreneurial organizations in the dynamic environment (Eppink 1978; Mintzberg 1980, 1989). Managerial flexibility institutes positive changes in top and bottom line performers (Sullivan 1994).

Two distinct types of contributions are observed on managerial flexibility. The first deals with how managerial flexibility helps the organization performance, and the second deals with how the managerial flexibility is impacted by organizational policies and resources. Flexibility is a capability nurtured systematically over a period of time through various initiatives. The flexibility enhances the organizational efficiency and performance which attracts managerial attention. The convergence of efficiency, agility, systems thinking, strategy, and performance

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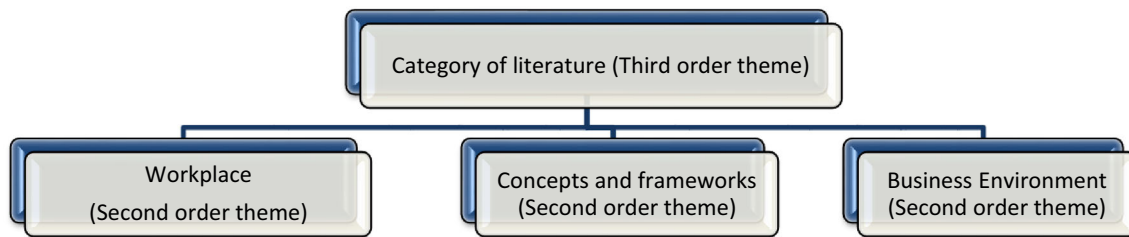
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**Fig. 1** Organization of the literature

for flexibility is observed (Ebben and Johnson 2005; Nadkarni and Narayanan 2007; Sharma et al. 2010a; Subramanyam et al. 2012; Chowdhury and Jangle 2018; Khorasani 2018; Shukla and Sushil 2018, 2020a, b). The flexible systems focus on core activities, avoid wastage of effort, and institute reconfiguration capabilities enabling organizations to adapt to a new situation for strategic goals (Melnik et al. 2019). The process-based flexibilities result in well-organized manufacturing, productive R&D effort, and financial performance (Narasimhan et al. 2004; White et al. 2005; Sherehiy et al. 2007; Deng et al. 2014). The sustenance and vitality are other predominant upshots of flexibility facilitated by organizational change (Sushil 2012a, b, 2013). The flexibility helps to hedge against the uncertain business environment and build performance (Marschak and Nelson 1962; McKeown 2012). Competitiveness and organizational design endorse viable actions for flexibility (Volberda 1992, 1996, 1997). The supply chain integration, flexibility, and barriers are a special concern of uncertainty management (Chowdhury et al. 2018; Lu et al. 2018). Incorporating flexibility in strategy has been advised by Mintzberg et al. (1995). The literature has also put considerable focus on enablers and inhibitors of flexibility (Chow and Cao 2008; Bottani 2009; Avazpour et al. 2014; Sopolana et al. 2014).

The benefits offered by flexibility stimulate its institutionalization into organizational practices. The limited availability of work practices, guidelines, operating procedures, and strategies for effective implementation of flexibility causes its ignorance leading to paradoxical behavior. Some literary debates show the contradictions and paradox toward flexibility. For example, the “Flowing stream strategy framework” by Sushil (2012a) explains the institutionalization of flexibility by maintaining vital factors of organizational continuity while proceeding for desired change. However, De Leeuw and Volberda (1996) noted the paradox of flexibility results from change and continuity. Few authors suggest flexibility as mediator or driver of performance rather than considering its direct impact on the performance (Sharma et al. 2010; Acharya 2019; Shalender and Yadav 2019). There are few studies related to the paradoxes in the context of risk and inter-organizational collaborations, covert resistance, convergent

policy and divergent practice, new product development, cognitive functioning, and high-variety and low-volume manufacturing (Leonard-Barton 1992; Clarke 2002; Couchman and Fulop 2002; Fleming and Spicer 2002; Katic and Agarwal 2018; Ganuthula and Sinha 2019). However, the managerial paradox toward flexibility is largely ignored which this paper addresses. This study has been done in two parts: in the first part, literary gap between practice and theory, intention and execution of flexibility is analyzed, and the second part synthesizes the findings and builds recommendation to handle the managerial paradox of flexibility.

The selection criteria emphasize the theory- and practice-related contributions for managerial action within the boundary of organizational control for building flexibility. Three categories of literature, i.e., workplace, business environment, and concepts and frameworks, have emerged from thematic analysis. These categories capture all the dimension of flexibility relevant to managerial attention and depicted in Fig. 1 and examined further.

The contributions related to performance and concerns of flexibility are specially searched. The performance and concern are used as codes in the thematic analysis. Three types of managerial paradoxes toward flexibility have been identified during analysis.

### **First Managerial Paradox Toward Flexibility**

The first managerial paradox toward flexibility has emerged after analyses of the gap between the literature dealing with the benefits of flexibility and advice to obtain it.

### **Second Managerial Paradox Toward Flexibility**

The second paradox reflects the attitude of lower and higher management toward flexibility. The top management decides the strategy where flexibility finds its place. The lower and middle managerial strategies seek workable advice and have a different perception than top management. The difference is primarily in the approach related to strategic and operational aspects from where this paradox emerges.

### Third Managerial Paradox Toward Flexibility

As the flexibility initiatives require resources, the extent and scope of initiatives create a third kind of paradox. The management has to identify relevant flexibility and define optimal flexibility between total flexibility at a much higher cost and rigidity at minimal cost in the absence of literary support to define such optimality (Sushil 2015b).

### Methodology

Thematic analysis is used to investigate the managerial paradox. The paradox is identified by finding themes associated with managerial functions. The explicit meaning associated with a given context can be easily identified using this method than other methods such as content analysis (Saldana 2009). Thematic analysis helps to build the perspectives and social construction of representation (Braun and Clarke 2013). The exploration of the benefit of flexibility initiatives in organizations and impediments or concerns in the implementation of these management actions is identified using thematic analysis to build the perspective. Following research questions analyze the managerial paradox toward flexibility using a thematic analysis.

- What are the benefits of flexibility initiatives undertaken by management in the sphere of organizational control?
- What are concerns, hurdles, and mechanisms in implementing flexibility initiatives?

### Thematic Analysis

Six stages of thematic analysis have been used to find themes in the literature in qualitative research pertaining to research questions. The approaches demonstrated by Braun and Clarke (2006), Fereday and Muir-Cochrane (2006), and Gibbs (2007) have been used for the identification of

the common pattern of managerial interest toward flexibility in different contributions.

### Stage 1: Familiarity with the Data

Managerial flexibility strongly relates to planning and execution. The criterion of identifying the relevant literature is defined in light of managerial paradox. The keywords, i.e., flexible, flexibility, agile, agility in title, abstract, and body of papers, are used to search the literature. The flexibility in contexts like integration, agility, cost-effectiveness, responsiveness, quickness, sustainability, speed, leanness, aspects of continuity, change, dynamic capabilities, and organizational control are used to get comprehensive set of literary contributions (Volberda 1997; Qumer and Henderson-Sellers 2008; Sushil 2013; Avazpour et al. 2014; Borland et al. 2016). The literature related to agile methodology is used to identify the management concerns in agility adoption. Further to it, only those contributions are considered which make recommendations within organizational controls. Flexibility evaluation papers are considered if they recommend workable practices. The literature related to the measurement of specific flexibilities is grouped in the performance category since it uses enhancement of independent variables, i.e., organizational effort/investments, to increase the dependent variable, i.e., flexibility performance.

