Causal Process Tracing: A new approach to studying the dynamics and evolution of business relations and networks

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Extended Abstract

In this paper we describe an approach originally developed in political science, Causal Process Tracing (CPT) (Blatter and Haverland 2014) or Process Tracing (Beach and Pedersen 2016; Bennett and Checkel 2014) and show how it facilitates deeper understanding and researching of change processes in a business relation and its network. "This methodological approach is particularly well suited to answer 'why' and 'how' questions because it focuses on the causal conditions, configurations and mechanisms which make a specific outcome possible" (Blatter and Haverland 2014, p59). CPT originated in earlier research on process tracing systems but has been further developed to become a well specified methodology that can be used to study the change process in many types of socio-economic systems. To our knowledge CPT has not been used in the study of business markets. In this paper we describe this approach, its philosophical underpinnings and compare and contrast it with other approaches, including configural approaches, such as QCA, TQCA (Caren & Panofsky 2005), Event Structure Analysis (Bairstow and Young, 2012) and Narrative Sequence Methods (Butriss and Wilkinson, 2006). We then show how it can be used to better understand the dynamics and evolution of business relations and networks and illustrate its use by analysing part of a case study of the development of a business relation.

The epistemological basis of CPT is critical realism. The critical realist distinguishes three domains of reality, i.e., the empirical domain, the actual domain and the real domain (Easton, 2010; Lawson, 1994). The real refers to the underlying mechanisms creating and driving

outcomes in the actual domain. The empirical domain is created when events are experienced and observed. The CPT focus is on the existence of generative mechanisms (Aastrup, 2000; Sayer, 1992). The world is made up of actors acting and interacting over time in an environment, which includes people, firms and inanimate actors, like products and resources, which constrain and enable actors. Actors are the producers and products of change (Giddens, 1979; Sztompka, 1991). They have causal powers that drive events over time through the operation of various types of mechanisms in a particular context.

CPT builds on the configural theories and methods of Qualitative Comparative Analysis (QCA) and its variants (Ragin 1987, 2008), including T(emporal)QCA, by including a temporal dimension, event sequences, causal mechanisms and processes and contextual conditions. The focus is on identifying the pathways or combinations of causal factors linked with particular outcomes in a case, rather than on the effects of individual factors or variables. Different combinations of interconnected causal factors, causal conjunctures, and/or sequences of causal factors (causal chains) can result in similar outcomes and the same causal factors can result in different outcomes depending on the combinations and sequences of other causal factors and contextual conditions (Blatter and Haverland, 2014). This goes beyond analysis using QCA; it does not consider the causal mechanisms underlying the links between configurations and sequences of events and conditions and particular outcomes. QCA focuses only on case associations between them, CPT goes further and includes consideration of the nature and role of causal mechanisms and processes as a central part of the analysis.

Causal mechanisms are about how and why things happen, i.e., why particular types of events or outcomes occur. Mechanisms cannot be directly observed or experienced but must be inferred from empirical observations. As put by George and Bennett (2005), "we define causal

mechanisms as ultimately unobservable physical, social, or psychological processes through which agents with causal capacities operate but only in specific contexts or conditions, to transfer energy, information, or matter to other entities" (pp. 137–8). Mechanisms consist of actors (with their properties) and the activities that these actors engage in. Activities bring about change, and the type of change brought about depends on the properties of the actors and how they are organized spatially and temporally (Hedstrom, 2005). Mechanisms are not deliberately designed devices such as a clockwork mechanism with pre-determined effects. Instead, a mechanism consists of a set of interacting parts that produce an effect not inherent in any one of the parts (Hernes, 1998). Mechanisms do not operate in isolation but interact with other mechanisms over space and time, embedded in socially and temporally dynamic situations.

CPT relies on three types of causal-process observations to build the empirical basis for the identification of generative mechanisms (Blatter and Haverland 2014). The first is comprehensive storylines, which describe the major sequences of the overall process and facilitate the identification of critical moments shaping the process, i.e. key events. Another is smoking-gun observations which provide more detailed insights and a high level of certainty that a cause or a combination of causes led to the next step in a particular pathway or to the final outcome. Smoking-gun observations, connected to other observations, contribute to a cluster of observations that can be used inductively to make strong causal claims. A third type of observation is the confessions of participants that enable researchers to gain deeper insights into the perceptions, motivations and anticipations of major actors. These three types of observation provide the basis for developing final explanations of how and why things played out as they did, including spatial contiguity, the way things occurred together at one place, and temporal succession, the patterns of change over time (George & Bennett, 2005).

CPT has some similarities to other methodologies that have been developed to analyse change processes in business systems but these do not include all three elements of CPT – configural thinking, temporality and causal mechanisms. The method that comes closest to CPT is the event sequence analysis proposed by Buttriss and Wilkinson (2006), which they use to analyse the internationalisation of firms. Their method includes a focus on developing a narrative history of a focal case and identifying the key events occurring, the order in which they occur and how they are linked through the operation of causal mechanisms. The element of configural thinking is not fully developed, although they do recognise that outcomes are linked to combinations of events and other causal factors within the case.

