



THE ROLE OF CLAN IN THE HYBRID AND ALTERNATIVE MODES OF SUPPLY CHAIN GOVERNANCE

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ABSTRACT. Background: Recent studies in the domain of supply chain management underline the significance of the contractual and relational aspects of governance, at the same time ignoring the relevance of classical hierarchy. To respond to this challenge, our study posits that the market and hierarchy are both embedded in the wider social context, and as such they can only apply to some degree of relational aspects, referred in this research to as clan. Concomitantly, clan rarely acts as a sole mode of supply chain governance; quite the contrary, it can be either a hybrid (anchored between market and hierarchy) or an alternative (neither market nor hierarchy) mode of governance. By returning to the classical roots of governance of market and hierarchy as two bipolar modes, the goal of the paper is to compare diverse modes of supply chain governance (with the emphasis on the hybrid and alternative modes) in terms of the strength of clan.

Methods: The study involves two stages of multivariate statistical analysis. In the first step, the variables indicating certain modes of market and hierarchy of upstream and downstream dyads were narrowed down to the main underlying multi-item constructs through Principal Component Analysis (PCA) with Varimax Rotation. In the second step of the analysis, the factor scores obtained through the PCA for market and hierarchical governance were used in cluster analysis.

Results: The study reveals that the hybrid modes of governance (especially relational governance) anchored between bipolar modes of market and hierarchy demonstrate a higher portion of clan in comparison to hierarchy as the sole mode of governance in triadic supply chains. At the same time, triadic supply chains run by both market and hybrid governance do not differ from each other, as they indicate similar and significantly higher mean ranks for clan. The study reveals that the alternative (neither market nor hierarchical) modes of governance do not indicate higher portion of clan as compared to market and hierarchy as two sole modes of governance in triadic supply chains.

Conclusions: The study shows that as the mode of governance clan takes a leading role in the hybrid modes of governance as compared to the alternative mechanisms. This may suggest that either the hybrid modes are much stronger enhanced by social dimensions encapsulated in clan than the alternative modes or the essence of clan in the hybrid modes is not the same as the essence of clan in the alternative modes of governance. Consequently, we conclude that the silver bullet for solving this problem may reside within the nature of clan, which is significantly different in both modes of governance.

Key words: market governance, relational governance, hierarchy.

INTRODUCTION

The concept of supply chain management shows the simultaneous pursuit of multiple governance mechanisms to overcome trade-offs and leads to synergistic results [Denolf et al. 2015, Dolci et al. 2015, Crisan 2016, Ghozzi et al. 2016, Dolci et al. 2017, In et al. 2019]. In recent studies, the relational aspects

combined with market governance have rapidly risen to prominence. For instance, Blome et al. [2013] extend ambidexterity research to the supply chain management domain by focusing on ambidextrous governance, defined as the simultaneous pursuit of both relational and market governance elements. By the same token, Brito and Miguel [2017] investigate the two modes of governance from the perspective of power

asymmetry and its impact on value creation. Similarly, Mirkovski et al. [2016] explore the influence of both market and relational governance on the ICT-enabled information sharing of small and medium firms in developing economies. The above studies mainly revolve around the market and relational modes, thus particularly ignoring the significance of classical hierarchy. As the market and hierarchy are both embedded in the wider social context, we postulate that they can only apply to some portion of relational aspects [Ouchi 1980]. Consequently, the actors strive to stick to the norms of supply chains, as larger systems, through socialization efforts. This normative process can be defined as clan governance (Heide, 1994). Clan governance underscores the necessity of self-awareness among the actors, that is, the interests of one actor cannot be furthered by stratagems of any sort [Ghoshal, Insead 1996]. Accordingly, drawing upon the prior studies, this research posits that clan rarely acts as the sole mode of supply chain governance, because it may lead to so-called 'overembeddedness', bringing about negative inertia and lower performance [Uzzi 1996]. Similarly, Vilena et al. [2013] evidence that when clan is taken to an extreme, it can reduce the ability to be objective and make effective decisions, increase opportunistic behavior, and ultimately harm performance. Likewise, prior research indicates that clan can be either a hybrid (anchored between market and hierarchy) or alternative (neither market nor hierarchy) mode of governance [Powell 1990, Jones et al. 1997]. To yield several hybrid modes of governance, market and hierarchy, two basic modes of governance, are intertwined and combined together in various ways. They usually contain some degree of relational aspects indicating the extent to which an interorganizational relationship is governed by social relations and shared norms, such as informal structures and self-enforcement [Mirkovski et al. 2016]. Consequently, by adhering to the twin pillars of market and hierarchy, this study compares the strength of clan across different modes of supply chain governance, with a particular emphasis on the hybrid and alternative modes. Moreover, empirical studies on the modes of governance, especially market governance, are preoccupied with the dyadic perspective, so that, in

consequence, the wider network view is "given short shrift" [Williamson 1994, Jones et al. 1997]. This is an important issue, as networks operate on the logic of embeddedness, while the market is built upon the logic of economic exchange. To respond to this challenge, our study employs the triadic context, as the exemplary network form, by investigating the triadic (three-tier) supply chains, composed of the manufacturer positioned between its supplier and customer.

