



A Machiavellian behavioural framing of social conflict risks in supply chains

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A Machiavellian behavioural framing of social conflict risks in supply chains

No	Comment	Response
Comment from reviewer 1		
1	I suspect that the paper is original and new but it does not provide any significant information that would inform supply chain managers as they work to improve the performance of their supply chains to better satisfy the ultimate customers of the supply chain. I can find very little about supply chains or that relates to supply chains in the manuscript.	Thank you very much for this comment. In the revised paper, we have now made substantial changes incorporating considerable supply chain management literature. Mindful of our desire not to dilute the message, we have focused our revisions which sought more explicit contextualisation of our ideas in SCM literature at the introduction section of the paper.
2	The authors demonstrate knowledge of literature related to the theories/philosophies that they discuss but very little knowledge of the extant supply chain literature.	Please see our response above to comment no. 1.
3	The authors have sought to synthesize the theories and philosophies through logical presentation and argument. They have done a nice job of describing the theories and philosophies but have done very little to relate them to supply chains and supply chain management.	Please see our response above to comment no. 1.
4	Only discussion of the theories and philosophies with a very tenuous connection to conflicts between supply chain partners. The discussion is very general and provides no	This point is also noted. We have addressed this comment by re-writing the conclusion of the paper. In the revised conclusion, we now present a separate sub-section for (i) theoretical contributions and (ii) practical

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	practical direction to supply chain managers.	contributions. Section 6.2 which deals with practical contributions is newly written text that directly responds to this comment.
5	I can see no implications for practicing managers or for supply chain researchers. The approach taken is slightly interesting but argument is not sufficiently developed to tie the discussion to better understanding the dynamics of personal relationships within a supply chain context.	Thank you for this comment. We have addressed the issue of dynamics of personal relationships in the paper by developing the literature in this area in the (i) the newly created section 1.1 – where we discuss trust, partnerships and collaboration (ii) we have created a new sub-section, that is sub-section 1.2 which is explicitly directed at providing an overview of these dynamics.
6	The manuscript is well written from a stylistically standpoint but not from a content viewpoint. There is very little communicated that relates substantively to SCM.	Please see our response above to comment no. 1.
	Comment from reviewer 2	
7	You brought a different perspective by writing an original idea in the study of SCM that are more practical in the approach. I think it will be much better if the relationship between the frame (machievellianism) and SCM is explored so that the conceptual idea resulted from the paper can be contextually apply in SCM. Otherwise, the result can be applied in any context and it will lose its meaning.	Thank you very much for this comment. We have addressed the need for more explicit framing of Machievellianism by the introduction of a revised section 1.4 where we have drawn upon the works of Chonko (1982a, b).
8	The originality of the paper is obvious. It offers an	Thank you for this comment.

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	<p>interesting approach to study SCM that may be still uncommon for many supply chain scholars. Thus the paper can contribute to methodological approach in the area of study.</p>	
9	<p>A small note: the authors need to write the long version of SCM at the first time it appears so readers do not need to guess around what it stands for.</p>	<p>Thank you for this comment. This has now been addressed.</p>
10	<p>The authors presented exhaustively philosophical approach used in the study. They however elaborated SCM as the context insufficiently and in-proportionately. This can create ambiguity in some terms such as social conflict risks, social threats, micro-political conflict addressed by the authors. They may have specific meaning in the context of SCM that differ from those in other areas of studies. The authors seemingly assumed that everyone already knows them (at least that's my impression).</p>	<p>Thank you for this comment. There are two issues which you have raised which we will address.</p> <p>As relates to the first part of your comment, the first reviewer in comment no. 1 had also reiterated that there was an imbalance of supply chain management literature against the philosophical writings. To address this comment (which is also made here), we have extensively extended and added SCM literature to the paper, especially in the introduction sections.</p> <p>In terms of the second comment relating to terminology, we have addressed this by articulating in the introduction section of the paper – specifically in sub-section 1.1 (contextualisation) – what these terminology means and implies. For example, we have now clarified that social conflict are in effect, inter-personal conflicts. Furthermore, to avoid any confusion,</p>

		we have completely removed reference to ‘micro-political conflict’.
11	The arguments to apply Machiavellianism are well presented.	Thank you for this comment.
12	<p>The result that supply chain managers have to have two behavioural patterns fails to show its contextual meaning. It means that the result can be used in any other contexts, such as decision-making or marketing management which also involves complex relationship with many entities.</p> <p>The emphasis on the context needs to be clarified.</p>	<p>We now further emphasise that our theory is one of constructive simplification in the realist tradition, which provides a starting point for theory construction using the dark triad and conservatism/authoritarianism literatures we outline. Hence we do not treat it as an essentialist theory holding that managers need to have the two patterns. Of course, we thank the reviewer for drawing to our attention the suggestion that this is how the theory might be read, and therefore the abstract, as well as pages 8 and 11, now further emphasise our concern with theory building through constructive simplicity in the realist tradition. Also, we make further more detailed comments throughout the paper drawing attention to the supply chain context to ensure it is differentiated from alternative management contexts where social relations and conflict are important, and where the general theory might therefore similarly apply. For example, page 17 now says more about the ideas that can bind supply chains (which the leonine managerial type might be expected to promote). Furthermore, pages two to four now establish the supply chain management context more clearly by introducing new literature drawing attention to complexity and potential for disruption in supply chain collaborations/partnerships. We did consider</p>

