



Cultural Influences on MNCS' Strategic Management Processes - Testing the Effects of Uncertainty Avoidance on the Scenario Planning Process

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Abstract : *This paper critically assesses the widely shared, implicit assumption that deliberate strategic management processes can be applied in a standardized, i. e. culture-free, manner globally. To investigate cultural influences on deliberate strategic management process this research has selected the strategic management tool scenario planning that is frequently applied in times of uncertainty. With its focus on time and forecasting the future, scenario planning is closely related to a major and well-proven cultural dimension, namely uncertainty avoidance, and could likely be viewed as a culturally sensitive strategic management tool. Respective hypotheses have been derived from literature assessment and tested with primary survey data. The results indicate a significant influence of individuals' uncertainty avoidance orientation on the scenario planning process leading to implications for theory and practice.*

Keywords: *Strategic Management; Scenario Planning; CVSCALE; Congruence; Uncertainty Avoidance; Culture; Planning; Long-Term Planning*

1. INTRODUCTION AND PROBLEM STATEMENT

Many of the most fundamental modern management theories were developed between the 1950s and 1980s [1]. It is also during this period that particularly US-American or US affiliated scholars [e.g., 2–5] have started to dominate the emerging academic discipline of Strategic Management during [6]. This is, for example, reflected in the Strategic Management Journal (SMJ) where 65.7 % of authors in the period between SMJ's establishment in 1980 and 2019 originated from US-American institutions (See appendix 1). Also the Long Range Planning (LRP) journal shows a strong, yet not as dominating role of US affiliated authors as in SMJ, as only 28.9% of authors in the same time frame originate from US-American institutions (See appendix 2). For the members of the Academy of Management as well as the contributions in the Academy of Management Journal (AMJ), Barkema et al. [1] showed that the majority originate from US institutions.

Strategic management researchers and practitioners have established a wide range of tools and methods that are used in a variety of settings to solve problems, generate information, and develop formalized strategies [7–9]. Resulting from a significant US influence on the domain of Strategic Management since its origins in the USA as well as the success of US firms on the global market, strategic management concepts and instruments have been viewed for decades as universally applicable, regardless of the cultural context of the involved actors [10, 11]. Traditionally, strategic management research is separated in questions dealing with strategy content and questions dealing with strategy processes and thereby a clear focus on questions dedicated to strategy content can be identified [12, 13]. Also decades of research on global strategy and international business share the focus on strategy content when incorporating the cultural context as explanatory factor [e.g., 14–19]. Despite early calls and attempts in the 1980s to analyse the effects of the contextual force culture on the process of strategic management (e. g. 20; 21), many parts of academia [e.g., 22–27] admit that still most research on deliberate strategic management processes are – at least implicitly – led by a universal, culture-free perspective, largely originating from a Western cultural environment. This is also reflected in the global promotion and

usage of standardized best practices by practitioners and academics, regardless of the cultural orientation of the involved actors [28–31]. Academia has started to acknowledge the shortcoming [32, 33] while also practitioners have demanded a better understanding of culture's role in strategic management [27]. Thus it is not surprising that only a minor share of strategic management and cross-cultural studies [29, i.e., 34–38] can be identified that are explicitly interested in empirically assessing culture's influence on the strategic management process. Consequently, it has been frequently called to include the cultural context into strategic management process research [26, e.g., 39, 40].

The neglect of the cultural context in the strategic management process may lead to problems for the discipline and can be illustrated by research on the core question of strategic management: does it increase firm performance? Frequently, strategic management is applied to reduce uncertainty with the ultimate aim to improve organizational performance over the long-term [41]. Consequently, strategic management research has discussed for decades the performance contribution of its essential component strategic planning [40]. Only a few studies showed lacking or weak performance effects [42], in contrast, the majority of studies showed positive effects of strategic planning on organizational performance [43, 44]. In the ethnocentric tradition of strategic management, most studies analysed only mono-national samples, yet, multinational samples revealed differences between countries in the effect size [38, 45], driving the need to critically evaluate the assumption that strategic management processes are context-free and can be universally applied in a standardized manner to increase a firm's performance.

Consequently, academia has started to discuss if standardized management tools and processes like strategic management can be commonly applied globally without addressing cultural differences, especially in the context of multinational corporations (MNCs) [29, 38]. The results of Hoffman's respective study [38] have shown that particularly cultural differences regarding uncertainty avoidance are a significant influencing factor on the planning-performance relationship. Uncertainty is the lack of information or data to analyse cause-effect relationships or the inability to predict future events or outcomes of decisions [46, 47]. Hofstede's Uncertainty Avoidance Index (UAI) is frequently applied by academia as a proven and important cultural dimension, which can be "defined as the extent to which members of a culture feel threatened by ambiguous or unknown situations" [48]. Individuals with high UAI prefer structure and formal rules as a coping mechanism [37, 47, 49]. As longer planning horizons inhere more uncertainty, specific tools have been established as a coping mechanism to ensure organizational survival and performance in the long-term despite uncertainty [9, 50]. Of these tools, especially scenario planning is frequently applied for highly uncertain, long-term issues [51, 52]. Hence it is likely that scenario planning is a culturally sensitive strategic management process. However, the strategic management process in general and the scenario planning process in particular still lack an in-depth investigation for cultural sensitivity [35]. This deficit is especially a problem in the context of MNCs and respective research on strategic management.

MNCs operate in multiple countries with distinct characteristics and are thus subject to a variety of contextual factors [53–55]. Consequently, knowledge of cultural influences on strategic management processes is particularly valuable for them. When assessing cross-cultural behaviour, researchers rely frequently on national culture scores [54–56]. However, the concept of national culture and its application for managerial decision-making has been criticized [57, 58], especially in MNCs' strategic management processes where a diverse number of individuals are involved who are influenced by a variety of cultural influences that might even be clashing [26, 56, 59]. Therefore, it has been proposed to use the personal value orientation of decision-makers in the assessment of individual behaviour [60].

To contribute to filling the outlined research gap, we conduct a process-oriented assessment of cultural influences on the scenario planning process as a standardized tool in MNCs' strategic management processes. Based on Hoffman's [38] results that showed a strong influence of UAI on the planning performance relationship, we focus on the cultural dimension of UAI. In the investigation of cultural sensitivity of standardized strategic management, uncertainty can be assessed on a process and an actor level. Therefore, we examine the process of scenario planning, as it is frequently applied by organizations facing uncertainty. Furthermore, we also investigate actors' different tendencies towards uncertainty by using Hofstede's UAI.

The remainder of this paper is divided into four sections. First, we provide a conceptual background, then introduce the applied methodology and showcase the study results. Eventually, we discuss our

findings by laying out theoretical and practical implications, stating limitations as well as providing guidelines for future research to end with a conclusion.

2. CONCEPTUAL BACKGROUND

In the discussion of culture's influence on management in general, culture-bound researchers have stated that cultural and contextual differences lead to the existence of many different ways to manage organizations globally with distinct strengths and weaknesses [11, 55, 61]. Two levels are likely to influence strategic management processes globally, firstly the micro-level of individual actors, and secondly, the macro-level of organizations.