Accordingly, in the next section of the paper, the theoretical framework is presented, followed by a description of the research methodology. The following part contains the findings and a discussion. Finally, the major conclusions from the research are drawn.

THEORETICAL BACKGROUND

Historically, a dichotomous perspective covering the market and hierarchy as bipolar modes is perceived to be the starting point for elaborating on the hybrid mechanisms of supply chain governance. In line with the original framework developed by Williamson [1975], the governance decisions are fundamentally a choice between the market and hierarchy.

The mode of market governance as a price-based mechanism aims to establish contractual relationships over property rights [Poppo, Zenger 2002]. These contracts serve two functions. First, they seek to control opportunism, stemming from misaligned actions, and second, they tend to coordinate the expectations and behavior of actors [Malhotra, Lumineau 2011]. Market governance thus provides a high degree of flexibility to the companies so that they can remain independent and terminate the relationships established with other actors any time they are willing to. Hierarchy, as another mode of governance, is positioned at the other end of the market-hierarchy continuum. It seeks to overcome the problems of non-engaged and loose relationships typical for market governance. Therefore, hierarchy emphasizes a necessity to impose a supervisory structure and apply bureaucratic routines. It specifically refers to the level of control determined by explicit

rules, procedures and standards that establish the rights and obligations of actors in supply chains [Choi, Hong 2002]. In this way, hierarchy assumes that the companies are more engaged in established and committed long-lasting relationships [Lowndes, Skelcher 1998, Pilbeam et al. 2012]. However, on the other hand, it may reduce flexibility and innovation due to the higher level of formalization and centralization of power [Powell 1990]. Between these two extremes of the market-hierarchy continuum are interplay and the complementarity. Consequently, they produce hybrid modes of governance to be located between market and hierarchy [Jarillo 1988]. For instance, Heide [1994] identifies bilateral governance, positioned between bipolar modes of market and hierarchy, whereas Williamson [2008] distinguishes among muscular, benign and credible governance mechanisms. Correspondingly, Gereffi et al. [2005] recognize three mediating modes of modular, relational and captive governance, anchored between two extremes of market and hierarchy. On the other hand, Peterson et al. [2001] use the concept of governance to identify a wide spectrum of relationships, including contracts, relation-based alliance and equity-based alliance, which take into account the attributes of transaction and environment. Jones et al. [1997] recommend that these hybrid modes fall under a common umbrella of network governance. In essence, network governance is characterized by informal social ties rather than bureaucratic structures typical for hierarchy and the formal contractual relationships distinctive for the market. Network is hence composed of close-knit groups of actors that maintain and sustain exclusive relationships with one another [Uzzi 1996]. Therefore, to conduct an in-depth analysis, we employ the triadic supply chain perspective in our study by investigating triads composed of two dyads with the manufacturer, as the middle actor linking both dyadic arrangements - one established with the supplier in the upstream dyad, and the other one with the customer, in the downstream dyad [Li, Choi 2009]. This kind of triad pertains to the basic triadic supply chains formed by three sequentially interconnected actors (supplier, manufacturer, customer) that establish linear product and information flows [Mentzer et al., 2007]. Network governance, in line with the

Ouchi's notion of clan, refers to a kin-type network which is not necessarily based on blood relations [Oru 1996]. As a mode of governance, clan is produced by the embedded pattern of exchange ties [Powell 1990]. Embeddedness shifts actors' motivations from a narrow pursuit of achieving short-term goals to enriching the relationships with trust and reciprocity [Uzzi 1996]. In essence, "Embeddedness refers to the fact that economic action and outcomes ... are affected by actors' dyadic (pairwise) relations and by the structure of the overall network of relations" [Granovetter, 1992]. Embeddedness therefore suggests that no organization is 'suspended in a vacuum' and each operates under the influence of the social network in which the companies are embedded. In the supply chain context, embeddedness can be defined as the extent to which a firm relies on a network of other actors [Kim 2014a]. Clan highlights that purely economic exchanges may be shaped by social capital, which is a tacit resource attainable by individual actors through the networks of relationships [Whipple et al. 2015]. In other words, embeddedness creates opportunities for economic exchanges of goods which are difficult to price and enforce contractually [Uzzi 1996]. In the course of time, a discussion unfolded as to whether clan should be rather understood as a unique, non-market and non-hierarchical, and thus not an intermediate form of governance, possessing complementary, multi-relational and reciprocal characteristics [Powell 1990]. In line with this view, clan is rather considered to be positioned between neither market nor hierarchical modes of governance. In the light of the above, regardless of the distinct opinions concerning the position of clan on the market-hierarchy continuum, we posit that hybrid modes of governance, anchored between market and hierarchy, as well as neither market nor hierarchical modes of governance are enriched with social ties, trust and reciprocity in the triadic supply chains. Thus, we postulate the following hypotheses:

H1: The hybrid modes of governance, anchored between bipolar modes of market and hierarchy, demonstrate higher portion of clan in comparison to market and hierarchy as the sole modes of governance in the triadic supply chains.

H2: The alternative (neither market nor hierarchical) modes of governance indicate higher portion of clan as compared to market and hierarchy as two sole modes of governance in the triadic supply chains.

METHODOLOGY

Sample and Data Collection

To test the hypotheses stated above, data were collected from all three actors forming the triadic supply chain. To gather the necessary information, we combined probability and non-probability sampling to collect data from the manufacturers and two remaining actors, respectively. First, stratified sampling was employed to conduct a study of a group of 98 Polish manufacturers, followed by the snowball sampling method used to obtain data from the suppliers and customers. These two groups were indicated by the manufacturers. Out of 98 manufacturing companies, 10 firms refused to fill in the questionnaire, maintaining that their suppliers or customers would not be willing to participate in this sort of research. Likewise, a large group of 50 manufacturers encountered problems with a bad attitude towards the questionnaire among suppliers or customers. Finally, 4 manufacturers managed to encourage their suppliers and customers to participate in the survey. However, after receiving the questionnaire, they refused to take part in the research. Consequently, the remaining 34 triads that establish a simultaneous relationship with both a supplier and a customer were investigated in the study.

Survey Administration and Measures

To conduct the survey, a questionnaire consisted of several measurement items covering the issues of market and hierarchy, as two bipolar modes of governance, and clan. Most of the measurement items were operationalized in prior research; however, some of them were derived from the literature review (Table 1). The structure of the survey questionnaire was adapted to certain groups of

respondents – actors playing different roles in the examined triadic supply chains. Accordingly, depending on the function served in a triad, each responding company answered a specific set of questions. Due to its central location, the manufacturer answered the questions concerning different modes of governance (market, hierarchy and clan) in the upstream and downstream dyad, separately for both dyads – one formed with its supplier, and the other one established with its customer. The other two groups of actors in a triad, the suppliers and the customers, answered the questions concerning governance yielded in a certain dyad formed with the manufacturer, respectively.

Two groups of measures were used that demonstrate the market and hierarchical modes of governance in reference to both dyads separately. Drawing upon the prior studies [Noordewier et al. 1990, Wang 2002, Mirkovski et al. 2016], the set of following 5 indicators manifesting market governance: the use of price as a predominant factor that determines the interorganizational collaboration; active searching for new partners who can potentially substitute the current ones; easiness to switch to another partner, dropping out the collaboration with the existing one; easiness to deliver the products by competitors; easiness to replace the current partner, if it does not offer good deals. Building on previous research [Eccles et al. 1992, Grant 1996, Jones et al. 1997, Ashenbaum et al. 2009], the following set of 5 indicators demonstrated hierarchy: active interference in the operations performed by the partner; using certain formal methods to control the partner; exposure to high costs when switching the partner; providing the partner with formal guidelines concerning how to solve problems and/or deal with disruptions; resolving ongoing disputes with the partner by referring to clauses in signed contracts. Further on, the review of past studies [Mesquita et al. 2008, Liu et al. 2009] brought the following group of 4 measures reflecting clan, as the third basic mode of governance: striving to build trust and sense of community by organizing meetings and trainings to encourage the partner to share empathy and mutual understanding; maintaining a discussion with the partner which concerns all relevant issues

of its operations and strategy; trying to develop trust with the partner; resolving the disruptions

in collaboration with the partner in the spirit of mutual understanding.