There are a number of studies of business marketing that have focused on identifying the processes by which outcomes and change occur. Examples include methods to identify the strategizing processes of start-up companies (Aaboen, Dubois and Lind 2012), the processes involved in network dynamics (Bizzi aand Langley's 2012; Makkonen et al 2012) and processes of change in organisational identity (Corley and Gioia 2004). In these methods, the term "process" is often used to refer to the overall way in which change takes place rather than to the more specific underlying micro mechanisms driving the overall process. As noted earlier some researchers use the term "process" in this macro sense whereas others use the term to define sub-processes involved in the operation of causal mechanisms (e.g. Bairstow and Young 2012 in their identification of managers' alienation as a critical part of their management and the ensuing evolution of their distribution channel).

We illustrate the use of CPT by analysing part of the case history of a business relation to show how CPT can be used to develop mechanism-based theories of business markets. The focal case is a 10-year history, 1997-2006, of a sponsorship relation between Chinese sports

management firms and a Chinese subsidiary of a Western beverage supplier. We focus on the period leading up to the establishment of the relation. The *first step* of CPT is to reconstruct the history of the relationship with rich in-depth narratives built on multiple sources of data. The narratives allowed the researchers to identify different periods in the history development, including recurrent cycles and breakpoints, periods of steady development and transitioning points,

In the *second step* events were identified, described and coded in terms of actors, the nature of activities conducted by involved actors and contextual conditions and factors. The context of the case includes starting conditions that are the residues of past events and processes, the characteristics of the people and firms involved, as well as their resources, predispositions and motivations at the outset of the case. The context also includes the environment in which the relation operates, including connected actors, government policy and management in the (focal) tennis market. Events are first described as an operational empirical observation (Abbott, 1984) and then conceptualized as abstract concepts with generalizable theoretical implications.

It is the timing of an event that determines its significance and potential to influence further changes. Event timing treats time as relational where the present is loaded by the past and the future (Halinen et al., 2012). The meanings of events are given by their connections to past, present and/or future events, hence, being socially constructed on the basis of human interpretations (Hedaa & Tornroos, 2008). This indicates that the central focus in process research should not be on a single event, but on progressions of events, i.e., event sequences (Pettigrew, 1990), in order to detect the kinds of mechanisms operating. Guided by this line of thinking, in the analysis of the focal case, the *third step* was to order coded events in a temporal

map showing how they occurred before or after others in time. For this we used ETHNO (Heise, 1992), a computer software for event structure analysis, to facilitate the process of identifying which events are prerequisites for other events, enhancing the reliability of findings. Two researchers separately identified the key events and their links using ETHNO. These were compared for reliability and discussed until consensus was achieved.

The *fourth step* in the case analysis was to identify critical events. Critical events contribute to the explanation of how changes are produced, being diagnostic pieces of evidence for the existence and operation of mechanisms. Not all events produce changes, therefore, events should not be attended to equally in the analysis. Here we define critical events as those with the characteristics of novelty, disruption and criticality, which are more likely to drive changes (Morgeson, Mitchell, & Liu, 2015). In this step, we examined each connection in the sequence map involving critical events which lead to outcome events and classified each as macro to micro, micro to micro and/or micro to macro links. This was done in case-specific terms to be conceptualised into the form of a more generalised mechanism in the next step. Macro-micro links lead to the generation of action situations. An example of such links is when growth of China market (a macro condition) led the beverage suppler to develop a new strategy for the Chinese market to raise its profile and strengthen its brand (micro events). Micro to micro links generate events over time as causal mechanisms play out and actions and interactions take place. An example is when the Chinese sports management firm asked its parent company to get the government to help search for experts in sports event management to join their firm. This led to the targeting of two Westerners who were recruited to become senior managers. At the same time parallel sequences of events took place involving the beverage supplier. Eventually this led to interactions between the two firms. The micro to macro links involve combinations of micro to micro events operating sequentially and in parallel that together bring

about macro changes – in this case the formation of the sports management firms and beverage supplier's relation and the development of the tennis market.

In the *final step* the critical events, together with their sequences and connections, were used to identify the operation of case-specific causal mechanisms that enabled the identified event links, such as learning, adapting, planning, communicating and negotiating. These were interpreted in terms of more generic, theoretically relevant concepts. In this way we can reveal the mechanisms embedded in and operating across events to drive the process of relationship formation. These events and mechanisms can then be related to existing theories of relationship formation and development and provide the basis for further theory development.

This paper makes a contribution by introducing and demonstrating the use of CPT as a new approach for studying the dynamics of business relationships. The CPT approach goes beyond mere story-telling of surface observations to seeking deeper explanations by identifying and conceptualising events and causal mechanisms that are analytically generalizable. It represents an advance over but complements existing QCA and related methods for analysing and understanding the dynamics and evolution of business relations and networks and for identifying and guiding management and policy-relevant plans and actions. CPT also opens up new types of research opportunities. First there is the use of CPT for systematic cross-case comparisons in order to identify and generalise the existence of different types of key events, causal mechanisms and context conditions that shape the evolution of business relations and networks at different levels of micro and macro analysis including the firm, relation, network and ecosystem. Indeed, the main applications of CPT in political systems has been more macro in character and we can learn from this. CPT also provides the basis for developing agent-based computer simulation models (ABM) of business relations and networks. The operation of

causal mechanisms and processes are at the heart of such models, along with actors, types of events and interactions and contextual conditions. Brand et al (2018) argue that ABM and the associated science of complex systems represent the next frontier in marketing research and have begun to gain interest among researchers, including applications to marketing systems and business networks (e.g. Earnest and Wilkinson 2018, Held and Wilkinson 2018).

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