### Stage 2: Generating Initial Codes

The “concern” and “performance” are used as the codes (Table 1). The papers in the performance category put less focus on action and elaborate niche flexibility benefit which invites management attention. The performance-related papers also give a broad recommendation for flexibility based on simulation, results, and reviews. The decision to put the literature into concern orientation is made if the recommendation of papers significantly deals with advice validated by example or field data that can be potentially utilized by managers as the guideline to enhance organizational flexibility. These papers also deal

**Table 1** Code used for thematic analysis

Code 1	Label	Performance
	Definition	Organizational performance due to flexibility
	Description	1. The context in the literature explicitly or implicitly mentioning situations where flexibility provides organizational performance or benefit
Code 2	Label	Concern
	Definition	Organizational concern in implementing flexibility initiatives
	Description	1. The context in the literature explicitly or implicitly mentioning situations where management deliberates on resource requirement and feasibility of such initiatives. 2. The literary context exploring ways and methods of implementing such initiatives



with flexibility practices that potentially address the management concern and primarily action-oriented.

### Stage 3: Searching For Themes

The relationship with codes “concern” and “performance” has been further looked in the context of flexibility for identifying the first-order, clustered, second-order, and third-order themes.

### Stage 4: Reviewing Themes

The first-order, clustered, second-order, and third-order themes provide “Focus of literature,” “Orientation of literature,” “Subcategory of literature,” and “Category of literature,” respectively.

### Stage 5: Defining and Naming Themes

Themes are named and grouped after iterative review and summarized in Figs. 2, 3, and 4.

### Stage 6: Production of Report

The subsequent analysis is based on the commonality and discrepancies across themes in all the three categories of the literature.

## Results of Thematic Analysis

Thematic analysis has been performed iteratively, and the results are summarized under various themes. The third-order themes represent broad categories of the literature, i.e., workplace, concepts and frameworks, and business environment. The context of flexibility is noted in first-order themes and aggregated in second-order themes, and clustered themes as per descriptions and tabulation of data in this section. The trends of literary work for managers are focused on risk and uncertainty mitigation strategies while substantial work is underway for advancing flexibility concepts. The detailed analysis shows that the gap between practice and theory is more prevalent. The literature in the area of strategy, practice, and operations in flexibility context is identified under “workplace.” The literature dealing with concepts, frameworks, relationships, performance analysis of systems in the context of flexibility is incorporated under “concept and framework” category. The context outside organization refers to the volatile “business environment” with the recommendation of managerial action from within the organizations. The comparative distribution of contributions utilized for

setting the context of study, analysis, and validation of findings is summarized in the “Appendix”.

### Third-Order Theme: Workplace

This category of the literature refers to the people and organizational processes to improve performance. The second-order themes are related to business processes, sustainability, strategy, network/supply chain, and actors. Figure 2 provides a summary of observations of workplace flexibility related to all themes.

#### *Second-Order Theme: Business Process*

Organizational communication is an important business process. The technological aid in this process results in flexible and adaptable communication across the organization (Moore 2001). Different communication modes in the integrated form are crucial for interactivity and strategic intent (Struweg 2014). Organizational communication is an important factor considered to examine managerial flexibility by Bamel et al. (2013). The impact of information systems (IS) on flexible work plans and business processes finds extensive focus in the literature. Earlier work envisaged the planning for flexibility in manufacturing systems using optimal cost and capacity analysis (Tang 1991). The literature also addressed the challenges in the enablement of flexible work plans using information systems in functional, behavioral, and operational perspectives (Reichert and Weber 2012). The substantial use of information and communication technologies enhances business process flexibility which also impacts business alignment, communication, and collaboration (Steinbring et al. 2013). The reuse of objects and first-time-right design in the information technology industry is emphasized for instituting the flexibility and speeding up the development process (Favaro et al. 1998; Tseng and Lin 2011). For a software product, different scenarios are to be considered to meet the risk and uncertainty in the final usage, and incorporate flexibility (Chastek et al. 2009). In the information technology organizations, the service orientation in design process enables flexible products (Gulledge and Deller 2009).

The relationship of business processes with flexibility is noticed by many authors. The flexibility in business processes handles market dynamics and builds a value proposition in the IT sector (Raghuveer et al. 2014). The innovation performance results from interaction among multiple resources facilitated by coordination flexibility (Li et al. 2017). There exists a strong relationship between knowledge management, agile methodology acceptance, and strategic flexibility that facilitates innovation (Chan and Thong 2009; Kamasak et al. 2016). The vertical