Table 1. An Excerpt of the Questionnaire

Categories	No.	Abbreviation	Question
<i>Please rate mechanisms of network governance with reference to company B in the following areas: (1- 'strongly disagree', 3- 'neutral', 5- 'strongly agree')</i>			
1. Market	4.1.	MUD_1/MDD_1	The price is a predominant factor that determines my collaboration with B
	4.2.	MUD_2/MDD_2	My company is very active in searching for new partners who can potentially substitute B
	4.3.	MUD_3/MDD_3	My company can easily switch to another partner, dropping out the collaboration with B
	4.4.	MUD_4/MDD_4	The goods delivered by my company to B can be easily delivered by my competitors
	4.5.	MUD_5/MDD_5	My company keeps reminding our partner that it can be easily replaced, if it does not offer good deals
2. Hierarchy	5.1.	HUD_1/HDD_1	My company very actively interfere in the operations performed by B
	5.2.	HUD_2/HDD_2	My company controls B using certain formal methods
	5.3.	HUD_3/HDD_3	My company would be exposed to high costs when switching B
	5.4.	HUD_4/HDD_4	My company provides B with formal guidelines concerning how to solve problems and/or deal with disruptions.
	5.5.	HUD_5/HDD_5	My company resolves ongoing disputes with B by referring to clauses in signed contracts
3. Clan	6.1.	CUD_1/CDD_1	My company strives to build trust and sense of community by organizing meetings and trainings to encourage B to share empathy and mutual understanding
	6.2.	CUD_2/CDD_2	My company maintains a discussion with B which concerns all relevant issues of its operations and strategy
	6.3.	CUD_3/CDD_3	My company keeps trying to develop trust with B
	6.4.	CUD_4/CDD_4	Disruptions in collaboration with B are productively resolved in the spirit of mutual understanding

The responses obtained from both actors forming a dyad were then captured as average scores indicating the modes of governance in a bilateral arrangement. Correspondingly, the measures of clan were established by the average scores obtained separately for both upstream and downstream dyads in the triadic supply chain.

Research Methods and Analysis

To investigate the role of clan in supply chain governance, a two-step statistical analysis was performed. In the first step, the variables indicating certain modes of market and hierarchy of upstream and downstream dyads were narrowed down to the main underlying multi-item constructs through Principal Component Analysis (PCA) with Varimax Rotation. In the second step of the analysis, the factor scores obtained through

PCA for market and hierarchical governance were used in the cluster analysis. First, a hierarchical cluster analysis was employed to determine the number of clusters, followed by K-means cluster analysis to perform group profiling and make necessary comparisons between the clusters in terms of the items manifesting clan in the upstream and downstream dyads.

Principal Component Analysis

To identify the basic modes of governance in the triadic supply chains, the PCA was carried out originally in two groups of variables, which manifested governance of both upstream and downstream dyads. Each group was comprised of 11 variables reflecting market and hierarchical governance. In the group of variables concerning governance in the upstream dyad, one variable was dropped

for its moderate exploratory relevance, as its factor loading that did not exceed 0.6 (Kline, 1994). The remaining ten variables in the first group indicated satisfying values of individual sampling adequacy and factor loadings. In the second group of items concerning the downstream dyad, all variables were accepted for further analysis, as they demonstrated satisfying values of individual sampling adequacy and factor loadings. Based on the Kaiser criterion and own values for each factor, the analysis showed a clean factor-loading pattern with minimal cross-loadings and high loading on the one construct.

In both groups reflecting the modes of governance in the upstream and downstream dyads, the PCA produced three constructs - two constructs of hierarchical governance and one construct of market governance – Table 2.

Table 2a. Rotated Component Matrices for the upstream dyad

	Component		
	HUD_1	MUD	HUD_2
M5_UD	0.917		
H1_UD	0.898		
H2_UD	0.786		
H3_UD	0.694		
M1_UD		0.881	
M4_UD		0.834	
M2_UD		0.786	
H5_UD			0.927
H6_UD			0.893
H4_UD			0.737

More specifically, the constructs of governance in the upstream dyads (hierarchical modes of upstream dyad - HUD_1 and HUD_2, and market mode of upstream dyad - MUD) and downstream dyads (hierarchical modes of downstream dyad - HDD_1 and HDD_2, and market mode of downstream dyad - MDD) explain 77.90 and 76.44 of total variance, respectively. Interestingly, almost all variables were logically classified to their corresponding constructs. In other words, the items demonstrating market governance, except for one variable (M5), were grouped

into the market governance construct in both types of dyads, while all items manifesting hierarchy were split into two constructs in both dyads.

Table 2b. Rotated Component Matrices for the downstream dyad

	Component		
	MDD	HDD_1	HDD_2
M4_DD	0.920		
M2_DD	0.902		
M3_DD	0.825		
M1_DD	0.702		
H2_DD		0.890	
H1_DD		0.851	
M5_DD		0.824	
H3_DD		0.624	
H5_DD			0.917
H6_DD			0.884
H4_DD			0.834

The Cronbach's alpha coefficients were then estimated to check the internal consistency of extracted constructs. For each of all three governance constructs in both dyads, the Cronbach's alpha coefficients demonstrated a satisfying level of at least 7.