2.1. The Impact of Culture on the Micro-Level of Strategic Management Process

It has been argued that contextual factors like culture have a strong influence on decision-making and strategic choices made in the strategic management process [24, 34, 55]. Das [62] for example argues that executives shape the time horizon of their organizations through their own future perspective. As cultural values have a legitimization function and thus define acceptable processes within an organization [36, 63], the concept of congruence has been introduced to organizational structures and processes [63]. Newman and Nollen [29] argue that employees perceive management practices congruent with their cultural values as consistent with their own expectations. Congruent management practices have several advantages as they are for example likely to increase the predictability of an individual's behaviour [64] and their effectiveness [65] as well as organizational performance [66]. Incongruency can lead to dissatisfaction and a lack of perceived fairness and acceptance, affecting process compliance and commitment. This results in not fully leveraging management processes or even no implementation at all [29, 67]. Newman and Nollen [29] showed empirically for the first five Hofstede dimensions and their characteristics (except low UAI) that congruence of management practices with cultural values improves performance measured on the unit level as return on assets and return on sales and on the individual level by measuring performance bonuses. Bachmann et al. [35] state – based on the upper echelons theory – that decision-makers rely on management tools that fit their cognitive models and experiences, or at least do not restrict them. They further proposed that strategic planning has a higher success when its processes are congruent with the cultural characteristics of the involved stakeholders. As management processes differ in the congruence with decision-makers value orientations, organizational scholars claim that management processes should be shaped to satisfy the collective needs of organizational participants and to be accepted in distinct cultural contexts [68, 69].

Despite lacking an in-depth understanding of cultural influences on the strategic management process, research has theoretically and empirically assessed the cultural sensitivity of some aspects of the strategic management process on the micro-level. For the dimension of UAI, the results of Hoffman [38] showed that a strong planning-performance relationship exists especially low UAI environments. Members of high UAI cultures are argued to prefer clear structures, rules, and formalized, established processes, which has been empirically proven by Newburry and Yakova [70], while members of low UAI cultures disregard formalized processes and prefer flexible strategic management processes [37, 38]. Hence, Chong and Park [37] remarked for the planning process of strategic management that members of high UAI cultures prefer a formalized approach that is based on consecutive steps and strict rules, while members of low UAI cultures have “high tolerance for ambiguity and dislike for rigid rules.”

According to our conceptual background, focused on the micro-level of the strategic management process, and the review of empirical research, we can assume that actors' UAI orientation is influencing preferences in the strategic management process, and ultimately behaviour, on the micro-level of the decision-maker. Therefore, these findings are a challenge for the macro level of the strategic management process, the organizational perspective, particularly for MNCs with diverse teams.

2.2. The Impact of Culture on the Macro-Level of Strategic Management Process: MNCs' Strategic Management Processes

As literature has already shown the influence of culture on the micro-level of the strategic management process, it is of interest to assess its influence on the macro-level of the strategic management process and thus identify types of MNCs whose strategic management processes are particularly vulnerable to the influence of culture. Therefore, we differentiate for this research MNCs according to an organizational component, the division of work in the strategic management process, especially between HQs and subsidiaries, and the cultural composition of the involved actors as a social component.

The first dimension to differentiate MNCs is the division of work in the strategic management process. Strategic management processes with a low division of work are rather centralized. MNCs' different organizational units are dependent on the HQs and its decisions due to their limited participation in the strategic management process. Consequently, there is a lower degree of interaction between employees of the different units with the HQs [71–73]. From a structural set-up, such a process has less diversity, making it less likely to be influenced by cultural influences. In contrast to the aforementioned approach, a high division of work in the strategic management process is based on strong involvement, interaction, and participation of different actors from different units. Thus, there is a strong interdependence between the different units. The division of work can result from an internal, capability view, as different units bring a certain degree of specialization, or from an external perspective, i.e. especially the need for localization [71, 72, 74, 75].

The second dimension to differentiate MNCs is the cultural composition of the involved actors. Strategic management teams that share the same cultural orientation on various layers are cultural homogeneous teams being less likely to be affected by cultural sensitivities [54, 76, 77]. In contrast, cultural heterogeneous team members differ significantly in their cultural orientation [78]. The cultural differences mainly result from three different layers. The most visible part is the national level, as strategic management teams can consist of individuals from multiple nationalities. Nations have been argued to share one cultural orientation, leading to cultural differences and increased complexity in multinational strategic management teams [36, 55, 79]. Furthermore, cultural differences can occur at the organizational culture level, as actors differ in their identification with the organizational culture [80, 81]. Thirdly, differences can occur on the individual level as participants in the strategic management process have a distinct individual cultural orientation, resulting from membership in multiple cultural groups with distinct cultural orientations [59, 82, 83]. Teams that are culturally heterogeneous across all three layers are becoming the norm at MNCs due to globalization. Due to those various sources of diversity, it is particularly valuable to assess the individual layer of culture, as it caters to different cultural orientations across all layers [59, 84].

Combining these two discussed dimensions, we can distinguish four cases (see Figure 1) for the strategic management process of MNCs to assess the cultural sensitivity of MNCs' strategic management processes. Especially strategic management processes of MNCs characterized as polycultural strategic management involvement (case 2) are expected to be subject to the most substantial cultural influences of all four cases, due to strong diversity from a structural as well as from an actor perspective. Thus, especially such MNCs need to understand if standardized strategic management processes can be used similarly across the globe with the same output. This knowledge is enabling them to conduct an efficient strategic management process by either leveraging global scale through standardization, or by adapting processes. Therefore, case 2 is used as the reference case for further investigation.

Heterogenous	Case 1 Polycultural strategic management directive	Case 2 Polycultural strategic management involvement
Cultural team composition of the strategic management team	Case 4 Monocultural strategic management directive	Case 3 Monocultural strategic management involvement
Homogenous	Low	High

Division of work in the strategic management process

Figure 1. *Cultural Sensitivity Matrix of the Strategic Management Process in an MNC (own illustration)*

2.3. Hypotheses: Scenario Planning as a Culturally Sensitive Strategic Management Process

An important strategic management tool in times of uncertainty is scenario planning as it helps to identify and understand uncertainties and their potential interaction. By showing possible future developments it supports decision-making [51, 52]. A broad set of scenario planning terminology and methods exists without uniformity and clear guidance, leading to methodological chaos [85, 86]. Yet, the approach of the consulting firm Global Business Network (GBN) has been called the "gold standard of

corporate scenario generation” [87] and is seen as “default for all [...] scenario work.” [88]. Consequently, the GBN approach builds the basis of the underlying research as we apply a five-step scenario planning process based on the practical GBN interpretation of Schühly et al. [89]. We are developing hypotheses for each step of the scenario planning process regarding cultural sensitivity by using UAI.