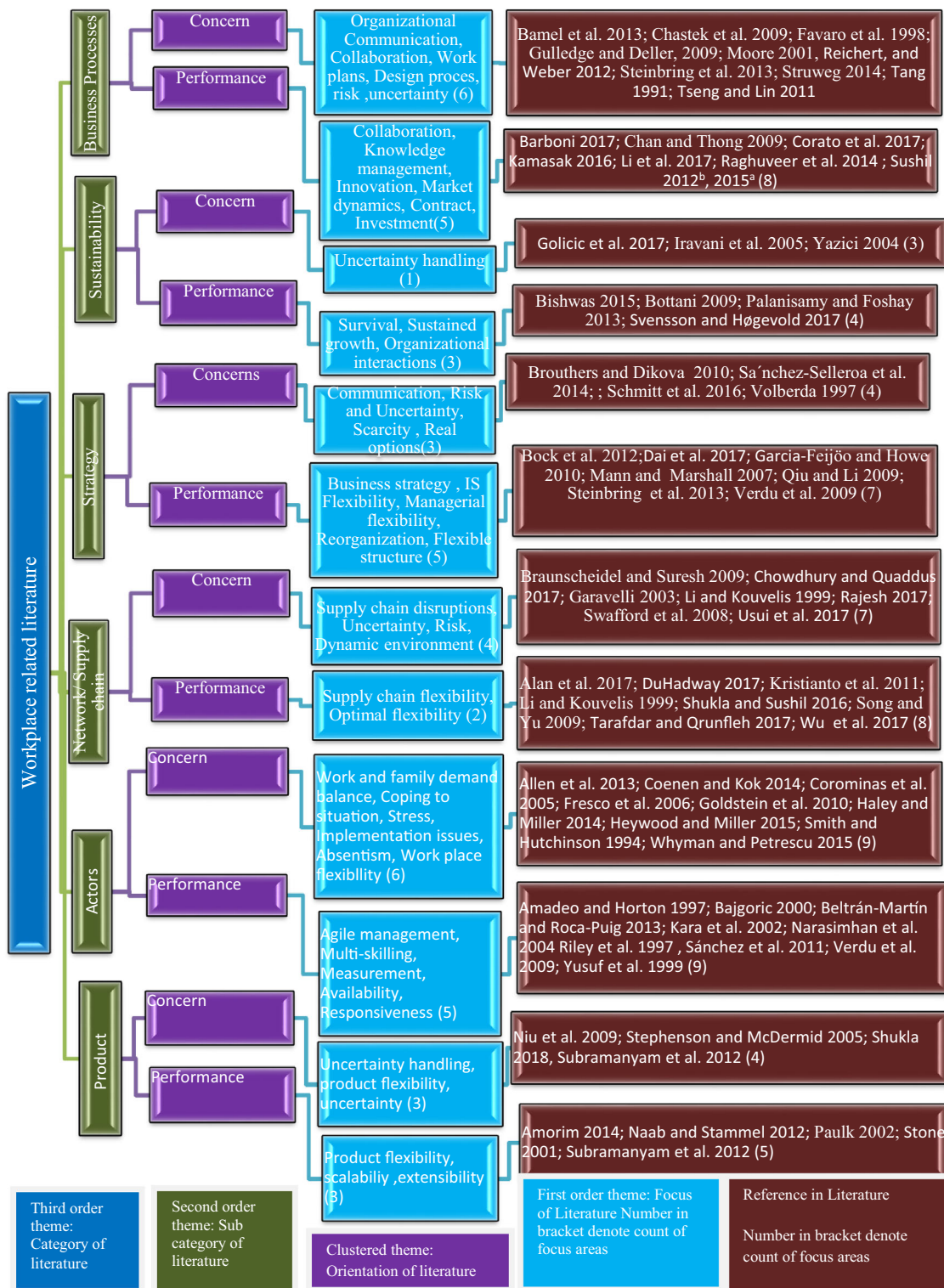
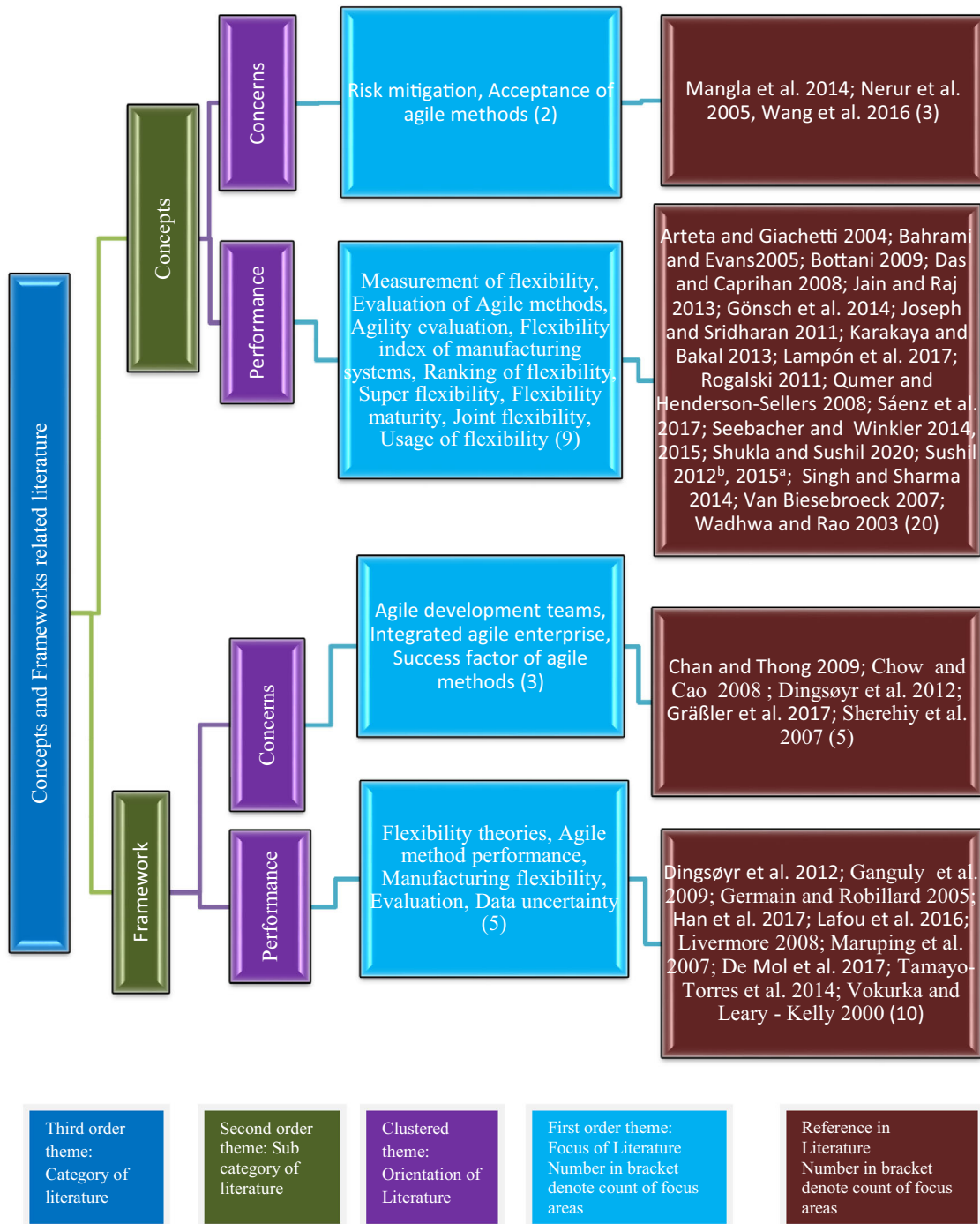


Fig. 2 Summary of the literature for flexibility in the workplace

flexibility enables multiple ways of investment for hedging strategies (Corato et al. 2017). The flexible contract enables the timely decision (Barboni 2017). The flexibilities in

business processes, value network, and entire ecosystem impact the organizational performance (Sushil 2012a, 2015a, 2016).





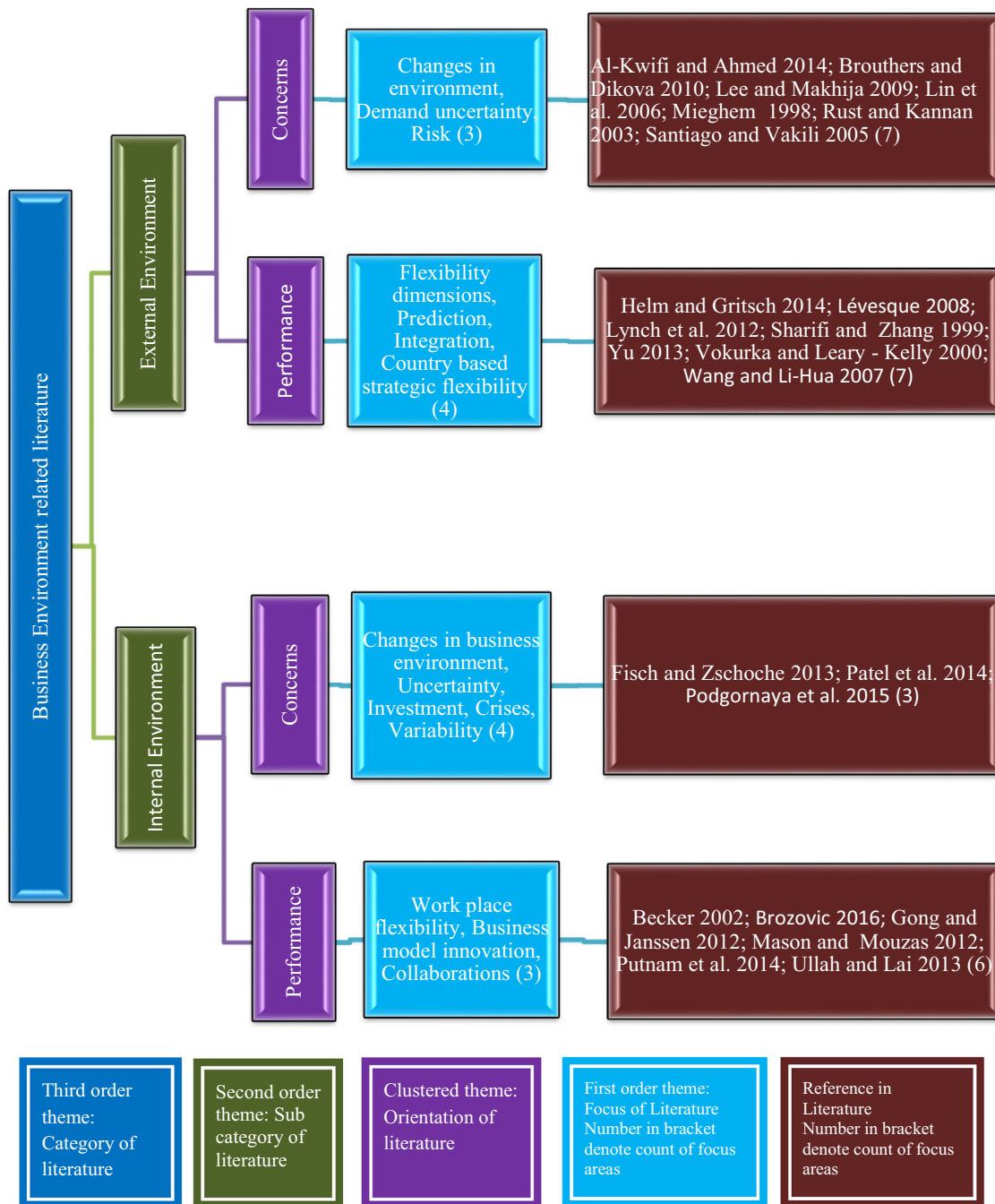
**Fig. 3** Summary of the literature for flexibility in framework and concepts