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		<p>introducing some of the substantial literature on micro-politics within organisations, which might have served to differentiate the supply chain context, but took the decision this would dilute the paper’s focus excessively.</p>
12	<p>The implications are more conceptual (as the paper is intended to). However the practical implication can be developed further in terms of how the suggested approach can be used in SCM study.</p>	<p>Thank you for this comment. This point was also raised by the first reviewer and we have addressed it in our response to point no. 4. In summary, as we had stated (in response no. 4), in the revised conclusion, we now present a separate sub-section for (i) theoretical contributions and (ii) practical contributions. Section 6.2 which deals with practical contributions is newly written text that directly responds to this comment.</p>
13	<p>The writing is phylosophically high indicated from the choice of words and structure of the sentences. It is also highly conceptual. These makes the paper is by nature more suitable for only particular readers, that is those having sufficient knowledge in methodological philosophy, social science approaches, and SCM. Even though due to its quality of the writing people can jump to the conclusion and get the idea of applying behavioral approach in studying SCM regardless the reasons underlying the idea.</p>	<p>This point is noted and a similar point appears to have been made by the first reviewer in point 4 – thus, we have incorporated into the conclusion, practical contributions of the paper – thus showing its application to SCM practitioners.</p>

A Machiavellian behavioural framing of social conflict risks in supply chains

Abstract

Purpose: This conceptual paper explores how supply chain managers deal with social threats to supply chains, in the process demonstrating the potency of a largely neglected strand of realist social theory. This theory, we posit, sheds a great deal of light on the behavioural reality of how supply chain managers operate within the social aspects of their risk environments.

Design/methodology/approach: The paper is presented as a narrative synthesis of classical realist sociological literature.

Findings: The Machiavellian approach provides a template which can be used to help academics and practitioners understand how and why supply chain managers orient themselves to the social threats they confront in very different ways. The theory's contention that the behavioural reality can be subdivided between two basic patterns allows it to serve as a constructively simple template for becoming attuned to ways in which supply chain managers socially construct and act within their social threat environments.

Research limitations/implications: The growing social complexity of supply chains gives behavioural responses a complexity reduction function. The authors theorise that such patterns, once activated, may not necessarily adapt rationally as guides to optimise the chance of success against the full range of social threats they are likely to encounter.

Originality/value: Cross-disciplinary supply chain management research is increasingly drawing upon sociology and behavioural science to facilitate greater understanding of not only the supply chain environment, but also of the roles of supply chain managers as relationship influencers and managers of conflict. The authors posit that Machiavellian-realist social theory can contribute to supply chain management scholarship by offering a constructively simple approach to evaluating the behavioural realities associated with social threats.

Keywords: realism; risk analysis; supply chains; social threat; Machiavellianism

1.0 Introduction

1.1 Contextualisation

The academic literature acknowledges that the management of risks is crucial to supply chains (Tang, 2006; Narasimhan and Talluri, 2009; Klassen and Vereecke, 2012; Freise and Seuring, 2015; Kilubi, 2016). A number of factors are driving this interest. One such factor is the ever increasing engagement and collaboration with international suppliers. Scholars such as Narasimhan and Talluri (2009) and Zeng and Yen (2017) point out that while such partnerships and collaboration have enhanced low cost sourcing, they have also increased the exposure of supply chains to disruption, in particular as associated supply chain relations have become more complex. In some instances, instead of representing desired platforms for co-operation, supply chains are experiencing competition between buying firms and their suppliers (Bradford *et al.*, 2004; Rossetti and Choi, 2005). As they take into account the nature of the business environment and its relationships between organisations and key individual actors, supply chains represent complex social environments (Holweg and Pil, 2008; Kanda and Deshmukh 2008; Borgatti and Li, 2009). Thus, exploring risks emanating from social conflict between its key individual actors is of importance because of the impact of such conflict.

Within the context of supply chains, Bradford *et al.* (2004) defines conflict as “...*the behaviours or feelings of interdependent parties in response to potential or actual obstructions that impede one or more of the parties achieving their goals*” (p. 182). Conflict is widely recognised in the literature as a phenomenon ubiquitous to supply chains (see for example Bradford *et al.*, 2004; Johnston *et al.*, 2004; Lam and Chin, 2005; Kozan *et al.*, 2006; Lam *et al.*, 2007; Bradford and Weitz, 2009; Chang and Gotcher, 2010). Conflict can be classified against level, an example being personal or group level conflicts (Pelled and Adler, 1994; Pelled *et al.*, 1999). It can also be classified against content (Guetzkow and Gyr, 1954). An example of such content-based social conflict could be inter-personal conflicts between various actors within supply chains.

Noting definitions of supply chain risks advanced by Juttner *et al.* (2003; p. 200) and Pfohl *et al.* (2010; p. 34), we conceptualise social conflict risk as “...*risks within supply chains that are attributable to social (inter-personal) factors that have the potential to disturb and disrupt not only the flow of information, materials, products and services from the original supplier to the end user or customer, but also has the potential to impede on vendor-supplier-customer integration*”. More specifically, drawing from Bradford *et al.*

(2004), we represent social (inter-personal) conflicts as conflict that emerges due to disagreements between key individual actors within (inter) supply networks. Such disagreements can arise out of distrust, suspicion, hostility among these actors. If unmanaged, the consequences for supply chains can be devastating, negatively impacting on optimised decision-making within the supply chain.

1.2 Dynamics of social (inter-personal) relationships

Individual managers play a critical role in the success of supply chains (van Hoek *et al.*, 2002; Mangan and Christopher, 2005). For managers to be successful, there is an expectation that they exhibit expected level of both technical expertise and social skills. The literature suggests that such social skills will include not only the ability to engage in collaboration with other actors within the supply chain (van Hoek *et al.*, 2002), but also an ability to build and maintain formal and informal social (personal relationships) and ties with other actors in the supply chain (Cousins *et al.*, 2006; Gligor and Autry, 2012; Gligor and Holcomb, 2013). Being able to maintain such relationships and social ties in supply chains may be perceived to represent the foundation of SCM as social capital theory suggests that such relationships leads to increased familiarity between different supply chain actors, thus leading to an increase in the richness and quality of the dyadic exchange relationships (relational capital) between them (Gligor and Autry, 2012; Gligor and Holcomb, 2013). Drawing from the literature (Cousins *et al.*, 2006), we can posit that through interaction, actors within a supply chain come to communicate the expectations and understand norms of other actors which leads them to taking a number of different actions. These actions may include (i) continuing to collaborate and in the process, reap a number of benefits which leads to value creation (ii) minimise the scale of engagement (iii) cease further engagement (iv) or in extreme cases take specific retaliatory threat responses against specific actors who are perceived to have violated behavioural expectations (see Chipulu *et al.*, 2016).