The focal question synthesizes the strategic challenge for the underlying scenario planning process. The focal question definition is the first step of the scenario planning process. It has been argued that the focal question should not have a simple solution and rather depend on various uncertain future events and developments [52, 89]. The focal question can be defined in a top-down approach by top-management or in a bottom-up approach whereby different involved actors collaborate [90–92]. As UAI has been argued to influence decision-making processes, its influence on the focal question development is a point of interest. Members of high UAI cultures are stated to prefer authoritative, top-down decision-making, reflected in top-down management approaches by organizations in high UAI cultural environments. In contrast, organizations in low UAI cultural environments instead prefer flexible, independent, and bottom-up management processes [34, 36]. Subsidiary managers with a low UAI cultural background have been shown to be more appreciative of taking over decision-making than those with high UAI background [81]. High UAI cultures are also characterized by a high level of formalization of regulations and strong control of workers', with power at the top [34, 48]. Members of low UAI cultures are comfortable with disagreement, which could appear in a bottom-up discussion on the focal question, while members of high UAI cultures drive for consensus and conflict avoidance and hence accept senior decision-makers' choices [70]. Thus, a top-down focal question development approach should reduce the conflict potential and offer the need for consensus. This is also providing members of high UAI cultures with a clear structure that enables them to achieve their goals [93]. Consequently, it is expected that the UAI orientation of actors in the strategic management process influences the development process of the focal question, leading to the hypothesis:

Hypothesis 1 (H1). *High UAI oriented individuals prefer a top-down development of the focal question, whereas low UAI oriented individuals prefer a collaborative, bottom-up approach.*

The second step of the scenario planning process is focusing on the driving forces research which are the fundamental sources of future change in the external environment that are out of organizational control [91]. While traditional approaches rely on expert interviews and desk research, more recent practical approaches have suggested using technology-based solutions to identify driving forces objectively from a large data pool [89, 91, 94]. As the usage of technology has been shown to be influenced by UAI orientation, it is expected that also the driving forces research is subject to the UAI orientation of individuals. Consumer research on information search behaviour has shown that individuals with high UAI orientation are more critical about new activities [95], while a high degree of UAI is also negatively related to innovation [96]. Thus high UAI oriented individuals are less likely to use technology-based driving force research. Additionally, it has been stated that low UAI and high R&D activities are correlated, which is a strong indicator that members of low UAI cultures more frequently generate and apply innovation than individuals from high UAI cultures [97]. Studies have also shown that organizations in high UAI cultures are less likely to adopt new technologies [98]. Based on the uncertainty inherent in new technology, members of high UAI cultures are rather implementing established technological solutions. In contrast, members of low UAI cultures tend to use new technological innovation, taking more risks to have the opportunity to receive benefits earlier [99]. Organizations in low UAI environments have a higher degree of flexibility, while also engaging in alternative ways of information collection and experimental learning approaches [100]. In contrast, individuals in high UAI cultures prefer classical learning approaches over technological learning [101]. Thus an influence of the UAI orientation of actors in the strategic management process on the driving forces research is assumed, leading to the hypothesis:

Hypothesis 2 (H2). *Low UAI oriented individuals have a stronger preference for new, technology-based driving force research approaches than high UAI oriented individuals.*

Driving forces are evaluated regarding the degree of uncertainty and the impact on the focal question. Those driving forces rated high in both dimensions are clustered to develop scenario narratives in the third step of the scenario planning process [89, 102]. Frequently, 2x2 scenario frameworks comprised of two clusters are used by practitioners, where each field reflects a scenario narrative. The narratives

are developed based on the identified driving forces to bring alternative futures alive [89, 103, 104]. Scenario narratives are not necessarily qualitative narratives but can also be narratives focused on numbers and quantitative content, such as econometric models [105]. Based on existing research, it is likely that scenario narratives are subject to cultural influences. It is expected that high UAI oriented individuals prefer numbers and quantitative content in the narratives, which they can use as 'absolute truth'. Low UAI oriented individuals rather focus on qualitative stories, which can serve as a basis for an empirical learning process [95, 106]. It has been shown that members of high UAI cultures prefer concrete experience and reflective observations, such as a thorough quantitative analysis, while members of low UAI cultures prefer conceptualizations and active experiments, such as qualitative narratives to experience the future [101]. This is in line with the argument that high UAI oriented individuals seek absolute truth, whereas low UAI oriented individuals take a more empirical approach to collect and interpret data [95]. Furthermore, members of high UAI cultures rely on existing ways to interpret information. As numbers and quantitative content can be analysed based on statistical procedures and existing rules, they are likely to appeal to members of high UAI cultures. Contrarily, members of low UAI cultures are more flexible in collecting information, use different ways to process it, and are more willing to change their perception. Thus, qualitative narratives seem to be more appealing in low UAI culture environments [100]. Numbers and quantitative content are perceived by members of high UAI cultures as uncertainty reducing component. Accordingly, they should be likely to use more numbers and quantitative content in the scenario narrative [48]. Therefore, it is assumed that the UAI orientation influences the scenario narratives, leading to the hypothesis:

Hypothesis 3 (H3). *High UAI oriented individuals have a stronger preference for scenario narratives focused on numbers and quantitative content, whereas low UAI oriented individuals have a stronger preference for qualitative narratives.*

In the fourth step of the scenario planning process, implications and resulting strategic options from the scenarios are identified. Implications are the conditions under which the affected organization needs to operate, while the options reflect the range of possible actions under the scenario conditions. This step enables an organization to test each decision in the scenarios [107, 108]. Some strategic options are only valid in a few scenarios whereas others are valid for all scenarios. Consequently, a different amount of strategic options can be developed, depending on the preference for flexibility to react to environmental shifts [108, 109]. It is expected that this preference is subject to influences by the UAI orientation of the involved actors. Low UAI is, theoretically and empirically, related to a higher willingness to embrace change. Members of low UAI culture are more likely to react flexibly to environmental changes than decision-makers from high UAI cultures who dislike ambiguity and tend to dislike new ideas and hence prefer maintaining the status quo [37, 95, 110]. Therefore, members of high UAI cultures aim for clear instructions, dislike flexibility and unconventional solutions, and are not actively striking for new information. In contrast, members of low UAI cultures are actively seeking new information to be able to react with flexibility and adapt to changing environments [37, 100, 101, 111]. Members of low UAI cultures have also a greater willingness to take risks and break out of current thought models [70]. This means that low UAI oriented individuals are expected to develop strategic options that are flexible and thus would develop more options. In contrast, high UAI oriented individuals are expected to develop fewer strategic options. A variety of strategic options is problematic for members of high UAI cultures, as this increases uncertainty, whereas they perceive strategic options that are clearly defined and operationalized as uncertainty reducing [35, 37]. They also prefer stability, which is expected to materialize in less strategic options [82]. Thus an influence of the UAI orientation of actors in the strategic management process is expected leading to the hypothesis:

Hypothesis 4 (H4). *Low UAI oriented individuals have a stronger preference for the development of more strategic options than high UAI oriented individuals.*

In the final stage, indicators are selected to monitor in which direction of the developed scenario narratives the external environment is moving. This allows to react flexibly and adapt strategies accordingly [89]. It has been argued that organizations differ not only in their general strategy monitoring and evaluation but also in the degree of scenario monitoring and evaluation [112, 113]. To avoid stress from uncertainty, members of high UAI cultures prefer to stick to existing behavioural patterns. When facing uncertain situations, however, they require detailed information to be able to apply existing rules [95].