*Second-Order Theme: Sustainability*

The sustained growth is the long-term objective of flexibility. During the volatility of demand, the sustenance of supplies requires the organization to have volume, mix, routing, and labor flexibilities (Yazici 2005). The proper utilization of capacity and suitable system structure is

recommended for cushioning against uncertainty (Iravani et al. 2005). Sustainability through experimentation and resources allocation is advised by Golicic et al. (2017). The flexibility provides strength to an organization in the form of vitality, survival, and growth (Bishwas 2015). The result-oriented interactions among organizational functions facilitate sustained growth. For the flexible enterprise, the





**Fig. 4** Summary of the literature for flexibility in a business environment

interdependence of quality parameters, competitive bases, several types of flexibilities, and agility attributes has been noticed (Bottani 2009). Palanisamy and Foshay (2013) noticed that internal flexibility is necessary for information technology infrastructure exploitation. The business sustainability effort evolves over a period of time through adaptation to change (Svensson and Høgevoid 2017).

*Second-Order Theme: Strategy*

The strategy and flexibility are jointly addressed in the literature under strategic flexibility and alignment. The strategic flexibility enhances the ability of the organizations to cope up with the business environment by changing the strategies. The flexible structure emerges from strategic flexibility. The flexible structure is facilitated by

good communication (Sánchez-Sellero et al. 2014). The new product and market combinations are strongly recommended for uncertainty and strategic flexibility (Volberda 1997). The reorganizational capability in resource allocations in the value network is required for showing strategic renewal behavior under scarcity (Schmitt et al. 2016). The investment in real options is required to mitigate the high level of uncertainty for strategic flexibility (Brouthers and Dikova 2010).

The organizational and system structures provide significant support to strategic flexibility. The information system flexibility and visibility positively impact business strategic factors (Qiu and Li 2009). The managerial flexibility is the reasonably good indicator of overall flexibility which top management strives to achieve. The contractual provisions enhance managerial flexibility that benefits the organization (García-Feijóo and Howe 2010). The system structure, formalization, and strategic flexibility are important for uncertainty mitigation (Steinbring et al. 2013). There are encouraging effects of structure and culture on the business model and strategic flexibility (Bock et al. 2012). The flexible organizations show the resource reorganization capability in value network. The benefit of team dynamics and reorganization has been noticed at national level also (Mann and Marshall 2007). Flexible structures are less formal. The organic structure and less formalization are crucial to organizational flexibility (Verdu et al. 2009). The utilization of loosely coupled resources is recommended for strategic flexibility (Dai et al. 2017).

#### *Second-Order Theme: Network/Supply Chain*

In the supply chain area, there is ample literature to visualize multiple facets of flexibility. The integration of information systems in supply chain positively impacts flexibility (Swafford et al. 2008). The cultivation of agility for risk management allows a firm to answer rapidly to marketplace variations as well as to anticipate the interruptions in the supply network (Braunscheidel and Suresh 2009). The contract for firms in terms of a number of units without specifying an exact time to purchase provides benefit in the uncertain situation (Li and Kouvelis 1999). The supply chain flexibility is advised in three stages for start-up firms by building relational governance with the suppliers through exercising dynamic economic power concentration, secondly by providing technical support to suppliers, and thirdly by enforcing non-exclusivity arrangements (Usui et al. 2017). The supply chain agility has been advised for competitive advantage through the integration of processes, information, and strategic alliances (Wu et al. 2017). The risk and vulnerability are emerging as a major concern which is mitigated through

robustness, resilience, and supplier development (Behzadi et al. 2017; Kurniawan et al. 2017). The resilience can be improved by instituting planning and design capability proactively and reactively (Chowdhury and Quaddus 2017; Rajesh 2017).

The flexibility helps the industry sectors and organizations for business performance. Multiple options in sourcing demand flexibility in network for large industry sector (Shukla and Sushil 2016a, b). There is a positive influence of advance planning on the flexibility of supply chain (Kristianto et al. 2011). The supply network elements consist of logistics, distributor, integration platforms, and sourcing activities. Different supply chain configurations are possible with available suppliers. The same configurations can cost differently for different organizations. The organization may exercise limited, total flexibility or optimal flexibility by including needed supply chain elements (Garavelli 2003). The trust among supply chain partners also plays a significant role in enabling flexibility in the supply chain. There is a positive association between flexibility, trust of distributors, and legitimacy in the supply network (Song and Yu 2009). The supply chain flexibility has a direct and noteworthy impact on strategic and manufacturing flexibilities which affect the firm performance (Alan et al. 2017). The flexibility in the supply network helps to improve the information systems capability (Tarafdar and Qrunfleh 2017). DuHadway et al. (2017) analyzed the source of risk mitigation strategies and supply chain interruptions for recovery of operations.

#### *Second-Order Theme: Actor*

The flexibility context in actors includes its enabler and associated benefits. Actor flexibility is the output of many organizational endeavors and integral to managerial flexibility. The main actors for the organization are the workforce along with suppliers, partners, and customers. The work interference with the family has an impact on employees in the form of flexitime, flexiplace, and availability (Allen et al. 2013). On gender equality in management, Smith and Hutchinson (1994) made the observations regarding the participation of women and their concerns for flexibility of accommodation of family demands along with the ongoing job. The human resource policies affect the individual flexibility which further affects other flexibilities of the organization. The coping and explanatory flexibilities affect the depression and anxiety symptoms of employees (Fresco et al. 2006). The flexibility of individuals and stress is impacted by the provision of short leave to the employee which relieves the stress and sleep difficulties (Haley and Miller 2014). The impact of human resource in agile methods finds considerable attention. The ground management strategies for agile execution are



especially encouraged (Goldstein et al. 2010). The workforce flexibility is related to the adaptability to move between different jobs necessitating skill in different domains. For workers, family-oriented practices, flexitime, and job sharing practices result in low absenteeism (Whyman and Petrescu 2015). The family-friendly policies and flexible schedules especially for women employees enhance productivity (Heywood and Miller 2015). Coenen and Kok (2014) noted the importance of flexibility in the workplace resulting in new product development. The concept of annualized hours can effectively be used for operative flexibility and work hours planning (Corominas et al. 2005).

The significance of flexibility in the context of the actor is noted by multiple authors. Sound human resource practices are required for building skill and behavioral flexibility (Beltrán-Martín and Roca-Puig 2013). The other important actors for organizations are suppliers, partners, and customers. Bajgoric (2000) emphasized the efficacy of information sharing among stakeholders for agile management. The participation of outside actors and their responsiveness are required for flexible enterprises (Narasimhan et al. 2004). For flexibility in actors, Verdu et al. (2009) analyzed the measurement of responsiveness by defining the fit between organizational and contextual variables. They identified key elements to determine flexibility; these are time, cost, and intention. The measurement of flexibility is based upon these factors and their derivatives like speed, rapid deployment, cost involved, and defensive or proactive measures for intention. The attributes of agility, i.e., multi-skilling and concurrent execution, are attributed to workforce flexibility (Yusuf et al. 1999). The evaluation of functional flexibility is related to the adaptability of employees to handle different tasks and perform successfully (Riley and Lockwood 1997). The flexible human resource practices promote innovativeness under environmental dynamism (Martínez-Sánchez et al. 2011). The actor's flexibility is primarily envisaged for productivity (Amadeo and Horton 1997). The human flexibility is impacted by external factors resulting from turbulent trading conditions. The human resource practices impact the inter flexibility elements, i.e., organizational structure, technology, and information system (Kara et al. 2002).