1.3 Managing social conflict risks

While the literature widely recognises (i) the existence of conflict supply chains and (ii) a direct correlation between the effective management of social conflict risks and supply chain performance (Tang, 2006; Wagner and Bode, 2008; Rao and Goldsby, 2009), it appears that many organisations are far from able to effectively manage social conflict risks (Klassen and Vereecke, 2012; Freise and Seuring, 2015). There are a number of reasons for this. One

possible reason relates to the nature of the interaction between various supply chain actors. As a social space for the flow of information, materials, products and services, Reinecke *et al.* (2018) suggests that supply chains do not only serve as platforms for the exchange of information, goods and services. They also serve as instruments for social relations involving people who for a number of behavioural reasons, are often than not, unlikely to make decisions in a manner which is explicitly rational. Another such reason is that scholars still ascribe varying definitions to risk. These definitions range from risk as an abstract concept pertaining to possible adverse circumstances which, when anticipated, require controls (such as arrangements to reactivate redundant suppliers), to a more functional and ecological construct which construes risks as intensifying with any inaction or action which maladapt social actors to their risk environments (Thompson, 1990; Hansson, 1996, 1999, 2010; Marshall and Ojiako 2013). Clearly, while all of these perspectives are important if social risks within complex global supply chain environments are to be sufficiently understood, there is nonetheless still a need for clarity in terms of how risk is conceptualised within any given study – and indeed for recognition of what alternative approaches might further contribute. Thus, in light of an earlier point made by Narasimhan and Talluri (2009) on the need for “...effective methods[ology] for anticipating, identifying, classifying and assessing risks in supply chains” (p.115), our basic research problem is that social complexities and resulting intense social (inter-personal) conflicts serve as a platform for understanding risk in supply chains and the related adaptive challenge facing supply chain managers.

1.4 Bringing in a Machiavellian prism?

The question therefore becomes how can, and more importantly from a behavioural perspective, how do, supply chain managers negotiate the ‘social’, or more specifically, the social threats that exist within the highly complex environments they seek to manage. More importantly, how can supply chain managers even begin to conceive the adaptivity or maladaptivity between a particular social conflict posture and a particular kind of social threat environment? We will see that ultimately a realist perspective may be of value in evaluating social conflict in such ecological terms. We focus on the supply chain manager, for while there are numerous actors involved in supply chains (Reinecke *et al.*, 2018), the supply chain manager role remains the critical (van Hoek *et al.*, 2002) and pivotal (Mangan and Christopher, 2005) dimension of success in the management of supply chains (van Hoek *et al.*, 2002).

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3 To address these questions, and noting the view that there is a tendency for SCM
4 studies to be undertaken in a positivist manner which has more often than not, led to the
5 human behavioural dimension of SCM being ignored (see Tokar, 2010; Wieland *et al.*, 2016;
6 Schorsch *et al.*, 2017), in this study, we seek to utilise cross-disciplinary epistemologies,
7 theories and philosophies. The intention underlying this is not just to address the questions at
8 hand, but more fully to increase the “*robustness, predictive accuracy and overall usefulness*”
9 (Tokar, 2010, p. 89) of academic theory on SCM risk management. Our approach should not
10 come as a surprise as Huo *et al.* (2015) points to the human behaviour dimension of SCM
11 playing a critical role in supply chains. Adamides *et al.* (2012) reminds us that supply chains
12 are primarily social constructs, entailing that processes of social construction undertaken by
13 supply chain managers should be important objects of study. Furthermore, as Granovetter
14 (1985) posits, economic activity is generally “embedded in concrete, ongoing systems of
15 social relations” (Granovetter, 1985; p. 487). Hence, our approach, entailing a focus on how
16 social relations which traverse the social threat environment are socially constructed, is likely
17 to further equip SCM with knowledge and insight beyond its traditional frontiers_-(Stock,
18 1997, 2009; Stock *et al.* 2010; Tokar, 2010; Knemeyer and Naylor 2011).

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As such, this study responds to a specific question raised by Khan and Burnes (2007, p. 211): “*How [do] other disciplines of research on risk inform our understanding of risk in the supply chain?*”. In response to this question, the authors show how one such classical philosophical theory, ‘realism’ (Devitt, 1991; Sayer, 2000; Reed, 2008), has increasingly been harnessed by scholars to expand the frontiers of SCM scholarship (Aastrup and Halldorsson, 2008; Adamides *et al.*, 2012; Peters *et al.*, 2013; Rotaru *et al.*, 2014).

We argue that there is still ample opportunity for further exploration of realist ideas
which might enhance our understanding of SCM. Our focus is on realist ideas pertaining to
how social actors both socially construct and (mentally) reduce the complexity of their social
threat environments, and in particular how they envision tactical possibility within such
environments. To achieve this focus we refer to a largely neglected strand of realist social
theory mainly associated with the Italian Renaissance philosopher Niccolo Machiavelli
(1513/1961) and his early 20th Century sociological interpreter, Vilfredo Pareto (1935). Most
importantly, this strand of theory focuses on the timelessness of human nature and its
psychological expressions within highly permanent behavioural postures, considering also the
power play and social relations environments produced by these postures. Thus, the work of
Niccolo Machiavelli (1513/1961) and Vilfredo Pareto (1935) will provide us with realist

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3 impetus for articulating how supply chain managers may both create, and yet also understand
4 and overcome, social factors arising from human nature that can sometimes threaten the
5 integrity of supply chains.