Cluster Analysis

Characteristics of Clusters

The scores obtained for all constructs manifesting governance were employed as clustering criteria in the second step of the analysis. At first, to determine the number of clusters a hierarchical cluster analysis with Ward's partitioning method and squared Euclidean distance was performed. Ward's method attempted to minimize the sum of squares of any hypothetical clusters, which can be formed at each step. To determine the optimal number of groups, we used a dendrogram to display dissimilarity levels between clusters – Figure 1. The heights of the

links represent the distance at which each fusion is made, so that a greater dissimilarity between the objects indicates a greater distance between them and a taller link [Montalbano, Nenci 2014]. The optimal number of groups was derived by comparing the coefficients in the agglomeration schedule [Ketchen, Shook 1996]. The greatest difference between the coefficients can be observed when four clusters are derived. To assign each case to the appropriate cluster, the number of 4 clusters was used to conduct K-means cluster analysis. The criterion of the cluster membership was the minimal Euclidean distance between each case and classification center represented by centroid (cluster center). To validate the results of clustering, the outcome of K-means cluster analysis was compared with the class assignment obtained from the hierarchical cluster analysis. The Rand Index showed that 78.4 percent of pairs of objects are placed in the same class. It means a high level of agreement and confirming the correct choice of K-means cluster analysis as the leading clustering method [Krieger, Green 1999].

Based on the intensity of constructs manifesting certain modes of governance, very interesting results across the four clusters might be delineated (Figure 2). First, two out of four clusters unequivocally cover the triadic supply chains governed by sole mechanisms of market (cluster 2) and hierarchy (cluster 4). On the other hand, two remaining groups include the triadic supply chains governed by hybrid modes of governance (cluster 3), whereas cluster 1 consists of supply chains governed by neither market nor hierarchy. Correspondingly, it is also worth mentioning that the clusters of triadic supply chains demonstrate consistency in terms of the modes of governance across both dyads. In other words, the upstream dyad is governed by the same mode as the downstream dyad in the particular triad grouped into each of four constructs. For instance in cluster 2, both dyads are governed by the high intensity of market governance, whereas in cluster 4 both dyads are run by the high intensity of hierarchy. Very similar tendencies might be observed when considering the remaining two clusters.