#### *Second-Order Theme: Product*

The flexibility associated with the product helps the organization to cater for different kinds of markets and customers. The software products are evolving at a fast pace as compared with other sectors. The requirement aiding the product flexibility can be extracted by deriving indicators of customer uncertainty (Stephenson and McDermid 2005).

Product flexibility helps common architecture exploitation to generate multiple products (Shukla 2018). The requirement of variety of users enhances the product flexibility and handles the uncertainty (Niu et al. 2009). The granularity of software promotes efficiency and flexibility (Subramanyam et al. 2012). The flexibility in products can be defined and measured using a mathematical framework by utilizing the parameters like extensiveness and scalability which enhances the functional flexibility (Stone 2001). The product flexibility measures extensibility and scalability that further impacts the business issues in ecosystem (Amorim et al. 2014). The flexibility-aware plans with real-time feedback provide faster improvement opportunities (Naab and Stammel 2012). The technical design parameter also improves the agility (Paulk 2002).

#### **Third-Order Theme: Concepts and Frameworks of Flexibility**

The large chunk of the literature is devoted to flexibility concepts and frameworks. It is categorized into two second-order themes and summarized in Fig. 3. The second-order theme, i.e., concept, enhances flexibility theories. Another second-order theme, i.e., framework, deals with strategic advice and operational strategies to enhance agility and overcome hurdles in organizational adoption. The clustered themes deal with performance and concerns.

#### *Second-Order Theme: Concepts*

The theories explore the relationship between organizational performance parameters and motives of flexibility. The conceptual papers explore the origin of organizational flexibility. The concern in conceptual papers points to need for an operational method for enhancing flexibility. Mangla et al. (2014) noticed that a flexible framework is required for risk mitigation strategy in the supply chain. The limited bureaucracy and formalism along with organization cultures are conducive to innovation and required agile methodology acceptance in IT organizations (Nerur et al. 2005). The flexibility analysis of process operation and supply chain requires a mechanism to measure several types of flexibilities at a conceptual level (Wang et al. 2016).

The application of agile concepts in the organization enables responsiveness; however, the cost implication for such initiatives is also noticed (Van Biesebroeck 2007). The choice of agile methods among available options for organizations shall be properly evaluated using criteria and tools for adoption (Qumer and Henderson-Sellers 2008). There are mechanisms to evaluate the agility in the organization (Arteta and Giachetti 2004). The measurement of specific flexibilities also finds a reasonable place in the



literature. Das and Caprihan (2008) formulated a mechanism to evaluate manufacturing flexibility by quantifying underlying factors and proposed flexibility index of manufacturing systems. A generic mechanism to evaluate the organization-wide flexibility is also feasible in different maturity levels (Shukla and Sushil 2020a, b). The comprehensive framework of evaluation and measurement of select flexibility for the production system is provided by Rogalski (2011). Singh and Sharma (2014) identified the flexibility factors and used them for developing a framework to measure supply chain flexibility.

The benefit of flexibility initiatives, their combined impact, and interrelationship are conceptualized by authors. Al-Kwafi and Ahmed (2014) described the simulation scenario for the impact of a pallet, and routing flexibilities and their combined impact in the production environment. The concept is enhanced to accommodate the interactions of various types of flexibilities and other organizational functions. The quality parameters, competitive bases, agile attributes, and enablers show mutual interdependence (Bottani 2009). The concept of joint flexibility of the product is elaborated by Karakaya and Bakal (2013) for sourcing of components. Joseph and Sridharan (2011) examined the impact of sequencing and routing flexibilities, and sequencing rules on manufacturing systems and concluded significant relationship among them. The prioritization of initiatives is natural phenomena where cost is expected to be incurred. It has been noticed that program flexibility ranks the highest and production flexibility ranks the lowest in flexible manufacturing system (Jain and Raj 2013).

The flexibility maturity model further enhances concepts. It categorizes organizational flexibility into maturity levels for comprehensive analysis (Wadhwa and Rao 2003; Sushil 2012a, 2015a). The more intense concept of super-flexible organization has been put forward to mitigate any kind of uncertainty by changing the business model of organizations within a very short time (Bahrami and Evans 2005). The contingency view of flexibility analyzes the upstream and downstream relationship with suppliers and customers (Sáenz et al. 2017). The flexibility relates to an observable aspect of organizational indicators of performance. The lead time, cost deviations in process chain, efficiency, and performance have been utilized to measure the dyadic supply chain and manufacturing flexibilities (Seebacher and Winkler 2014, 2015). Gönsch et al. (2014) advised usage of product flexibility for revenue management using the deterministic linear program. The relocation theories about operational flexibility and decision making have been given by Lampón et al. (2017).

#### *Second-Order Theme: Framework*

The framework-oriented literature relates to the application and acceptance of agile methods. It also addresses the

managerial concern in agile method adoption along with advice to management. Dingsøyr et al. (2012) studied the performance of various agile methodologies in a decade starting in the year 2000 that are mainly related to concerns and acceptance of different agile methods. Information technology and manufacturing organizations emphasize on agile methodologies. The issues related to acceptance of agile methods for software development is a special concern in the literature (Chan and Thong 2009). The integrated view of agile enterprise has been the major concern due to multiple agile methodologies and characteristics of organizations (Sherehiy et al. 2007). A large chunk of the literature identifies the success factors of agile methodology. It covers the wide range of performance factors that include quality, scope, time, engineering techniques, cost impacting delivery strategy, project management process, team capability, customer involvement, and team environment (Chow and Cao 2008). The decoupling of production system environment with products characteristics leads to flexibility in entire systems (Gräßler et al. 2017).

The agile methods are further enhanced to manage uncertainty, risk, and performance. Managing the changing user requirements using controls in agile methods, building effective capability, and technology exploration for manufacturing flexibility have been addressed in the literature (Vokurka and Leary Kelly 2000; Maruping et al. 2009; Tamayo-Torres et al. 2014). All the flavors of agile methods cause the organizations to focus on core and productive work and enhance the organizational size (Germain and Robillard 2005, Livermore 2008). These benefits can potentially attract higher management attention. The flexible way of delivery and investments leads to cost-effectiveness, increased market share, responsiveness, better products, flexible interface, and good relationship (Ganguly et al. 2009, Lafou et al. 2016). The frameworks are extended to identify the flexibility aspects emerging due to uncertain and probabilistic data for extracting the information for decision making (De Mol et al. 2017). The theoretical model also includes operational, strategic, and transactional IT flexibility in the supply chain (Han et al. 2017).

#### **Third-Order Theme: Business Environment**

The business model innovation is the result of careful scanning of the environment. The organizations often do investments in other countries, which is influenced by organizational strategy in a given business environment. Some literary contributions suggest the use of crises management methods in the highly turbulent environment. The collaborations, use of network, and entrepreneurship are an important part of crises management endeavor. Collaboration and integration are compulsory for

predictable and effective strategy under uncertainty. The second-order themes related to the business environment are categorized into the internal and external environment impacting organizational strategy and flexibility together. Figure 4 summarizes all the themes pertaining to the business environment.