Organizations from high UAI cultures only change their strategic actions when they have a profound database and potential consequences have shown their value [99]. As a consequence, decision-makers from high UAI cultures prefer formalized monitoring and evaluation approaches to reduce ambiguity and surprise [34]. Decision-makers from low UAI cultures, in contrast, feel comfortable with unknowns and have high flexibility to adapt to change, and hence require less information in advance [34, 114]. Decision-makers from high UAI should engage in more extensive and formalized monitoring and evaluation, as this provides them with a sense of controllability [115]. High UAI culture decision-makers especially value the resulting transparency of monitoring approaches [35]. Thus, it is assumed that the UAI orientation of the involved actors influences the monitoring and evaluation, leading to the hypothesis:

Hypothesis 5 (H5). *High UAI oriented individuals have a stronger preference for extensive scenario monitoring and evaluation than low UAI oriented individuals.*

3. METHODOLOGY

To answer the research question, the developed hypotheses, as outlined before, will be subject to a well-founded empirical analysis. Data collection, measures, and statistical analysis methods will be outlined in the following.

3.1. Data Collection and Measures

It is indispensable to include practitioners in the research agenda of strategic management, especially as “practice is the root of strategic management.” [12]. Strategic management research needs, therefore, to include top managers who are in the area of strategic management the most knowledgeable and most affected people in the corporate world [35]. Admittedly, getting access to a large number of top managers with diverging cultural orientations can be either highly time-consuming and costly or even impossible [116]. Therefore, the data collection was addressed at management consultants to identify aspects of the strategic management tool scenario planning that are subject to cultural influences. Management consultants have been used as a proxy for corporate decision makers, as they are also experienced in strategic management processes, yet are easier to access. In addition, this also follows a call for research to expand the focus of research on strategy tools from top-management to a broader audience, like middle management or consultants [8]. In today’s business world, consultants serve as a significant channel of information and supporting function in strategic questions to executives, highly valued for their knowledge by clients [117–120]. As many internal and external players participate in the development of management concepts and processes, consultants have an impactful role being at the edge between knowledge creation and application [119, 121]. It has even been indicated that many organizations focus solely on operational planning while external management consultants perform their strategic planning [122]. To broaden the scope of the consultants in the study sample, a sample of consultants from different consulting functions shall be included, as suggested by Kakabadse et al. [121] which is an answer to the breadth of consulting services that can be observed in the market.

A respective online survey was sent to 6.886 consultants working for a global management consultancy in November 2019. The full questionnaire was available in Chinese, English, and German. Additionally, existing Cultural Value Scale (CVSCALE) translations have been used (Finnish, French, Italian, Korean, Portuguese, Russian, Spanish, Thai, Turkish) to reduce language effects. To increase participation, research results and a charity donation were offered as incentives. Multiple measures were included to decrease the possible impact of common method bias (CMB) [123]. Survey items addressing the same construct were separated, when feasible, while also strategic management variables were separated from culture variables. The wording of the items was carefully aimed at reducing ambiguity, which was also pre-tested with native speakers of various languages. Respondents were assured anonymity and confidentiality for their answers [123]. Additionally, Variance-Inflation-Factor (VIFs) below or equal 3.3 are further indicators of the absence of CMB [124].

The dependent variable, the strategic management tool scenario planning, was operationalized in a set of newly developed sub-constructs to reflect the different process stages. Scale developments were based on multiple steps, including a literature review and theoretical analysis, followed by selection and adaptation of a pre-final set, eventually tested with a closed item sorting approach [125]. According to

the theory of reasoned action [126], we measured preferences as a predictor for behaviour. Please refer to appendix 3 for further details.

Following the traditional stream of cross-cultural research, we perceive culture as the main effect of behaviour variation [127] with UAI as the independent variable. To overcome the limitations of "equating the culture of a country directly with all citizens" [58], while still applying the most frequently used and cited cross-cultural framework of Hofstede [128], 58 [58] have introduced the CVSCALE. This is responding to the need of measuring culture at the individual level and acknowledging the strong interest of cross-cultural research in values [128, 129] as they are "legitimizing an organization's existence and its modes of functioning, as well as the patterns of behaviour of its members" [63]. The CVSCALE helps to collect primary data without stereotyping by attaching national culture scores from secondary data [96]. The CVSCALE has been assessed by various studies for measurement equivalence, validity, and reliability [e.g., 130, 131] as well as results have been shown to be transferred globally [132]. Thus, UAI has been measured with the CVSCALE, yet using a refined 7-point Likert scale. Likert scales are frequently applied in international business research, and 7-point scales have been assessed as providing greater confidence in results in cross-cultural settings [133]. The CVSCALE is thus a good measure to investigate culturally heterogeneous strategic management teams.

Based on existing literature, we have selected relevant control variables [35, 93, 134]. To control for country-specific effects, we included the gross domestic product (GDP) per capita, the World Bank's Doing Business Index, and the Human Development Index (HDI). To control at the individual level gender, age, hierarchical position, and the number of years working in consulting and industry specialization, have been included. A dummy variable has been used to control for potential language effects. Long-Term Orientation (LTO), COL, PDI, and MAS have also been measured with the CVSCALE to control for explanations caused by other cultural dimensions. Other cultural concepts, e.g. GLOBE, have been excluded, as it has been argued that they partly capture the same variation in cross-cultural differences, reflected in correlation between certain dimensions of different frameworks [93, 135, 136].

3.2. Analysis

To ensure validity and reliability of the results a variety of procedures has been conducted. Responses lacking data for dependent and independent variables were excluded. Nationality has been used as filter ($N \geq 5$ as threshold). Standardization has been implemented to remove any response bias. Ipsatization was applied for each individuals' survey response data [137]. CVSCALE items have also been standardized across nationalities [58]. Several measures have been taken to test the construct validity and reliability of the dependent variable scales. In the development phase, scales were based on literature analysis. Exploratory Factor Analysis (EFA) was used iteratively to reduce the number of factors and items aimed to improve Cronbach's Alpha for each factor above the commonly accepted thresholds of 0.7, while also ensuring that item-total correlation was above the threshold of 0.3. Lower Cronbach's Alpha values are acceptable for experimental research, yet values above 0.5 have been recommended [138]. Each measurement factor was individually assessed based on theoretical arguments and results from the factor analysis to improve its validity. The results were tested with an EFA with all remaining items with orthogonal rotation and Confirmatory Factor Analysis (CFA). The applied CVSCALE measures have also been tested separately by an EFA with orthogonal rotation, which was then supported by an oblique rotation approach. A t-test has been applied to test for the prevalence of non-response biases between the first and the last third of the respondents, while also a t-test has been applied between the different hierarchical levels to test for structural differences. The final variables were then subject to the two-step normalization approach [139]. The data were tested for configural invariance, metric invariance, and scalar invariance based on a multigroup CFA and Chi-Squared Difference Test-based analysis of differences in χ^2 with nested models [140]. In line with 35 [35], the US- and Chinese sub-populations have been used for the CVSCALE, while the entire sample was split into two groups ("Continental Europe"; "Others") for the SM measures.