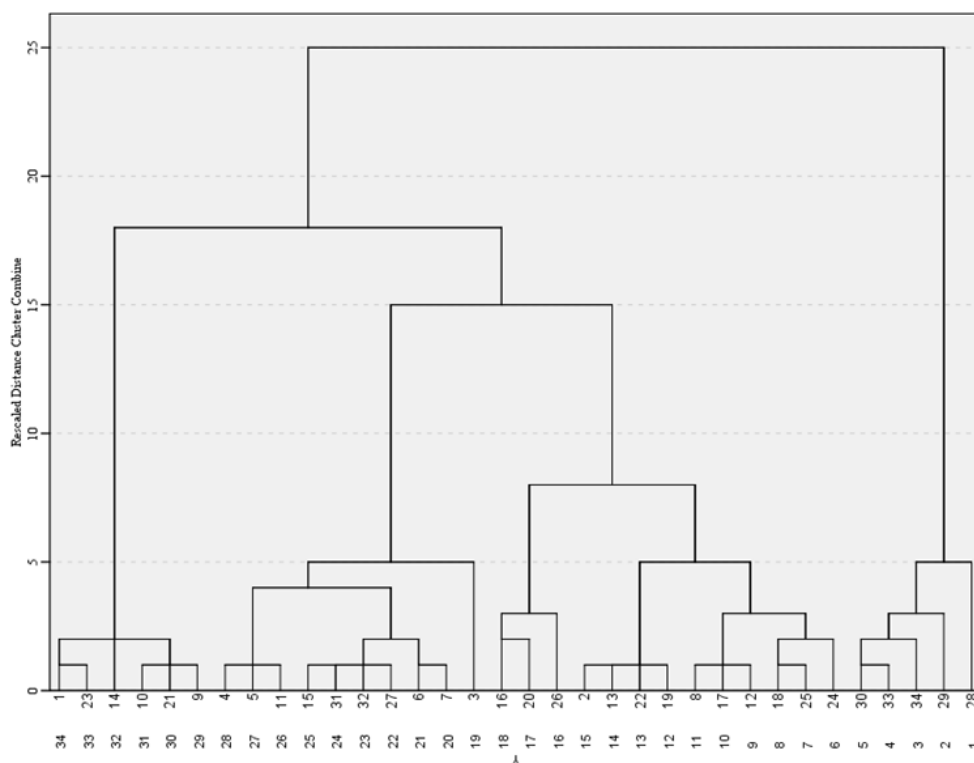


Fig. 1. Dendrogram using Ward Linkage

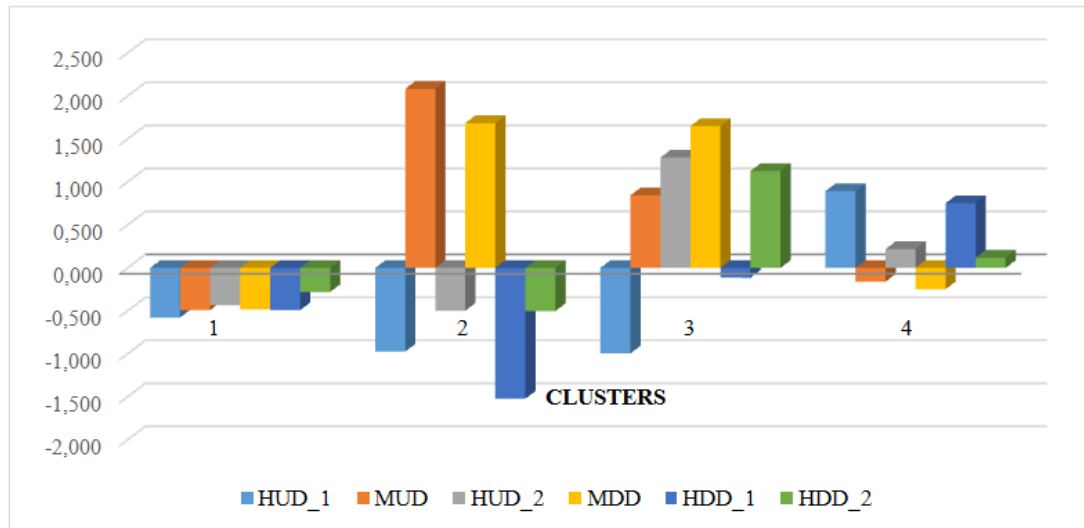


Fig. 2. The characteristics of clusters regarding the intensity of the modes of governance

RESEARCH FINDINGS AND DISCUSSION

In order to reveal the strength of clan in the triadic supply chains applying different modes of governance, we first tested whether the differences among clusters are significant for clan in the upstream and downstream dyads. Then, the Mann-Whitney U mean ranks for clusters in the upstream and downstream dyads were estimated, as depicted in Table 3.

Drawing upon the results obtained, the clusters of triadic supply chains governed by both the hybrid and market modes demonstrate significantly higher mean ranks. In actual fact, as shown in Table 3, both groups do not differ significantly from each other in terms of variables reflecting clan, and their significant ranks take rather similar values across all clusters. Therefore, building on previous studies, we conclude that the hybrid modes of governance investigated here might be described primarily as relational governance. In this vein, Josi and Campbell [2003] acknowledged that relational governance can be defined as the extent to which the supply chain actors employ relational norms and joint actions, to establish relationships full of commitment, openness, reciprocity, and goal congruence that aim to curb opportunism and selfishness. For that reason, relational

governance is often referred to as “informal, self-enforcing governance” [Dyer, Singh 1998]. Interestingly, however, in the light of the findings, the same characteristics might also be assigned to market governance. This may stem from the fact that both market and hybrid governance share a number of common characteristics that describe these two modes. For instance, market governance offers adaptability and flexibility [Powell 1990], which can also be distinctive for the hybrid mode of governance. By the same token, Heide and John [1992] maintain that relational governance is an important hybrid structure that allows exchange partners to adapt flexibly in responding to uncertainty. In the same vein, Wang and Wei [2007] provide evidence that relational governance benefits information visibility and enhances supply chain flexibility. Also, more generally, the findings are also supported by previous studies underscoring that market governance is embedded within social and cultural circles. Consequently, “market is not an amoral self-subsistent institution, but a cultural and social construction” [Powell 1990]. We believe that the above arguments at least partially substantiate and elucidate why the clusters of triadic supply chains, which are run by both hybrid and market modes of governance, demonstrate similar and significantly higher mean ranks for clan.