#### *Second-Order Theme: External Environment*

The investments are required to institute flexibility and hedge against uncertainty (Mieghem 1998). The strategic flexibility is associated with the acquisition of real option under demand uncertainty (Brouthers and Dikova 2010). The investment in R&D projects provides increased payoff and value under uncertainty (Santiago and Vakili 2005). The e-service is emphasized to stay competitive in the turbulent business environment (Rust and Kannan 2003). The organizational resources and decision making mandate the integration process to be very effective for incorporating flexibility in the strategy process. Lin et al. (2006) recommended a collaborative relationship as a strategy for the agile enterprise. There are case studies on global brands for being successful in crises (Al-Kwafi and Ahmed 2014). The investment to enhance the agility is especially noted in the literature. The foreign and export investments have an optimistic impact on organization flexibility and help in economic crises (Lee and Makhija 2009).

The business environment impacts the organizational processes for flexibility assimilation. There is a significant relationship between the external environment and flexibility (Yu 2013). The agile manufacturing recommends management of change in the business environment for a strategic response (Sharifi and Zhang 1999). There is a strong association among manufacturing flexibility with strategy, organizational structure, environmental uncertainty, and technology development (Vokurka and Leary Kelly 2000). The business aspects indicated by markets and products have a strong association in steady and unstipulated business environment (Lynch et al. 2012). The international entrepreneurship provides better ways to deal with uncertain environment than the use of networks (Helm and Gritsch 2014). The country-specific measures of strategic flexibility in an auto part industry in China are discussed by authors (Wang and Li-Hua 2007; Lévesque 2008).

#### *Second-Order Theme: Internal Environment*

The internal environment-related literature deals with options available to management that impacts the organization in whole or in parts. Risk management, uncertainty mitigation, prediction, and effective entrepreneurship are important for organizational flexibility. Podgornaya et al.

(2015) studied the flexibility with a choice of business models and recommended strategies for risk reduction. Under increasing erraticism, entrepreneurship provides better performance (Patel et al. 2015). The organizations can predict the establishment of a new site based upon the net present value, growth option value, operational flexibility, and value of the existing production network (Fisch and Zschoche 2012).

There is a positive impact of initiatives for flexibility on factors like workplace planning and design (Becker 2002), workplace flexibility initiatives (Putnam et al. 2014), business model innovation (Mason and Mouzas 2012), organization's resources (Gong and Janssen 2012), etc. The utilization of information systems for the changed business scenario is highly recommended (Ullah and Lai 2013). Brozovic (2016) analyzed strategic flexibility in the context of uncertainty through a literature review and given a conceptual framework and means of evaluation.

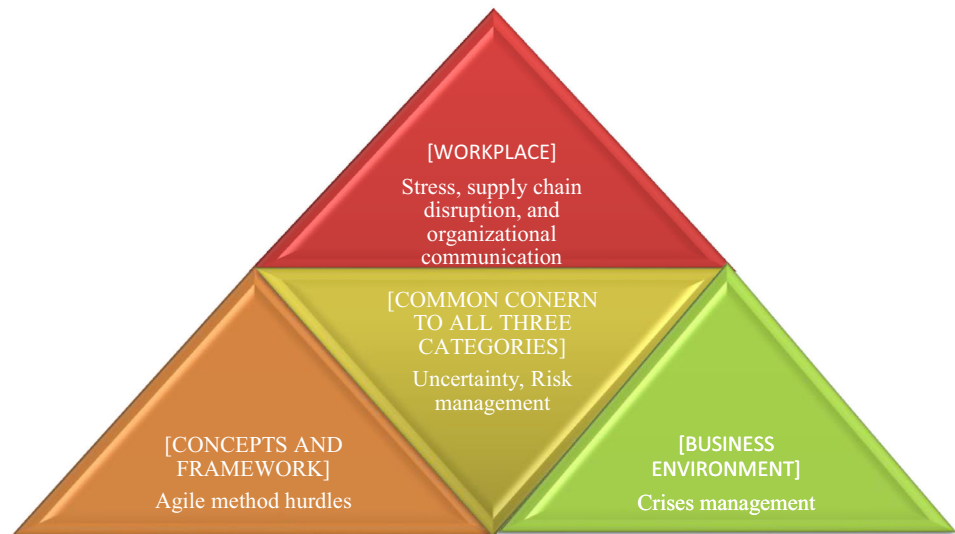
### **Interpretive Synthesis**

The concern and performance of all three categories of the literature have been analyzed, and common focus areas are noted. The process and issues in the implementation of flexibility initiatives denote the concerns and benefits due to flexibility initiatives which denote the performance. The concepts and framework-related papers are dominated by agile methodology. In the business environment category, it is observed that concerns are mostly related to uncertainty, crises, and risk management in first-order themes, i.e., focus of the literature. The mitigation of risk, uncertainty, and overcoming of hurdles in the adoption of the agile methodology are primarily being dealt with concerns in “concepts and frameworks.” In the workplace category and concern-related literature, a large chunk is devoted to handling uncertainty, stress, risk, supply chain disruption, and organizational communication using flexibility. The common concerns are uncertainty and risk mitigation in “business environment,” “concepts and framework,” and “workplace” categories. Figure 5 represents the views emerged from an analysis of concern-related contributions.

The performance-related literature of business environment encompasses the flexibility aspects of business model innovation, integration, and collaboration. The success factors of agile methodology acceptance, performance, expansion of framework, evaluation, and raking of flexibility are dealt in the performance category of “concepts and frameworks.” The inclusive performance of the organizational function, collaboration, design process, knowledge management, reorganization, flexible strategies, managerial flexibility, supply chain flexibility, agile methodology, multi-skilling, and measurement of



**Fig. 5** Consolidation of the literature pertaining to concerns for all three categories



flexibility find a place in workplace-related literature. The enhancement of flexibility theories, measurement, and ranking is common to all three categories of the literature in performance orientation. Figure 6 offers consolidated view of common performance under all three categories.

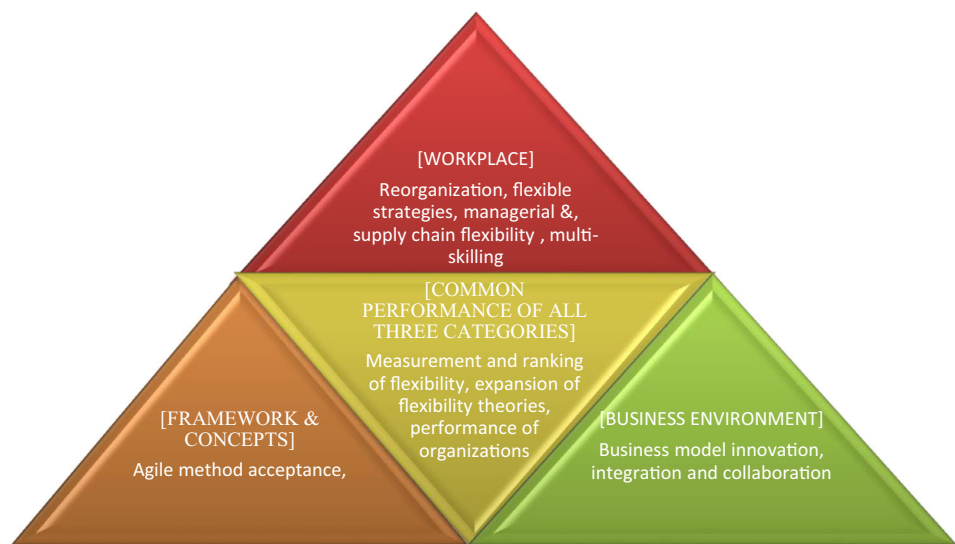
The commonality and differences are also analyzed quantitatively. The number of contributions and context in different order themes is visually depicted in Fig. 7. The inferences are made for validating the flexibility paradox.