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8 Behavioural as opposed to normative or instrumentally rational models of human
9 behaviour have given philosophical and psychological realism its subject matter down the
10 centuries, in particular from Machiavelli onwards. Interest in behavioural reality, albeit to
11 some extent divested of Machiavelli's grim views of human nature, has persisted and
12 burgeoned in recent years in the form of behavioural finance and economics. It has also
13 permeated more recent general management scholarship (Cox, 1999; Bendoly and Schultz
14 2006; Tokar, 2010; Stank *et al.*, 2011; Croson *et al.*, 2013; Katsikopoulos and Gigerenzer
15 2013). More specifically, within SCM scholarship, scholars such as Chonko (1982a) have
16 claimed that an element of Machiavellian psychological orientation may be indispensable for
17 managers engaged in bargaining. This contention, which of course has implications for
18 diverse management fields, is undergirded by voluminous psychological literatures, spanning
19 psychometrics and evolutionary psychology, which all relate to 'Machiavellianism' as a
20 tactics-oriented psychological expression of human nature which can also be studied
21 psychometrically as an important individual difference. Christie and Geis (1970), who made
22 the greatest founding contribution to this literature, posited that individuals demonstrating a
23 high-level of Machiavellian tactics, values and morality (i.e. 'high Machs') were more likely
24 to out bargain those with lower orientation levels (i.e. 'low Machs'. The crux of the
25 difference, they argued, lay in 'high Machs' being relatively less possessed of the feelings of
26 empathy which normally prohibit manipulation in interpersonal relationship contexts. Taking
27 this view, they expressed grudging admiration for Machiavellians on account of their more
28 flexible approach to making, maintaining, modifying and breaking social relations.
29 Accordingly, some SCM literature (Chonko, 1982a, b) has discerned a positive relationship
30 between Machiavellianism and successful supply channel performance; nonetheless scholars
31 such as Dion and Banting (1987, 1987) did not find any such relationship.

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47 Despite these suggestions of upside within Machiavellianism, the main contribution
48 of behavioural perspectives to management arises from their concern to explore weaknesses
49 within managerial decision making. Croson *et al.* (2013, p. 1) emphasise that such studies
50 must be rooted in 'reality'. In the context of our study, this entails piercing the reputational
51 veils supply chain managers like to place over their private thoughts and actions, and
52 exposing these to the light of day. However, as such subject matter may often prove

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3 inaccessible for empirical research, realist researchers must base their investigations on
4 sometimes contestable general assumptions concerning human nature and [common patterns](#)
5 [found in its psychological expressions](#). More specifically, behavioural studies informed by
6 the realist tradition are likely to emphasise that managers often have good intentions, but are
7 constrained by ‘human nature’ itself; in effect, by their innate [behavioural propensities](#), or by
8 what is sometimes termed their ‘animal spirits’ (Keynes, 1936, pp. 161-163). A theory of
9 ‘animal spirits’ (that is, *innate urges* to activity) that produce highly permanent social conflict
10 postures is exactly what Machiavelli offers us.

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12 It is commonly argued, and just as commonly forgotten, that viewing behaviour
13 through this Machiavellian prism is both ethical and necessary because [each illumination of a](#)
14 [Machiavellian behaviour simultaneously](#) facilitates counter-Machiavellian reflection, scrutiny
15 and appraisal. Correspondingly, our rationale for applying this theoretically troublesome
16 strand within behavioural science to SCM contexts is that it may help individual supply chain
17 actors better appreciate how and why they and others behave as they do ([Chonko, 1982a, b](#)).
18 Crucially, such understandings can also feed through into the more enlightened design of
19 supply chain processes (Croson *et al.*, 2013; Katsikopoulos and Gigerenzer, 2013).

20 21 22 23 24 25 26 27 28 29 30 31 **2.0 Methods and philosophies**

32 As a methodological approach, we adopted a novel critical analytical approach which
33 involved narrative synthesis. According to Popay *et al.* (2006, p. 5), this approach involves a
34 review and synthesis of findings drawn from multiple literatures. For this reason, scholars
35 generally regard narrative synthesis as an appropriate means of presenting summation of
36 theory (Greenhalgh *et al.*, 2005; Oliver *et al.*, 2005; Leamy *et al.*, 2011; McDermott *et al.*,
37 2013). Thus, the outcome of narrative synthesis which involves synthesising literature from
38 various sources is usually a form of understanding of the current knowledge in relation to
39 particular phenomenon.

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41 We argue that the phenomenon that interests us, that is, [social construction of social](#)
42 [threats in supply chains and associated managerial behaviour](#), is perhaps [most](#) appropriately
43 explained by realist social theory. In doing so, we are able to bring together ideas at an
44 appropriate and useful state of abstraction [to support our drawing](#) broad behavioural
45 conclusions. [Our approach will be to argue, from the psychological realism of Machiavelli](#)
46 [and Pareto, that it can be a useful exercise to categorise](#) supply chain managers [in terms of](#)
47 [which ‘animal spirit’ controls their social conflict imagination, and their related behaviours.](#)

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We will argue that two such ‘animal spirits’ matter may Working with this constructively simple metaphor, supply chain managers can be viewed as varying in terms of which one of two very different behavioural patterns, activated by social threat is operative. The contention will be that each pattern lead them to structure social threat in particular ways, against particular priorities, all of which reflects the operation of an underlying animal spirit whose essential role is to reduce the complexity of how the managers in question perceive themselves and their social conflict environments.

Noting guidance from Popay *et al.* (2006) on the conduct of narrative synthesis, our methodological approach involved the following steps. Firstly in order to establish what literatures to review and at the same time undertake an assessment of the applicability of the review findings (Jagosh *et al.*, 2011), we undertook an iterative purposive sampling of references and theoretical publications on realism and supply chain risks. This process was undertaken independently by two of the three authors with outcomes compared at the completion of this process. Secondly, we undertook (as we reviewed literature) an assessment of each reviewed article for not only relevance, but also for use of appropriate theory.

3.0 Realist Philosophy

3.1 Cross-disciplinary philosophies

Realism is of particular interest to the SCM discipline because increasingly, there is a recognition that supply chains are interactions and activities that are enacted by multiple social actors (stakeholders, suppliers, purchasers, the supply chain manager) that may maintain multiple and conflicting interpretations and perspectives of a particular reality (Kanda and Deshmukh, 2008).