Table 3. Mann-Whitney U test ranks for clusters in the upstream and downstream dyads[†]

Cluster	No. Description	Mean Ranks (Upstream dyad)				Mean Ranks (Downstream dyad)			
		Building trust and sense of community	Discussion on relevant issues	Keep trying to develop trust	Resolving disruptions in the spirit of understanding	Building trust and sense of community	Discussion on relevant issues	Keep trying to develop trust	Resolving disruptions in the spirit of understanding
	1 Alternative			7.04 **	7.23 *			7.00 **	7.00 **
	2 Market			14.83 **	14.00 *			15.00 **	15.00 **
	1 Alternative	7.27 *	7.00 **	7.04 **	7.31 *	7.00 **	7.00 **	7.00 **	7.00 **
	3 Hybrid	13.83 *	15.00 **	14.83 **	13.67 *	15.00 **	15.00 **	15.00 **	15.00 **
	1 Alternative		11.04 *		17.73 *		10.12 **		
	4 Hierarchy		17.50 *		11.70 *		18.30 **		
	2 Market								
	3 Hybrid								
	2 Market			16.33 *	16.33 *			16.00 *	16.33 *
	4 Hierarchy			8.13 *	8.13 *			8.20 *	8.13 *
	3 Hybrid			16.33 *	16.33 *			16.00 *	16.67 **
	4 Hierarchy			8.13 *	8.13 *			8.20 *	8.07 **

[†] Only significant ranks are shown

* Assymp. Sign. (two-tailed) at $p < .05$

** Assymp. Sign. (two-tailed) at $p < .01$

*** Assymp. Sign. (two-tailed) at $p < .001$

On the other hand, the remaining two clusters of triadic supply chains – one governed by the sole mode of hierarchy, and the other one run by neither market nor hierarchy appear to be rather similar regarding the basic characteristics of clan. Specifically, the findings obtained here suggest relative scepticism of triadic supply chains run by hierarchy towards establishing the social ties. This research outcome is clearly highlighted by Vlachos [2014], who argues that running hierarchy is not a straightforward governance process in supply chains as it involves a degree of exposure and sharing, and not all companies keep doors open to external actors. Among the barriers of hierarchical governance in supply chains one may enumerate: deficiency of trust and awareness, fear of missing out control over the internal processes, incongruence of goals, short-term orientation [Barratt 2004, Ellinger et al. 2006]. This probably makes the triadic supply chains governed by hierarchy rather reluctant towards incorporating the clan context into their operations, as compared with the market and hybrid clusters. In the light of the aforementioned, the findings only partially support H1. More specifically, the hybrid modes of governance (especially relational governance), anchored between bipolar modes of market and hierarchy demonstrate a higher

proportion of clan in comparison to hierarchy as the sole mode of governance in the triadic supply chains. Concomitantly, the triadic supply chains run by both market and hybrid governance do not differ from each other, as they indicate similar and significantly higher mean ranks for clan.

Interestingly, however, a more in-depth analysis of the findings may also suggest that the cluster gathering the triadic supply chains run by neither market nor hierarchy shows, in fact, the lowest mean ranks, compared to all remaining groups. More importantly, the study reveals that alternative (neither market nor hierarchical) modes of governance do not indicate a higher proportion of clan as compared to market and hierarchy as two sole modes of governance in the triadic supply chains. In the light of the above, the findings do not give support to H2. As evidenced in the study, the alternative modes of governance differ significantly from the hybrid modes of governance in terms of all variables manifesting clan. This clearly suggests that both clusters of triadic supply chains are not the same. The simplest explanation for this finding is that the hybrid modes are much more strongly enhanced by the social dimensions encapsulated in clan than the alternative

modes. However, when looking for a more-in-depth explanation, we assert that the essence of clan in the hybrid modes can differ significantly from the essence of clan in alternative modes of governance. This is a very striking finding obtained from the empirical analysis adding an apparent novelty to the prior conceptual studies. For the last few decades, the discussion has revolved around whether clan is a hybrid or alternative mode of governance [Williamson 1985, Ouchi 1980, Powell 1990]. Departing from this issue, Demil and Lecocq [2006] developed the concept of bazaar governance, which indicates distinct features in terms of coordination. By employing the coordination characteristics of the means of communication (coordination mechanism governing the exchange), intensity of incentives and intensity of control, one may distinguish between some common but also some distinct features of bazaar and clan governance [Susha et al. 2017].

In this study, some variables appear to be much better indicators of clan than others across the clusters of supply chains that were investigated. For instance, trying to develop trust with the other actor in a dyad as well as resolving the disruptions in the spirit of mutual understanding is more significant for partitioning the research sample. However, it is also worth mentioning that all variables demonstrating clan turned out to be significant clustering criteria with greater or lesser partitioning strength. Likewise, the study also revealed that there is a balance between the upstream and downstream dyads in terms of specific variables manifesting clan. Put differently, there is the same set of variables manifesting clan that differentiates two clusters in both dyads. For instance, trying to develop trust with the other actor in a dyad as well as resolving the disruptions in the spirit of mutual understanding are two variables that are significant across two dyads when conducting three comparisons run between the following couple of clusters: alternative-market, market-hierarchy and hybrid-hierarchy. In addition, all variables manifesting clan the alternative cluster differs significantly from the hybrid group in the upstream and downstream dyads.

