3 STATE-OF-THE-ART: EMPIRICAL WORK ON UNCERTAINTY-GOVERNANCE CHOICE RELATIONSHIPS

“... there has been a shift in perspective recently such that a broader and more objective view of research is emerging and the ‘landscape’ or distribution of results has become of greater interest than the results of individual studies” (Rosenthal and DiMatteo, 2001: 61).

3.1 Method

There is a widespread attention to uncertainty problems in the empirical literature. A prominent approach of examining uncertainty is the observation of particular environmental sources that can create uncertainty. One underlying assumption is that different sources of uncertainty require distinct adaptation responses (e.g., Boyd and Fulk, 1996; Priem et al., 2002). The governance literature has concentrated on those sources of uncertainty that particularly affect the choice between alternate organizational designs. One prominent distinction includes technological uncertainty and demand uncertainty (e.g., Santoro and McGill, 2006; Schilling and Steensma, 2002; Walker and Weber, 1987). These sources have been observed to result in different governance responses along the market-hierarchy continuum of governance forms. The most prominent study is from Walker and Weber (1984 and 1987) who found contradictory effects of both uncertainty types on the level of vertical integration. Whereas demand uncertainty increased the preference for vertically integrating processes, technological uncertainty negatively influenced the level of vertical integration. Similar findings that have been provided by subsequent studies resulted in a more general conviction that, in order to hedge on uncertain technological developments, firms would prefer low-cost market-based governance, while demand uncertainty generally would be answered with more hierarchical governance in order to confine transaction costs (e.g., Bensaou and Anderson, 1999; Heide and John, 1990; Robertson and Gatignon, 1998; Santoro and McGill, 2005). However, across a broader population of empirical studies the support of this empirical, source-based uncertainty classification appears to be mixed. A number of studies provided evidence of firms choosing market governance under technological uncertainty (e.g., Robertson and Gatignon, 1998; Santoro and McGill, 2005; Schilling and Steensma, 2002; Steensma and Corley, 2001; Walker and Weber, 1984; 1987), whilst others found evidence for the contrary effect (e.g., Coles and Hesterly, 1998; Gulati, 1995; Hoetker, 2005; Sampson, 2004). Similar findings have been made for demand uncertainty, which in part was positively linked to the choice of hierarchical governance (e.g., Anderson, 1985; 50

50 Another widespread differentiation has been made for relationship-specific (or behavioral-based) risks versus more general, performance-related risks (e.g., Das and Teng, 1998, 1999).
John and Weitz, 1988; Walker and Weber, 1987) and in part negatively related to it (e.g., Kale and Puranam, 2006; Leiblein and Miller, 2003). Similar ambiguous results can be found for other uncertainty sources, too. Overall, the application of empirical uncertainty classifications as yet has limited success in explaining distinct adaptation problems and respective directions in governance choice. In this thesis it is argued that the current status reflects both deficits in measuring theoretically important uncertainty dimensions and conceptual discrepancies in operationalizing theoretically defined uncertainty-governance relationships, i.e., adaptation problems. The first argument is based on observations revealing that similar measures of uncertainty have been applied to different definitions of uncertainty and vice versa\(^5\) and also showing that empirical operationalizations have been mostly confined to different sources of uncertainty rather than other uncertainty dimensions (both will be shown in more detail in the following analyses). In answer to mixed findings for uncertainty source categories, other papers suggested to concentrate on different characteristics of uncertainty, such as diversity and volatility (e.g., Carson et al., 2006; Klein et al., 1990). However, the attention to different uncertainty dimensions in empirical research still is small. The second argument already has been put forth in other research reviews (e.g., Boerner and Macher, 2001; David and Han, 2004; Geyskens et al., 2006; Rindfleisch and Heide, 1997, Shelanski and Klein, 1995) by exposing discrepancies between theoretically defined uncertainty-governance choice hypotheses and their empirical measurement. For example, it will be shown further below that the important confinement that has been made in TCE, with regard to the contingency role of uncertainty on the main effect of asset specificity, has been often disregarded in empirical research\(^5^)\). Overall, empirical research has not achieved a unified understanding of the phenomenon uncertainty.

In order to arrive at an advanced understanding of what can be learned from recent research and which questions remain unsolved, many have suggested undertaking a more thorough

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51 For example, for technological uncertainty, different empirical operationalizations have been adopted, which, however, account for different adaptation problems. Sampson (2004) and Gulati (1995) operationalized it with items, such as the “technological diversity of partners” or the “technological focus of an alliance project”, which indicate monitoring and measurement problems. Other papers, such as Folta (1998), Heide and John (1990), Robertson and Gatignon (1998), or Santoro and McGill (2005), operationalized technological uncertainty as a problem of changing technological requirements in the environment of a firm. Both instances of “technological uncertainty” represent different adaptation problems and, therefore, may be linked to divergent decisions on governance.

52 The empirical observations made by Leiblein and Miller (2003) underline the importance of considering the contingency role of uncertainty with regard to the main effect of asset specificity. The authors predicted for both the single effect of demand uncertainty and its interaction with asset specificity a positive influence on vertical integration. While the interaction effect was positive and in consonance with TCE, the single effect of demand uncertainty did not support their proposition (counter).