It is therefore through our understanding of how these realities and subjectivities are interpreted that we as observers and commentators may be able to approach the objective reality of supply chains. The theory derived from such an observation suggests that supply chain managers are similarly exposed to social threats arising both within their organisations and across inter-organisational fault lines. Specifically, we have in mind conflict arising typically not just from manifest loss of commitment among individual actors of the supply network itself, but also from distrust and suspicion that such commitment may be ebbing (Daugherty, 2011). Crucially, this entails that we are concerned with the very private thoughts and feelings SCM managers have about partners who they have to collaborate and work with regularly. The behavioural predispositions which SCM managers are likely to

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bring to these interactions, we suggest, are likely to simplify down to their basic ingredients and exert more influence on behaviour whenever tensions rise within the network, and especially whenever managers are also relatively unfamiliar with one another (such that interpretive templates become more necessary).

Such periods of raised tension, we suggest, are likely to include decision contexts whenever supply chains are on the verge of reconfiguring, and whenever managers act to ensure that supply chains deliver improved financial results and better meet the expectations and preferences of various upstream and downstream stakeholders against the increasingly challenging backdrop of quickening product cycles and enhanced low cost sourcing.

3.2 Articulation of realist philosophy

Machiavelli's famous (1513/1961) articulation of realist philosophy referred to behavioural reality as 'the effectual truth of things'; something he said we should differentiate carefully from the 'imagination' of these same things. Since then realism has flourished as a philosophy concerned with overcoming mind dependency problems to reveal truth (see for example, Wild, 1947), a concern which risk researchers such as Starr (1980) and Thompson (1986, 1990) have famously articulated in terms of the need to study risk in both its objective and socially constructed aspects. In SCM research, this same concern finds expression in calls by scholars such as Peck (2005), Adamides *et al.* (2012) and Peters *et al.* (2013) to understand and overcome managerial biases. Correspondingly, it is clear that social construction and social amplification of risk within supply chains constitute a vital study topic. Like other managers, supply chain managers, even those professing to have an expertise in risk management, often reveal biases (Wynne, 1989) risk-attenuation effects (Merkelsen, 2011) and Machiavellian behaviour (Chonko, 1982a, b). Further criticism comes from sociocultural perspectives of risk perception which emphasise cultural optics as major causes of realist mind dependency problems (see Lupton, 1999; Taylor-Gooby and Zinn, 2006; Peters *et al.*, 2013). Realist theorists can argue that all such criticism and dispute merely underscores the existence of frailty within human perception and judgment out of which the need for realist research leading to appraisal and improvement of human judgment arises in the first place. From this standpoint, all the achievements of heuristics-and-biases literatures in identifying gaps between descriptive and normative models of reasoning reflect Machiavelli's much earlier combative position underscoring the immense mental challenge of discerning 'the effectual truth of things'.

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3 A review of literature (Devitt, 1991; Reed, 2008; Button, 2013), suggests that realist
4 researchers and scholars struggle with philosophical dispute over how objective
5 representations of the social world can ever be. They assess theory not just for its fit with
6 empirical evidence, but also for the reality of what it purports to exist~~ence~~, that is its
7 ontological plausibility (Chang, 2001). An expectation that social theory can imitate natural
8 science through recourse to ultimate units that conserve themselves over time exposes some
9 realist scholars to the accusation that their reliance on abstract descriptive categories is
10 insensitive to social reality (Fine, 1984). Accordingly, many late-20th-century scholars
11 known for their broad scepticism to any view of the existence of an absolute truth have
12 regarded realists as ensnared by the particular mind dependency problem that is their
13 uncritical essentialist commitment to the social constructs they use. These scholars however,
14 according to Lopez and Potter (2001), can expect to be reminded by today's critical realists
15 that what matters is to reduce these problems over time. In other words realism can
16 comfortably propose constructively simple theoretical templates such as the ones offered in
17 this paper, on the clear understanding that while these supply appropriate starting points for
18 theory construction, they should always be subject to further refinement through critical
19 scrutiny and having their mettle tested. The realism which we find in Machiavelli's works fits
20 well with these *incrementalist* sensibilities that have come to characterise contemporary
21 realism. Its theoretical constructions, as we will articulate in the next section, are set out in
22 extremely simplistic terms; specifically, as a theory of animal spirits which reduces complex
23 psychological patterns to simple animal caricatures. We suggest that Machiavelli's
24 constructive simplicity offers useful first approximations allowing realist inquiry to remain
25 acutely aware of its limitations, while at least beginning to rise to the challenge of exploring
26 the adaptive fitness of particular behavioural postures to particular social conflict
27 environments. We will try to show that although Machiavelli's first approximations
28 concerning both are vague; they provide a viable platform for ecological risk theory
29 construction from the standpoint of SCM risk research.

3.3 Ecological rationality

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49 Within this context, we present Machiavelli as linking all the necessary basic ingredients that
50 permit us to interpret him as a theorist who allows us to use ecological rationality as a
51 criterion for evaluating the behaviour of supply chain managers. Ecological rationality is
52 conventionally traced back to Brunswik (1943) who suggested that human cognition and
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behaviour only make sense in real world environmental niches which are inherently uncertain and probabilistic in nature - just like the social conflict risk environments we conceive of here. Another proponent of ecological rationality is Simon (1990), who viewed 'bounded' human rationality as akin to a pair of scissors, where the two bounds on our rationality are the structure of the task environment and the computational capabilities of the actor. More recent work on ecological rationality has been undertaken by Gerd Gigerenzer and other members of the Adaptive Behaviour and Cognition (ABC) research group. Here the challenge became to understand how simple cognitive mechanisms can either be rational or irrational. Rational behaviours 'fit the demands and structure of particular environmental niches' (Bullock and Todd, 1999); irrational ones 'operate outside their proper niches' (Seth, 2002). Todd and Gigerenzer (2007) clarify the ontological foundations for this research programme by suggesting that it encompasses two blades matching the blades of Simon's scissors. One is explanatory. It employs theoretical and experimental methods to study the mind's 'adaptive toolbox' of decision mechanisms. The other is normative and seeks to evaluate the rationality of these mechanisms by using methods such as computer simulation and mathematical analysis to establish precisely what environmental structures enable these mechanisms to produce better than chance outcomes. This is philosophically and methodologically far more sophisticated than the theory of animal spirits proposed by Machiavelli; nonetheless the social theory he offers us deserves to be read with exactly these concerns to the fore.