CONCLUDING REMARKS

The goal of the paper was to compare diverse modes of supply chain governance (with the emphasis on hybrid and alternative modes) in terms of the strength of clan. The study shows that although the pure mechanisms of market and hierarchy can still be revealed in governance of triadic supply chains, they are enhanced by clan to a different extent. In addition, clan as the mode of governance takes a leading role in the hybrid modes of governance, as compared to alternative mechanisms. This may suggest that either the hybrid modes are much more strongly enhanced by social dimensions encapsulated in clan than the alternative modes or that the essence of clan in the hybrid modes is not the same as the essence of clan in the alternative modes of governance. Following the latter line of reasoning, we conclude that the silver bullet for solving this problem may reside within the nature of clan, which is significantly different in both modes of governance. If it turns out to be true, then it would require shifting the scope of future research from searching for common themes to searching for the differences among the dimensions of clan in both modes of governance. Consequently, we argue that there is a need to look for other characteristics of clan to indicate differences between the hybrid and alternative (neither market nor hierarchy) modes of governance.

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ROLA KLANU W HYBRYDOWYCH ORAZ ALTERNATYWNYCH MECHANIZMACH KOORDYNACJI DZIAŁAŃ W ŁAŃCUCHACH DOSTAW

STRESZCZENIE. Wstęp: Ostatnie publikacje dotyczące zarządzania łańcuchem dostaw podkreślają znaczenie kontraktowej i relacyjnej koordynacji działań, jednocześnie ignorując istotność koordynacji hierarchicznej. W celu sprostania temu wyzwaniu artykuł zakłada, że zarówno koordynacja rynkowa, jak i hierarchiczna są osadzone w kontekście społecznym, i jako takie, w pewnym stopniu stosują aspekty relacyjne, określane w tym artykule mianem klanu. Jednocześnie, klan rzadko występuje jako samodzielny mechanizm koordynacji działań, przeciwnie może przyjmować postać formę hybrydy (osadzonej między rynkiem i hierarchią) lub może być mechanizmem alternatywnym (nie rynkowym i zarazem nie hierarchicznym). Poprzez nawiązanie do klasycznej koordynacji rynkowej i hierarchicznej,

celem artykułu jest porównanie różnych mechanizmów koordynacji działań w łańcuchu dostaw (w tym przede wszystkim mechanizmu hybrydowego i alternatywnego) ze względu na siłę aspektów relacyjnych, zakotwiczonych w klanie.

Metody: W artykule przeprowadzono dwa etapy wielowymiarowej analizy statystycznej. W pierwszym etapie zmienne odzwierciedlające mechanizm rynkowy i hierarchiczny oddzielnie dla obu diad, zostały zredukowane za pomocą analizy czynnikowej z rotacją varimax w celu identyfikacji podstawowych konstruktów. W drugim etapie badania, otrzymane oceny czynnikowe zostały wykorzystane w grupowaniu obiektów.

Wyniki: Przeprowadzone badanie pokazuje, że hybrydowa koordynacja działań (w szczególności mechanizm relacyjny), osadzona między dwoma biegunowymi mechanizmami rynku i hierarchii wykazuje wyższy stopień wykorzystania aspektów relacyjnych, typowych dla klanu, aniżeli hierarchia, stosowana jako jedyny mechanizm w triadycznych łańcuchach dostaw. Jednocześnie, triadyczne łańcuchy dostaw koordynowane za pomocą mechanizmu rynkowego i hybrydowego nie różnią się istotnie, pokazując podobne wartości średnie rang dla klanu. Badanie pokazuje również, że alternatywne (nie rynkowe i zarazem nie hierarchiczne) mechanizmy koordynacji działań nie wskazują wyższych wartości średnich rang dla klanu w porównaniu do mechanizmu rynkowego i hybrydowego.

Wnioski: Badanie pokazuje, że klan pełni przewodnią rolę w koordynacji hybrydowej w porównaniu do alternatywnych mechanizmów koordynacji. Może to sugerować, że albo koordynacja hybrydowa jest wzbogacona aspektami relacyjnymi, typowymi dla klanu, w porównaniu do alternatywnych mechanizmów koordynacji, albo istota klanu w koordynacji hybrydowej nie jest tożsama z istotą klanu w alternatywnych mechanizmach koordynacyjnych. W świetle powyższego, rozwiązanie tego problemu może wynikać z natury klanu, który istotnie różni się w obu mechanizmach koordynacji działań w łańcuchach dostaw.

Słowa kluczowe: koordynacja rynkowa, koordynacja relacyjna, hierarchia

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