### Discussion on Managerial Paradox

The managerial flexibility touches all spheres of operations and strategy and theoretical and practical knowledge base. These are comprehensively captured under various first-

order themes. The first-order theme in category “Workplace” is organizational communication, collaboration, work plans, design process, knowledge management, innovation, market dynamics, contract, investment, survival, sustained growth, organizational interactions, communication, risk, scarcity, business strategy, information systems (IS) flexibility, managerial flexibility, reorganization, flexible structure, supply chain disruptions, risk, dynamic environment, supply chain flexibility, optimal flexibility, work and family demand balance, coping with situation, stress, implementation issues, absenteeism, workplace flexibility, agile management, multi-skilling, measurement, availability, responsiveness, uncertainty handling, product flexibility, scalability, and extensibility. Clustered themes pertain to performance and concerns. The

**Fig. 6** Consolidation of the literature pertaining to performance for all three categories



### Mapping of distinct focus areas and contribution from literature

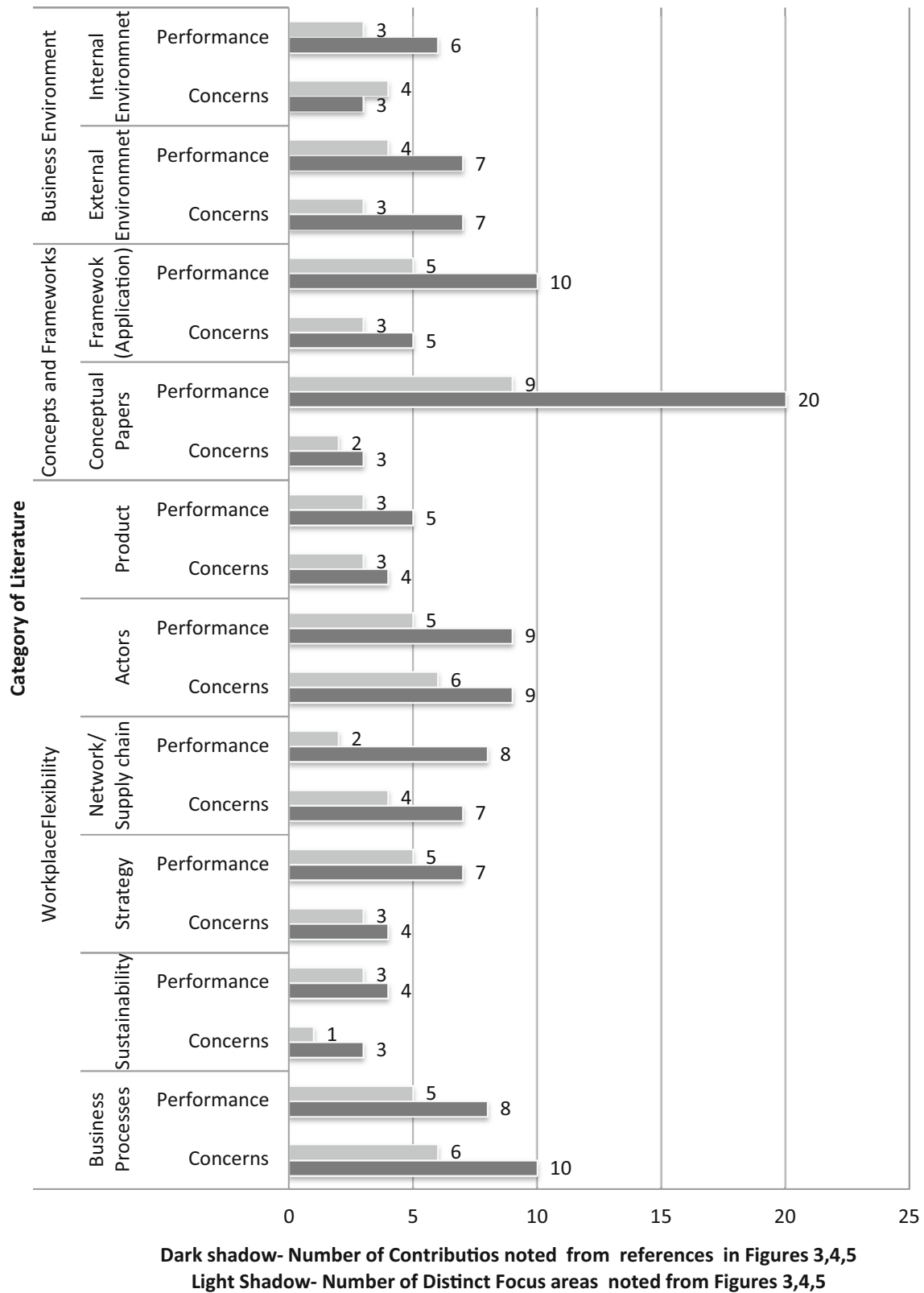


Fig. 7 Mapping of distinct focus areas and contribution in the literature



second-order themes are business processes, sustainability, strategy, network/supply chain, and actors.

The first-order themes of “Concepts and Framework” are risk mitigation, acceptance of agile methods, measurement of flexibility, evaluation of agile methods, agility evaluation, flexibility index of manufacturing systems, ranking of flexibility, super-flexibility, flexibility maturity, joint flexibility, usage of flexibility, agile development teams, integrated agile enterprise, success factor of agile methods, flexibility theories, agile method performance, manufacturing flexibility, and data uncertainty. The clustered themes examine the relationship with performance and concern of flexibility. Two themes (second-order) are identified in this category.

The first-order themes in category “Business Environment” are changes in the environment, demand uncertainty, risk, flexibility dimensions, prediction, integration, country, country-based strategic flexibility, changes in the business environment, uncertainty, investment, crises, variability, workplace flexibility, business model innovation, and collaborations. The clustered themes point to the relationship of flexibility reported in the literature w.r.t performance and concern. The second-order themes relate to the internal and external perspectives of organizations.

The common concerns and performance for all three categories are used to substantiate the flexibility paradoxes. The quantitative and qualitative analyses of commonalities lead to inferences about first and second managerial paradoxes, respectively.

### First Managerial Flexibility Paradox

The observations are noted from Fig. 7. The contributions in performance orientation are significantly higher as compared with concern in “Concept and Framework” category. In subcategory “Actors” and “External environment,” an equal number of contributions are observed in both performance and concern orientations because the contributions are identified from human resource and business environment literature. In subcategory, i.e., “Business process,” the number of contributions related to concern is higher. The contributions in performance orientations are asymmetrically higher as compared with concern in most of the subcategories. It is observed that these subcategories primarily relate to operations and strategy. It is also noted that subcategories, where contributions in concerns are equal or higher, require the involvement of senior management for investment toward flexibility. The generic behavior of a lower number of contributions in concern generates the first flexibility

paradox which is built on the assumption of limited advice to implement the advanced flexibility concepts.

Further investigation reveals that risk and uncertainty-related literature find considerable support in non-flexibility and practice-oriented literature. The widely utilized methodologies such as capability maturity model and project management frameworks put significant emphasis on risk and uncertainty mitigation through standard operating procedures (PMI 2009; CMMI-DEV 2010; Hopkin 2017). For risk and uncertainty management, the available literature points to usage of tools and techniques (Raz and Michael 2001). The context in which the risk and uncertainty management to be used is also echoed in the literature (Ward and Chapman 2003; Cicmil et al. 2017). Enough literature is available to showcase the benefit of risk management for project success (De Bakker et al 2010). The impact of risk on decision process is elaborated in the literature (Froot and Stein 1998; Cole et al. 2017). The extreme form of the use of risk management in case of failures is also noted (Chopra and Sodhi 2004). This shows that integrated view has emerged in area of risk management only that expressively widens the first managerial paradox.