For hypothesis testing, hierarchical regressions were applied, whereby it is tested whether the incremental change in R^2 resulting from the addition of cultural dimension variables in the second model was statistically significant. The F-test that constituted the test of the hypothesis was based on the statistical significance of the change in R^2 between the restricted model (RM; control variables only) and

the full model (FM; control variables plus the independent variables). Regression models were based on the standardized and normalized variables to reduce multicollinearity.

4. RESULTS

4.1. Survey Sample and Data Testing

785 respondents participated in the online survey, which took place in November and December 2019, which leads after discounting for incorrect contacts to a response rate of 12.89 %. This is within the range of 6-16%, 141 [141] reports for surveys without pre- or follow-up contact. After missing values cleaning and applying the nationality filter, 566 valid cases remained, whereby 557 have been used for the regression analysis (see appendix 4 for details). Descriptive statistics can be found in Table 1.

The factor analysis revealed that after dropping two items for SM2, two items for SM3 (making it a single-item measurement), two items for SM4, and one item for SM5, all items fulfil at least the less severe condition of Cronbach's Alpha > 0.5 (see appendix 4 for details). For further reliability assessment, the Average Variance Extracted (AVE) and Composite Reliability (CR) were calculated for each dimension. While the CR values are all above the threshold of 0.6, only the measures SM1 and SM4 are above the AVE threshold of 0.5. However, according to 142 [142], the convergent validity of a construct is still acceptable when AVE is below 0.5, yet the CR is above 0.6, which is achieved by all measures. As an additional test for the reliability of the scales, a CFA has been conducted ($\chi^2 = 301.264$; $DF = 95$; $\chi^2/DF = 3.1712$; $CFI = 0.910$; $RMSEA = 0.062$). The assessment of non-response biases shows that only the dimension SM3 has a difference in variances at $p \leq 0.05$ in Levene's Test for Equality of Variances (LTEV). However, at the stricter level of $p \leq 0.01$, there is no difference. The t-test for the equality of means shows that there is an absence of non-response biases for all items except SM5. As the majority of items do not show significant differences, the assumption of non-response or informant biases is rejected. Hierarchical levels were assessed revealing that only the dimension SM4 has a difference in variances at $p \leq 0.05$ in the LTEV. The t-test for the equality of means shows that there is a significant difference in SM3 between different hierarchies. For the CVSCALE, the varimax EFA indicates that one item (LTO_2) should be dropped from the LTO dimension; for all other indicators, the factor analysis follows the theoretical expectations of the CVSCALE. Overall, the five dimensions explain 47.7 % of the total variance. To verify the results and test the affiliation of LTO_2 with the LTO cultural dimension, a promax EFA was conducted. The pattern matrix indicates the affiliation of LTO_2 with the LTO cultural dimension. Due to this analysis and the strong theoretical support for the CVSCALE, LTO_2 will be maintained. Reliability scores (Cronbach's Alpha) have been calculated for the five dimensions (COL: 0.813; UAI: 0.752; MAS: 0.754; PDI: 0.719; LTO: 0.448), whereby all dimensions except LTO are above the recommended threshold of 0.7. The assessment of non-response biases shows that the dimension UAI, PDI, and MAS have a difference in variances at $p \leq 0.05$ in the LTEV. However, at $p \leq 0.01$, there are only differences in variances for the PDI dimension. The t-test for the equality of means shows that there is an absence of non-response biases for all items except the MAS dimensions. All latent variables were also below the VIF threshold of 3.3, indicating the absence of CMB. We were able to confirm configural and metric invariance for the SM and CVSCALE measures. However, the configural model for testing the CVSCALE was reflecting a low model fit, which might be due to the small sample size [143]. Scalar invariance cannot be shown, yet metric invariance is perceived as a minimum requirement for cross-cultural research so that the results are sufficient [58].

Table 1. Descriptive Statistics

		Mean	Std. Dev.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	SM1	0.089	0.057	1																								

SM = Strategic Management; PDI = Power Distance; COL = Collectivism; MAS = Masculinity. UAI = Uncertainty Avoidance; LTO = Long-Term Orientation; GDP/c = Gross-Domestic Product per capita; HDI = Human Development Index. DB = Doing Business Index; CB & IP = Consumer Products & Industrial Products; E & R = Energy & Resources; FS = Financial Services; LSHC = Life Science and Health Care; TMT = Technology. Media and Telecommunications

4.2. Hypotheses Testing and Findings

To test the hypotheses defined in the previous section, we applied the introduced methodology. The results of the hypotheses testing will be described below, overall results can be found in Table 2.

To test H1 that higher UAI oriented individuals prefer a top-down development of the focal question, whereas low UAI oriented individuals prefer a collaborative, bottom-up approach, we used RM1 and FM – H1. Both models are significant in terms of their F-value. Furthermore, the F-ratio testing the change in R^2 from 0.14 (RM1) to 0.16 (FM – 1) is statistically significant ($p = 0.000$). The regression coefficient of the cultural dimension of UAI is also highly statistically significant ($p = 0.000$) and positive ($\beta = 0.169$) with the largest effect size of all hypotheses. Hence it can be stated that the cultural dimension of UAI has a statistically significant impact on the focal question development among the respondents of our survey. The positive regression coefficient reflects the assumption of H1, thus, H1 can be accepted. Besides, the model also shows the significant effects of various control variables. The cultural dimensions COL and MAS, have significant, negative regression coefficients. Furthermore, there is also a significant, negative hierarchy effect for (Senior) Managers.

H2 stated that low UAI oriented individuals have a stronger preference for new, technology-based driving force research approaches than high UAI oriented individuals. Both models, RM2 and FM – H2, to test H2, are statistically significant in terms of their F-value. Furthermore, the F-ratio testing the change in R^2 from 0.11 (RM2) to 0.12 (FM – 2) is statistically significant ($p = 0.006$). The regression coefficient of the cultural dimension of UAI is also highly statistically significant ($p = 0.006$) with a negative coefficient ($\beta = -0.116$) with the second largest effect size of all hypotheses. The regression coefficient also indicates the expected relation. Hence H2 can be accepted stating that low UAI oriented individuals have a stronger preference for new, technology-based driving force research approaches than high UAI oriented individuals among the respondents of our survey. The model shows for all cultural control variables, and HDI as well as the industry group Life Sciences and Healthcare a significant, negative regression coefficient, while the regression coefficient for DB is significant, positive.