In asking what environmental cues decision mechanisms can match to, Todd and Gigerenzer (2007) suggest these can exist as 'patterns' right across physical, biological, social and cultural (including institutional) realms. They include patterns within the social world which as a species we have learned to recognise and be simultaneously 'ecologically rational' and 'evolutionarily rational' towards, because they have challenged us in our environments of evolutionary adaptation. This is exactly the ontological foundation we attribute to the Machiavellian realist theory we develop in our paper. As John Maynard Keynes (1936, pp. 161-163) put it, 'our rational selves allow us to choose between alternatives as best we are able, calculating where we can'. Yet despite our best efforts, we often 'fall back for our motive on whim, sentiment or chance'. It is within this context that Keynes made the point that our *innate urges to activity* that is, *our animal spirits* motivate many of our decisions. Working from this quote from Keynes (1936), Zinn (2008) exploring strategies for managing risk, discusses what it means to be influenced by such innate urges toward activity. He advises that if we are to understand everyday strategies of risk and

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uncertainty management as strategies of ‘muddling through’, then we need to look to how we complement our calculative rationalities by allowing experiences of trust, intuition and emotion to shape our risk judgments. What Zinn (2008) doesn’t attempt, however, is any discussion of broad behavioural context for these everyday strategies. Taking our lead from Machiavelli (1513/1961), in exploring how supply chain managers deal with different types of network-related risks involving social conflict, this paper explores the role of innate urges arising within such conflict environments, whose simplifying prisms enable supply chain managers to ‘muddle through’ amidst widespread uncertainty.

4.0 Social theories

4.1 Machiavelli

Machiavelli’s (1513/1961) *‘The Prince’* argued that enduring human nature churns out common behavioural patterns that can determine whether leadership will succeed or fail. His approach was to evaluate these patterns in terms of their appropriateness for the times; hence we can read him as a theorist concerned with ecological rationality. Machiavelli reasoned that enduring human nature must underlie certain behavioural patterns where these repeat endlessly down the centuries. To know history is to be capable of learning from the mistakes of the past, yet to be human and in the predicament of the decision-maker is to find this sort of reflective learning extremely difficult if not wholly impossible. We can call such an assumption of what is conceived as pervasive cognitive entrapment emanating from rigid mind-sets as Machiavelli’s ‘behavioural realism’. Most importantly, Chapter XVIII of *‘The Prince’* requires us to view this problem as one of stubborn innate urges. The chapter opens with Machiavelli advising that Princes wishing to gain and maintain power should choose between two innate urges. These are well qualified to be expressed in constructively simple terms as ‘animal spirit’ guides because unlike most behavioural economics/finance theories of animal spirits they actually employ animal caricature. Sometimes Princes must be lions who use aggression to ‘fright away the wolves’. At other times they must be foxes who use guile (which we can also link to the ‘Machaivellianism’ studied by Christie and Geis, 1970) to ‘avoid the snares’. Machiavelli despairs that whereas ideal Princes can be both lion and fox simultaneously, using both aggression and guile as circumstances require, real Princes usually remain stuck with just one of these mental and behavioural sets. Princes face a difficult task in cultivating the mental flexibility which Machiavelli advocates they should struggle towards. He contends that if they try, they may outmanoeuvre less flexible rivals.

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This simple passage implies much more than it says. Human nature here is a bestiary of ‘lions’ and ‘foxes’ – a constructively simple representation of patterns which, we will soon see, do seem to have a solid basis in reality. We also have two very different social conflict environments comprising ‘wolves’ or ‘snares’. In the context of our study, this begs two questions: are Machiavelli’s ‘snares’ the trust-based interpersonal loyalties upon which supply chain network persistence depends, yet which may increasingly have to be broken? And are Machiavelli’s ‘wolves’ the wolves (e.g. market competitors) that begin to circle when they sense supply networks are beginning to break down, and who might wish to redirect them through their own companies, either to better meet their own business needs or to otherwise derive competitive advantage through their increasing control of socially available supply chain resources? These are exactly the social conflict risks we think are most important for supply chain managers, and so we think an application of Machiavellian behavioural theory is highly apt. Within that context we ask: in what ways might Machiavelli’s vulpine (fox-like) patterns allow supply chain managers to ‘avoid the snares?; in what ways might leonine (lion-like) patterns allow them to ‘fright away the wolves’? We think this crude ecological discourse, penned initially in the 16th century, asks big questions and provides an important springboard into theory construction today.

4.2 Pareto

Approximately five centuries after Machiavelli (1513/1961), the sociologist Vilfredo Pareto (1935) used Machiavelli’s two innate predispositions as the foundation for his sociological theory (Marshall, 2007, p. 21-25 and 116-133). He considered these ‘inherited behavioural traits’ (Pareto 1935: §1845). The leading commentator to have written on Pareto is Joseph Lopreato (Lopreato, 1980; Crippen and Lopreato, 1989) whose sociobiological reading gets us closer to appreciating why these patterns may be encoded in human DNA, such that they are always ‘latent’ within human nature yet capable of activation under certain circumstances (i.e. vulpine patterns may be activated in social threat contexts comprising the ‘snares’ we mentioned above; leonine patterns may be activated in rather different social threat contexts comprising the ‘wolves’ we mentioned above’. Crippen and Lopreato (1989) contend that Pareto’s theory of how vulpine and leonine patterns alternate in leaders is well supported in the modern sociobiological concept of a seesaw evolutionary strategy. According to this theory, as a species we developed vulpine patterns, capable of periodic activation from latency in human nature to help communities cohere and prosper during times of social flux

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3 | and complexification. Here vulpine patterns were beneficial because fluid social relations
4 served the overall needs of these societies more than rigid ones; similarly, we developed
5 leonine patterns, capable of activation from latency to help societies cohere and survive
6 through social solidarity and common binding ideology during times of scarcity, austerity,
7 war, and other passing crises.