### Second Managerial Flexibility Paradox

Second paradox toward flexibility related to the difference in approach toward flexibility in higher and lower management. The different topics covered in the literature are identified as focus areas. The number of focus areas in performance orientation is more than concern orientation in most of the subcategories. This creates a different perception of flexibility to top and lower management and is evident in Fig. 7. The multiple contributions deliberate the same flexibility aspects which narrow the scope of discussion. The central focus of performance and concerns noted from Figs. 5 and 6 is the enhancement of flexibility theories and risk management. This denotes a wide gap between theory and practice of flexibility hinting at the second managerial paradox.

The context associated with the product, people, and processes for managerial direction for flexibility has unique benefits. The strong relationship of business strategy, flexibility, and performance has relevance to top management (Gupta and Somers 1996). The requirement of organizational flexibility is recognized by top management firstly by scanning the business environment and secondly through literature support. The flexibility adoption requires standard procedures to be followed up. Pailles et al. (1997) noted that decision on flexibility is taken at higher levels,

while it is promulgated in parts to the working level where the empirical evidence exists for implementation. The need for flexibility from lower managerial functions is mandated if an organization is operating efficient value network. Manders et al. (2016) found that in supply chain context the organization's endeavors for flexibility cater to direct need of next member. The non-availability of clear guidelines will create indifference to top management advice for flexibility. Wang et al. (2015) noted that top management's shared vision neither facilitates nor impedes the organizational flexibility; however, it positively influences the technological flexibility. The discussion points to indifference of managerial endeavor for implementing the concepts of flexibility understood by top management and supports second managerial paradox.

### Third Managerial Flexibility Paradox

The third paradox is related to the extent and scope of flexibility initiatives and finding optimality. There are various modes of flexibility initiatives; some are emergent and others are pre-planned strategic measures. The limit of flexibility measures is decided in terms of how far and a fast current system can cope (Slack and Correa 1992). Treville et al. (2007) found that 40% of flexibility improvement initiatives are unsuccessful. This required ample resources in hand for organizations to venture for flexibility initiatives. But once the initiatives are successful, the competitive advantage comes in. Even the flexibility as capability to handle risk mitigation and innovation is also questioned in the literature (Sushil 2017; Jena and Memon 2018). The strong focus on the flexibility literature toward the benefits and lower success rate of flexibility initiative will create the paradoxical situation for management practitioners who will look for optimality of resource allocation for this purpose. This creates the third managerial paradox and holds back the flexibility initiatives.

### Conclusion, Limitations, and Future Research

Managerial flexibility is the ability to adapt to situations w.r.t time and scale to take advantage of business decisions (Business Directory n.d). The most cited benefit is investment and cost decision. It impacts the relationship between investment and uncertainty (Xie 2009). The clearly defined construct of managerial flexibility is largely missing in the literature. The uncertainty and risk are other focus areas

that eventually relate to cost optimization. The manifold options reflect the managerial flexibility and evident from numerous contexts identified in first-order themes. Still these options lead to option pricing analysis and real options investment. The important point is ignoring long-term goals enabled by managerial flexibility in the literature. Flexibility is envisaged for vitality and sustainability (Sushil 2011). Very few contexts in the first-order themes relate to long-term agenda. This necessitates broadening the ambit of managerial flexibility through setting the research agenda. A highly relevant subject pertains to the execution of project orders where impact of managerial flexibility is ignored. This is clearly visualized by absence in first-order themes. For managerial action and attention toward flexibility, it is advised to look in concern-related contribution. This will help them to exploit the benefits of flexibility by deploying envisaged resources. The dealing of uncertainty with flexibility has resulted in many contributions using metric-based approaches; these are approaching maturity. The contributions relating managerial flexibility with real options decisions are evolving rapidly with potential of maturity in the near future. The real options evaluations along with valuations of acquisitions and returns are noted as important indicator of managerial flexibility (Jain et al. 2018). A closed-loop behavior is seen for flexibility benefits and its enablers. The commonly understood benefit of managerial flexibility is increased motivation, concentration, and productivity derived from flexible work options (Sweet and James 2013). However, the same contributes to workforce flexibility (Patil and Suresh 2019). The study of the literature suggests that flexibility has been used along with other strategic tools and objectives. The social and organizational theories put flexibility along with structure and culture for performance (Birasnav et al. 2019). This leads to a broad conclusion that it has been used as a mediator of organizational performance. The direct influence of managerial flexibility on performance is largely ignored in the extant literature.

The discussion on paradoxes reveals that two categories of contributions are expected from future work: one is concerned with advice for the strategic purpose for top management, and the other is guidance for operational aspects dealing with flexibility. In this paper, the reason that drives the flexibility has been investigated along with deliberation of future scenarios. The paradoxical behavior of management is built upon this finding where the practicing manager seeks advice from the literature to implement the advanced concepts of flexibility, while the



practices of implementation are focused on risk and uncertainty mitigation strategies. The non-availability of literary advice to management will result in ignoring the flexibility benefits. The analysis of focus of the literature provides broad dimension of paradox resulting from concentration of contributions in different focus areas. The analysis shows that there is ample literature dealing with uncertainty and risk, while there is limited contribution on severe form of uncertainty in the form of crises, supply chain disruption, and flexibility in organizational communication. Future researchers can focus on these areas. This paper has explored all the aspects of managerial flexibility falling within ambit of organizational boundaries. However, the influence of outside factors impacting the managerial flexibility can be explored by future researchers using thematic analysis.

This paper also suggests future research direction in an area of flexibility adoption leading to organizational competitiveness and performance. The flexibility-related theories start from measuring certain types of flexibility and end up with comprehensive treatment toward maturity models. Some of theories and practices are widely used, while others are still evolving. It is also observed that process definition and application methodology supported by empirical studies for practicing managers are primarily available for risk and uncertainty management functions. The same is lacking in advanced concepts and frameworks of flexibility which make it difficult for practicing managers. The substantial gap opens up a new research area for defining workable methods to practice flexibility. There is evidence of a methodological gap in the application of flexibility and agility in the supply chain (Fayezi et al. 2016). Yu et al. (2015) dealt with operational flexibility and performance outcomes aspects simultaneously. The three paradoxes provide the avenues to prospective researchers to fill the gap between operation and concepts through operational means. The flexibility in business model innovation, integration, collaboration, flexible strategies, and agile method acceptance is identified for further exploration by researchers as limited contributions are seen in these areas. This paper has made inferences instead of conclusions regarding the managerial paradoxes. These inferences can be changed in light of more advanced contributions on the subject. This paper has made an attempt to highlight various aspects of managerial flexibility which is central to overall organizational flexibility but still ignored in practice and theory.

#### Compliance with Ethical Standards

**Conflict of interest** The authors declare that they have no conflict of interest.

## Appendix

### Number of contributions and focus areas

Category of the identified literature	Context of the literature	Relevant contributions	Distinct focus areas
<i>Contributions used for finding managerial flexibility paradox</i>			
Workplace			
Business processes	Concerns	10	6
	Performance	8	5
Sustainability	Concerns	3	1
	Performance	4	3
Strategy	Concerns	4	3
	Performance	7	5
Network/supply chain	Concerns	7	4
	Performance	8	2
Actors	Concerns	9	6
	Performance	9	5
Product	Concerns	4	3
	Performance	5	3
Concepts and frameworks			
Concepts papers	Concerns	3	2
	Performance	20	9
Framework (application oriented)	Concerns	5	3
	Performance	10	5
Business environment			
External environment	Concerns	7	3
	Performance	7	4
Internal environment	Concerns	3	4
	Performance	6	3

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### Key Questions

- (1) What are the benefits of flexibility initiatives undertaken by management in the sphere of organizational control?
- (2) What are concerns, hurdles, and mechanisms in implementing flexibility initiatives?



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