H3 postulated that high UAI oriented individuals have a stronger preference for scenario narratives focused on numbers and quantitative content, whereas low UAI oriented individuals have a stronger preference for qualitative narratives. Both models to test H3, RM3 and FM – H3, are statistically significant in terms of their F-value. Furthermore, the F-ratio testing the change in R^2 from 0.07 (RM3) to 0.08 (FM – H3) is statistically significant ($p = 0.036$). The regression coefficient of the cultural dimension of UAI is also statistically significant ($p = 0.036$), with a negative coefficient ($\beta = -0.091$) yet has the smallest effect size of all hypotheses. The regression coefficient also indicates the expected relation. Consequently, we can accept H3 arguing that high UAI oriented individuals among the respondents of our survey have a stronger preference for scenario narratives focused on numbers and quantitative content, whereas low UAI oriented individuals among the respondents of our survey have a stronger preference for qualitative narrative. The model shows for COL a significant, negative regression coefficient and there is also a significant, positive hierarchy effect for the Partner/Director level.

For testing H4 that stated that low UAI oriented individuals have a stronger preference for the development of more strategic options than high UAI oriented individuals, we used RM4 and FM – H4. Both models are statistically significant in terms of their F-value. Furthermore, the F-ratio testing the change in R^2 from 0.10 (RM4) to 0.11 (FM – H4) is statistically significant ($p = 0.023$). The regression coefficient of the cultural dimension of UAI is also statistically significant ($p = 0.023$) with a negative regression coefficient ($\beta = -0.097$) with the third largest effect size. The regression coefficient also indicates the expected relation. Hence H4 stating that low UAI oriented individuals have a stronger preference for the development of more strategic options than high UAI oriented individuals can be accepted among the respondents of our survey. All cultural control variables have a significant, negative regression coefficient.

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H5 postulated that high UAI oriented individuals have a stronger preference for extensive scenario monitoring and evaluation than low UAI oriented individuals. Both models, RM5 and FM – H5, to test H5 are statistically significant in terms of their F-value. Furthermore, the F-ratio testing the change in R² from 0.11 (RM5) to 0.12 (FM – H5) is statistically significant. The regression coefficient of the cultural dimension of UAI is also statistically significant (p = 0.025) with a negative regression coefficient with the fourth largest effect size (β = -0.095). However, the regression coefficient does not indicate the expected relation so that H5 needs to be rejected. The model shows for all cultural control variables as well as the survey language a significant, negative regression coefficient and there is also a significant, positive hierarchy effect for (Senior) Managers.

Table 2. Results of the Hypothesis Tests Using Hierarchical Regression

	H1		H2		H3		H4		H5	
	RM1	FM – H1	RM2	FM – H2	RM3	FM – H3	RM4	FM – H4	RM5	FM – H5
<i>Step 1: Control variables</i>										
PDI	0.032 (0.433)	0.027 (0.511)	-0.090 (0.032)	-0.086 (0.039)	0.016 (0.705)	0.019 (0.652)	-0.116 (0.006)	-0.113 (0.007)	-0.125 (0.003)	-0.122 (0.004)
COL	-0.137 (0.002)	-0.134 (0.002)	-0.144 (0.001)	-0.146 (0.001)	-0.109 (0.015)	-0.110 (0.014)	-0.244 (0.000)	-0.246 (0.000)	-0.157 (0.000)	-0.159 (0.000)
MAS	-0.186 (0.000)	-0.175 (0.000)	-0.159 (0.000)	-0.167 (0.000)	0.031 (0.486)	0.025 (0.576)	-0.089 (0.043)	-0.096 (0.029)	-0.124 (0.005)	-0.131 (0.003)
LTO	-0.058 (0.154)	-0.070 (0.085)	-0.162 (0.000)	-0.154 (0.000)	0.001 (0.985)	0.007 (0.871)	-0.134 (0.001)	-0.127 (0.002)	-0.127 (0.002)	-0.121 (0.004)
GDP/capita	-0.15 (0.142)	-0.115 (0.257)	0.078 (0.453)	0.053 (0.605)	0.016 (0.876)	-0.003 (0.980)	-0.156 (0.133)	-0.177 (0.090)	0.126 (0.224)	0.106 (0.307)
HDI	0.022 (0.815)	0.019 (0.844)	-0.203 (0.038)	-0.200 (0.039)	0.117 (0.237)	0.119 (0.228)	0.067 (0.492)	0.069 (0.476)	-0.012 (0.903)	-0.010 (0.920)
DB	0.005 (0.936)	-0.005 (0.94)	0.182 (0.005)	0.189 (0.004)	-0.002 (0.98)	0.004 (0.956)	0.088 (0.179)	0.094 (0.151)	0.041 (0.527)	0.047 (0.471)
Gender	-0.05 (0.251)	-0.057 (0.184)	0.003 (0.945)	0.008 (0.857)	-0.029 (0.526)	-0.025 (0.582)	0.057 (0.197)	0.061 (0.166)	-0.031 (0.486)	-0.027 (0.544)
Age	-0.019 (0.801)	-0.034 (0.641)	-0.067 (0.375)	-0.057 (0.454)	0.087 (0.26)	0.096 (0.216)	0.005 (0.949)	0.014 (0.855)	-0.029 (0.704)	-0.020 (0.792)
Partner/ Director	-0.135 (0.07)	-0.110 (0.135)	0.142 (0.061)	0.124 (0.099)	0.210 (0.007)	0.196 (0.011)	0.039 (0.606)	0.025 (0.744)	0.078 (0.300)	0.064 (0.395)
(Senior) Manager	-0.117 (0.02)	-0.102 (0.039)	0.026 (0.604)	0.016 (0.747)	0.026 (0.613)	0.018 (0.723)	0.004 (0.935)	-0.004 (0.934)	0.128 (0.011)	0.120 (0.018)
Consulting Tenure	0.029 (0.685)	0.049 (0.491)	-0.062 (0.403)	-0.075 (0.305)	-0.085 (0.26)	-0.095 (0.204)	-0.024 (0.745)	-0.036 (0.630)	0.048 (0.517)	0.036 (0.621)
Survey Language	0.070 (0.123)	0.078 (0.084)	-0.061 (0.187)	-0.066 (0.151)	-0.017 (0.725)	-0.020 (0.663)	0.046 (0.325)	0.041 (0.370)	-0.138 (0.003)	-0.142 (0.002)
CB & IP	0.008 (0.877)	0.013 (0.790)	0.013 (0.799)	0.009 (0.855)	0.005 (0.928)	0.002 (0.973)	-0.022 (0.668)	-0.025 (0.623)	-0.022 (0.658)	-0.025 (0.614)
E & R	-0.043 (0.34)	-0.040 (0.365)	-0.032 (0.487)	-0.034 (0.459)	0.011 (0.821)	0.009 (0.845)	0.025 (0.595)	0.023 (0.618)	0.053 (0.250)	0.051 (0.262)
FS	-0.078 (0.102)	-0.076 (0.105)	0.018 (0.710)	0.017 (0.728)	-0.015 (0.751)	-0.016 (0.735)	-0.013 (0.785)	-0.014 (0.767)	-0.028 (0.564)	-0.029 (0.548)
LSHC	0.053 (0.242)	0.052 (0.246)	-0.100 (0.031)	-0.099 (0.031)	-0.043 (0.354)	-0.043 (0.36)	0.009 (0.852)	0.009 (0.839)	-0.009 (0.843)	-0.008 (0.854)
Public	-0.024 (0.599)	-0.015 (0.743)	-0.040 (0.394)	-0.046 (0.32)	0.084 (0.078)	0.079 (0.097)	0.034 (0.464)	0.029 (0.535)	0.020 (0.664)	0.015 (0.747)
TMT	-0.019 (0.678)	-0.025 (0.581)	0.010 (0.832)	0.014 (0.764)	0.013 (0.79)	0.016 (0.739)	0.035 (0.453)	0.038 (0.408)	0.000 (0.993)	0.003 (0.949)
<i>Step 2: Independent variable</i>										
UAI		0.169 (0.000)		-0.116 (0.006)		-0.091 (0.036)		-0.097 (0.023)		-0.095 (0.025)
F-ratio	4.416 (0.000)	5.15 (0.000)	3.386 (0.000)	3.630 (0.000)	2.271 (0.002)	2.391 (0.001)	3.152 (0.000)	3.276 (0.000)	3.572 (0.000)	3.672 (0.000)
R ²	0.14	0.16	0.11	0.12	0.07	0.08	0.10	0.11	0.11	0.12
F-ratio testing the Δ in R ² between full and partial model		16.632 (0.000)		7.500 (0.006)		4.396 (0.036)		5.178 (0.023)		5.074 (0.025)
Note, p-Values in parentheses										
The F-ratio testing the change in R ² between the full and the partial models assess the significance of each of the cultural dimensions (LTO and UAI) beyond the contribution of the control variables										
RM = Restricted Model (Control variables regressed against dependent variable). FM = Full Model (Control variables plus respective cultural dimensions regressed against dependent variable)										