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11 If this theory is correct, then the contemporary problem for supply chain managers
12 becomes plain and can be stated simply. The theory implies that each pattern might always
13 exist at some 'level', most likely in inverse proportion to the level of its counterpart, in
14 conceivably the personality of every supply chain manager. If they, like the rest of us, are
15 really hardwired to 'stick' with just one of these patterns disproportionately, then how can
16 they give adequate attention to the full range of social conflict risks they need to consider
17 within supply chains, where both 'snares' and wolves' are *always* likely to be present as
18 categories of hidden social threat that matter?

25 26 **5.0 Are these patterns real?**

27 Based on earlier works on psychological conservatism by Wilson and Patterson (1970) and
28 on right wing authoritarianism by Altemeyer (1981), Marshall (2007), Marshall and Guidi
29 (2012) and Marshall and Ojiako (2015) argue that the Machiavellian-Paretian 'lion' equates
30 today's conservative and authoritarian behavioural patterns. As Marshall (2007) points out,
31 both conservative and authoritarian patterns display similar strong positive correlations with
32 measures of dogmatic and rigid thinking, as well as similar strong negative correlations with
33 measures of openness. Much literature (Knight, 1999) emphasises the strong overlap between
34 conservative and authoritarian patterns. Accordingly, both Johnston et al. (2004) and
35 Brinkhoff et al. (2015), suggest that (what we might call 'leonine') honesty and
36 conscientiousness in supply chain management interactions can lead to the development of
37 trust, commitment and mutual respect which can mitigate against the adverse impact of
38 suspicion and hostility among key SCM actors.

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42 Crucially, then, many conservatism-authoritarianism studies serve to validate and enrich
43 our understanding of the pattern Machiavelli once equated with the 'lion'. For the purpose of
44 the present study, we can regard this pattern's emphasis on ideological commitment and
45 persistence as a psychological strategy of social conflict management which seeks to promote
46 ideology and group affiliation as a social cement. Its effect, we further suggest, might
47 sometimes be to shore up trust and mutual commitment across social groups, where

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3 complex global supply chains [\(Johnston et al., 2004; Johnson et al., 2018\)](#) [become](#)
4 [constitutive of such groups](#).

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6 [What we call ‘vulpine’ managerial patterns can arguably be viewed as undermining](#)
7 [such trust and commitment, yet this claim must be carefully qualified to recognise qualities of](#)
8 [charismatic leadership and manipulation that might achieve the reverse, at least over the short](#)
9 [term until the true nature of the pattern is understood](#). Marshall (2007) and Marshall and
10 Guidi (2012) argue that the Machiavellian-Paretian ‘fox’ equates to today’s ‘dark triad’
11 leader or manager, [whose related literature permits the above ambiguity to be explored](#). This
12 well-known pattern comprises manipulative behaviours (from Machiavellianism), lack of
13 empathy (from psychopathy) and the excessive preoccupation with admiration, status and
14 prestige (from narcissism); with all three constructs overlapping into what Paulhus and
15 Williams (2002) first termed the ‘dark triad’. Growing evidence suggests that the three
16 constituents of the dark triad are *all* intensifying in management as social relations not just
17 within organisations (see Galperin et al., 2010; Harms et al., 2011) [but across entire supply](#)
18 [chains due to financial performance and profitability challenges \(Lingnau and Dehne-](#)
19 [Niemann, 2015\)](#). [Although many](#) management academics are aware of this important
20 psychosocial trend but know it from separate literatures dealing with the rise of narcissistic
21 (Maccoby, 2003; Higgs, 2009), psychopathic (Babiak and Hare, 2007; Boddy, 2011) and
22 Machiavellian behaviour (Jakobwitz and Egan 2006) within the modern organisation, [our](#)
23 [contention is that there appears to be very limited awareness or focus of this trend in SCM](#)
24 [scholarship](#). Clearly, this behavioural pattern is, as Machiavelli and Pareto seemed to
25 appreciate, the very antithesis of the leonine one. Nowhere to be seen is the ideological
26 commitment that provides social cement during times of crisis [where for example, either](#)
27 [competition between buying firms and their suppliers or opportunistic behaviour within the](#)
28 [supply chain threatens the viability of exchange relationships](#). Instead the emphasis is on
29 individual guile and lack of empathy [among specific SCM managers](#), which makes it possible
30 [for them](#) to renege on long established loyalties to [SCM partners](#) and forge new ones - to
31 which they are able to convincingly feign commitment. Also important here is a resistance to
32 the internalisation of all socially binding ideologies, which also renders [these SCM managers](#)
33 more open to the reconfiguring of [existing \(social\)](#) relations [within the supply chain](#), and to
34 the establishment of new binding ideologies, as new needs and interests arise.

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Authoritarian worldview has typically been represented as viewing the social world as a ‘competitive jungle’ (Duckitt, 2001) filled with ‘animals which either eat or are

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3 eaten' (Lowenfeld, 1945). Exactly the same has often been said of Machiavellians (Christie
4 and Geis, 1970) and narcissists (Horney, 1950). And this worldview is also strongly implied in
5 studies finding psychopaths unlikely to possess 'just world beliefs' (see Hafer *et al.*, 2005).