Regression coefficients shown are standardized coefficients

PDI = Power Distance; COL = Collectivism; MAS = Masculinity. UAI = Uncertainty Avoidance; LTO = Long-Term Orientation; GDP/c = Gross-Domestic Product per capita; HDI = Human Development Index. DB = Doing Business Index; CB & IP = Consumer Products & Industrial Products; E & R = Energy & Resources; FS = Financial Services; LSHC = Life Science and Health Care; TMT = Technology. Media and Telecommunications

5. DISCUSSION

Despite longstanding discussions around culture, research on the strategic management process has only sparsely incorporated culture as an influencing factor. Apart from the already discussed influences of UAI, research has also theoretically and empirically assessed the cultural sensitivity of some aspects of the strategic management process on the micro-level. First, it is anticipated that the strategic management process will differ according to the Power Distance (PDI) orientation. While it is expected to be a centralized, top-down approach, in high PDI cultures, in low PDI cultures, in contrast, decentralized, bottom-up strategy formulation approaches are presumed [35, 36]. Also, the masculinity (MAS) orientation is hypothesized to influence the strategic management process. While high MAS cultures are likely to prefer top-down, structured, and inflexible strategic management processes, members of low MAS cultures instead rely on person-centred, consultative, and flexible, bottom-up processes [36, 38]. Further, the dimension of collectivism (COL) is proposed to influence the strategic management process. In low COL environments, a process is predicted to provide more variety and flexibility, whereas members of high COL cultures favour cooperation, group activities and demand that all others comply with the same process [36, 144]. The results of Hoffman [38] showed, beyond the influence in low UAI environments, that a strong planning-performance relationship exists also in high PDI environments. It has moreover argued, that these two dimensions also influence the strategic management process.

Due to culture's influence on human behaviour, it seems obvious to include culture in the discussion of strategic management processes. Yet, there is also a lack of agreement on how to use strategic management processes in the best way to achieve sustainable competitive advantage and ensure superior performance. One proposed approach is generating fit between the applied strategic management processes and the involved actors to account for individual differences. However, most parts of strategic management research have, implicitly or explicitly, taken an ethnocentric view, assuming the universal validity of mainly US-American, standardized deliberate strategic management processes. While various researchers have challenged the culture-free view, disputing the influence of culture, there is yet no agreement in academia on the cultural sensitivity of the strategic management process in general, and the scenario planning process in particular, opening a relevant gap to fill with research, as this work was intended to do.

The presented research assessed the cultural sensitivity of the process of the strategic management tool scenario planning. This endows particularly MNCs with diversity from the institutional as well as the social component (i.e. MNCs defined as polycultural strategic management involvement) with applicable knowledge. The investigation leads to the acceptance of four hypotheses (H1-H4) among the respondents of our survey. The hypothesis H5 shows a significant effect, however, the direction of the key regression coefficient is contrary to the expectation postulated. Besides, the control variables have also shown further significant cultural influences on preferences in the different steps of the scenario planning processes. Overall, the results indicate that individuals' cultural value orientation, and particularly the cultural dimension UAI, influence individual's preferences for the strategic management process of scenario planning, which is a strong indicator for actual behaviour. Consequently, the empirical analysis of the collected primary data reveals a cultural sensitivity of scenario planning with different degrees of cultural orientations and different sensitivities on the individual scenario planning process steps. Our findings provide value to all organizations with strategic management involving decision-makers with different cultural orientations. The results suggest that accounting for different cultural orientations in a global strategic management process ensures efficiency.

5.1. Theoretical and Practical Implications

We provide a theoretical explanation for culture's influence on the strategic management process, by theorizing the micro- and macro-levels of the strategic management process of MNCs. Therefore, we establish a model of how culture influences individual behaviour and further categorize MNCs according to the cultural sensitivity of their strategic management processes. Based on the results, one can favour the adaptation of strategic management processes, like the scenario planning process, to cater to

cultural differences for polycultural strategic management involvement MNCs. By taking a global sample to test preferences in a strategic management process that has been mainly developed and applied in an ethnocentric, Western setting, the results are a strong indication for the culture-bound theory and a call for the incorporation of cultural values as an influencer of strategic management. The results provide also support for congruency theory that a fit between strategic management processes and cultural orientations can improve results. Strategic management can thus serve as a dynamic capability and provide a sustainable competitive advantage in the long-term. This study provides a substantial contribution to cross-cultural and international strategic management research by incorporating a global sample and measuring individuals' cultural orientation. The theoretical understanding paired with the empirical results can help MNCs in transferring and adapting strategic management approaches and processes. Furthermore, this research contributes to the research field of international strategic management, as it involves practitioners who can provide their first-hand perspectives and are simultaneously key audiences.