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8 What we might credibly surmise about 'leonine' and 'vulpine' managerial patterns, then, is
9 that both can be viewed as psychological expressions of human nature which for the most
10 part remain dormant, but which may grow more salient as influences on thought and
11 behaviour whenever social relations spanning complex supply chains grow strained and
12 discordant.
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16 17 18 **6.0 Conclusion**

19 The purpose of this conceptual paper is simple. It introduces a Machiavellian-realist
20 framework for evaluating the behavioural realities of how supply chain managers deal with
21 social threats always present right across global supply chains. Machiavelli and Pareto lead us
22 to become aware of some obviously important social threat risk factors for SCM which might
23 otherwise be neglected.
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27 28 29 6.1 Theoretical contributions

30 Working within the framework they offer, we can see that supply chain managers always
31 need to negotiate 'snares'. There are always loyalties to persons, commitments to both formal
32 and informal agreements, and indeed to ideological perspectives such as beliefs in the
33 strategic necessity of particular supply chain networks, that sometimes have to be overturned.
34 What's more, 'foxes', i.e. Machiavellians, narcissists and corporate psychopaths, who we
35 know exist in abundance in modern organisations, are exactly the sorts of managers who we
36 can expect to excel in these tasks which many others may recoil from as emotionally
37 tumultuous and beyond all realistic consideration. Likewise, our framework focuses attention
38 on the obvious fact that there are always 'wolves' to be reckoned with when scoping social
39 conflict risks across supply chains. Clearly, a supply chain weakened by distrust and loss of
40 commitment is one ripe for strategic resource-grabbing by competitors. Leonine patterns, i.e.
41 conservative authoritarian ones, can be adaptive here by building trust and loyalty on
42 personal levels, and by perpetuating and amplifying binding ideologies of long term
43 organisational partnership, stakeholder value, reputational management and ethical integrity
44 that, taken together, can ensure supply chains are maintained.
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54 Even if it is doubted, despite the modern psychological literatures we have mentioned,

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3 that such stable and enduring personality patterns are commonplace and can each be expected
4 to produce limited and insufficient views of [social conflict](#) risks to supply chains, it can still
5 credibly be argued with reference to our framework that our two patterns may correspond to
6 temporary 'states' as opposed to more permanent 'traits' that temporarily grow salient as
7 guides to social conflict negotiation during times when social threats intensify and stoke
8 anxiety. Both our patterns [are perhaps](#) often 'activated' from latency within enduring human
9 nature by anxieties arising through social interaction which cause exactly the same
10 misanthropic view of human nature to take root and begin to cause some paranoia in the
11 minds of managers. [The very different behavioural strategies of leonine and vulpine](#)
12 [managers might then proceed from this common psychological base.](#)

20 21 [6.2 Practical implications](#)

22 [By not traditionally accounting for social threats to supply chains, SCM scholarship has been](#)
23 [limited in terms of its ability for foster an understanding of the reasons behind specific](#)
24 [managerial behaviour \(Gligor and Autry, 2012; Gligor and Holcomb, 2013\). Thus, studying](#)
25 [the behavioural reality of how supply chain managers operate within the social aspects of](#)
26 [their risk environments may permit academics to service the need for practitioners to gain an](#)
27 [understanding of the very different individual behavioural realities that matter within supply](#)
28 [chains. For the individual actors, this implies a need to focus more on open and upfront](#)
29 [negotiations aimed at building clarity on both formal and informal behavioural expectations](#)
30 [in the relations between supply chain managers. It is only through such open negotiations that](#)
31 [managers can articulate, take into account, and mitigate against, social threats to supply](#)
32 [chains which originate from very different managerial approaches to dealing with conflict.](#)

40 41 42 [6.3 Concluding remarks](#)

43 To conclude, one could argue that the management of supply chains was at a certain point in
44 time simple and straightforward. Arguably, the flow of products and services commenced
45 relatively un-impeded from the point of source of raw materials and resources ending up with
46 customers taking possession of these goods and services. The reality however is that
47 nowadays, supply chains and their management are rather more complicated. Their
48 management has become more [social in nature, even faster than it has become more](#)
49 [technological; moreover even technological leaps such as incorporation of the 'internet of](#)
50 [things' within supply chain management has brought with it new social coordination](#)

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3 challenges: According to Cox (1999), supply chains represent “...a spaghetti web of complex
4 *interconnecting relationships*” (p. 211). Supply chains often encompass inter-organisational
5 and cross-functional processes, thereby adding to the management coordination challenges
6 they pose (Flynn *et al.*, 2010; Stank *et al.*, 2011; Ellram *et al.*, 2014). To be efficient and
7 effective, the flow of information, services, finance and products needs to be co-ordinated
8 between resource providers, suppliers and customers by managers with not only excellent
9 people and relationship-building skills (Sharif and Irani, 2012; Youn *et al.*, 2012), but also
10 with cross-functional and organizational judgement and decision skills fit for dealing with a
11 host of contemporary management issues that may include forecasting, planning and risk
12 management (Juttner, 2005; Murphy and Poist, 2007; Sandberg and Abrahamsson, 2010). In
13 terms of risk, the challenge is for SCM managers to be able to not only identify and assess
14 likely risks and their possible impact upon the supply chain, but to be able to competently
15 assess operational vulnerabilities arising from risks that exist both within and external to the
16 supply network. Juttner (2005) thus regards risk decisions in supply chains as predominantly
17 concerned with managing the trade-off between the performance of the supply chain and its
18 vulnerability. Such vulnerabilities are particularly pronounced at present as prevailing
19 economic conditions continue to drive global sourcing, thus leading to often longer and more
20 complex supply chains at the same time as product cycles are declining.

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32 The main arguments put forward in this paper are that realist risk research tends not to
33 rise to the challenges posed by such growing complexity and the managerial strain it creates
34 within supply chains. Instead it navigates relatively safe channels focussing on risks and
35 responses that manifestly have objective existence and allow for little if any perceptual
36 distortion. Our paper asks realist risk research to re-engage with the spirit of early realist
37 inquiry that was prepared to indulge in ontological speculation about what ‘things’ really
38 exist and matter, applying this concern to the complex world of supply chains. We suggest
39 that a realist ontology of evolutionary conflict environments linked to innate urges (animal
40 spirits) which orient managers towards social conflict in supply chain management today,
41 should help facilitate a greater appreciation among scholars on how human nature influences
42 the social construction and management of conflict by supply chain managers in highly
43 varied cultural and indeed cross-cultural supply chain contexts around the world.

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