The results provide MNCs' decision-makers with an understanding that individuals' cultural value orientations affect the scenario planning process and endow them with a tool that can be applied to different cultural orientations. Organizations have two levers to respond to these findings and ensure congruence between the strategic management process and the actors: the team composition and the strategic management process. Firstly, the organization can aim for higher cultural homogeneity in its strategic management team by either using team selection mechanisms that control for a cultural homogeneity or run procedures of cultural socialization to reach such a homogeneity [145, 146]. Despite having culturally homogenous teams due to socialization, organizations should consider assessing the fit between the prevailing cultural orientation and the characteristics of the strategic management tool to avoid lacking congruence and the described consequences. Secondly, organizations can adapt the strategic management process to better reflect the cultural value orientation of the strategic management team members. In the latter setting, a tool like the CVSCALE can easily be applied to get an understanding of individuals' cultural value orientation. Four practical process recommendations should be considered to accommodate cultural differences in the scenario planning process. Firstly, top-down development of the focal question should be selected when dealing with high UAI oriented individuals, in contrast, a collaborative, bottom-up approach should be selected with low UAI oriented individuals. Additionally, a process with low UAI oriented individuals can apply technology-based driving force research approaches while a process with high UAI oriented individuals should rather rely on expert knowledge and desk research. Also, the scenario narrative should be adapted. When dealing with high UAI oriented individuals, the narrative should have a strong focus on numbers and quantitative content, whereas when dealing with low UAI oriented individuals, the narratives should have a strong focus on qualitative components. Furthermore, more strategic options should be developed when working with low UAI oriented individuals than with high UAI oriented individuals. However, in practice, the question for MNCs emerges to what extent strategic management processes and tools should be adapted. Applying the procedural justice theory can be a solution to this dilemma, as it states that individuals not only react to the perceived fairness of outcomes but also the perceived fairness in decision-making processes [147, 148]. Thus individuals do not expect a full adaptation to their preferences as they are aware that various trade-offs constrain an MNC so that they only expect that their preferences are incorporated to a certain extent, as long as the strategic management process provides success for them in the long-run.

5.2. Limitation and Future Research

The present research is also subject to limitations. Our sample consists of a large share of young and highly educated consultants; however they are not directly involved into strategic decision making of MNCs like inhouse members of the strategic planning units do. Furthermore the sample is not balanced regarding nationalities. Also the sample can be subject to a single firm bias which yet also ensures to control for a potential interference factor. We were only able to ask for preference yet were not able to collect actual organizational behaviour, leading to another limitation. However, in line with the theory of reasoned action, preferences are a good proxy. Additionally it should be noted that the perception of uncertainty and uncertainty related behaviour are depending on a variety of other contextual determinants, which we could not measure according to our research set-up, eventually leading to endogeneity issues [149, 150]. The study might also be subject to limitations through the use of the CVSCALE instead of established national culture scores. It is further limited by not differentiating values between core and periphery values, as proposed by 80 [80]. The newly developed scale to test preferences in

strategic management might be subject to measurement error. This is also reflected in the Cronbach Alpha Values, as not all strategic management measures are above the recommended threshold of 0.7. Furthermore, the data might be subject to a CMB, despite tests that did not reveal any signals, as data for dependent and independent variables were part of the same questionnaire. The low levels of R^2 (0.07 – 0.16) in the significant hierarchical regression models should be stated as a limitation and show that further factors that were not observed influence the preference for strategic management tools.

This research approach was pioneering, yet also opened up new questions for future research. To overcome the limitations of the underlying research project, future research should include proxies or actual decision-makers from various organizations. Including decision-makers might allow measuring the actual activities and contextual factors of an MNC. Additionally, cultural values could be ranked, to identify core values whose incongruency with management practices has more severe consequences.

6. CONCLUSION

More than half of a century of cross-cultural research has provided a vast understanding of culture's consequences. Contrary to this vast research, there still seems to be a research deficit on culture's influence on the strategic management process and particularly the role of individuals' cultural orientations. Notwithstanding limitations noted above, this study contributes to the understanding that individuals' cultural orientations play a vital role in MNCs' strategic management processes. We discussed the existing theoretical perspectives and empirical contributions of academia and eventually uncovered culture's influence on the strategic management process with our own empirical research. We sincerely believe that by examining individuals' cultural orientation in the context of strategic management, future research can help decision makers to create more efficient and effective strategic management processes. Thus we hope that other scholars continue exploring this ever more important cross-disciplinary area of research.

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APPENDIX

Appendix 1 Strategic Management Journal Contributors and their Institution of Origin

	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	2015-2019	Total
Number of contributors									
USA	155	287	433	473	514	517	623	975	3977
Rest of World	87	78	117	142	214	257	427	757	2079
In %									
USA	64.0%	78.6%	78.7%	76.9%	70.6%	66.8%	59.3%	56.3%	65.7%
Rest of World	36.0%	21.4%	21.3%	23.1%	29.4%	33.2%	40.7%	43.7%	34.3%

Notes: Editor Notes and Introductions as well as Errata have been excluded. Authors with various institutions have been counted according to their contact institution respective the first mentioned institution. Authors without or with ambiguous information have been excluded.

Appendix 2 Long Range Planning Contributors and their Institution of Origin

	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	2015-2019	Total
Number of contributors									

Cultural Influences on MNCS' Strategic Management Processes - Testing the Effects of Uncertainty Avoidance on the Scenario Planning Process

USA Rest of World	218	220	207	128	62	43	54	119	1051
	319	304	308	374	238	259	256	527	2585
In %	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	2015-2019	
USA Rest of World	40.6%	42.0%	40.2%	25.5%	20.7%	14.2%	17.4%	18.4%	28.9%
	59.4%	58.0%	59.8%	74.5%	79.3%	85.8%	82.6%	81.6%	71.1%

Notes: Editor Notes and Editorials. Introductions. Brief Cases. Book Reviews as well as Errata and Obituary have been excluded. Authors with various institutions have been counted according to their contact institution respective the first mentioned institution. Authors without or with ambiguous information have been excluded.

Appendix 3 Variable Operationalization

The 4-item scale of Jansen et al. [1] for the centralization of decision-making was adapted to measure the cultural influence on the preferences of the focal question development (Strategic Management (SM)1). A 5-item scale was introduced to measure the preference of the usage of technology in driving force research (SM2) based on previous scale development work by Barringer and Bluedorn [2], Wang and Bansal [3] and Lini et al. [4]. A newly developed 3-item scale was proposed to measure scenario narrative preferences (SM3). A 5-item scale was suggested to measure the preference for the breadth of the developed strategic options (SM4). The scale was developed based on previous scale development work by Barringer and Bluedorn [2] and Lin et al. [4]. A 6-item scale was proposed to measure the preference for scenario monitoring and evaluation intensity (SM5). The scale was developed based on previous scale development work by Barringer and Bluedorn [2].

Variables	Items	Cronbach's Alpha
Focal question development (SM1)	<ul style="list-style-type: none"> Need for supervisor approval for action Need to report small matters Independence of actions of unit members Degree of approval for decisions 	0.715
Use of technology in driving force research (SM2)	<ul style="list-style-type: none"> Technology adaption for data collection Development of new data collection methods Research methods preferences (technology solutions) 	0.656
Narrative preferences (SM3)	<ul style="list-style-type: none"> Output preference of strategy development process 	n.a.
Strategic option breadth (SM4)	<ul style="list-style-type: none"> Examination of multiple problem explanations Search intensity for alternative courses to action Development of alternative courses to action 	0.632
Scenario monitoring and evaluation intensity (SM5)	<ul style="list-style-type: none"> Involvement of managerial layers in evaluation and control (distinct items for 3 layers) Usage of formalized monitoring and evaluation approaches Importance of performance measuring 	0.564

Notes: * are reverse scored)

Appendix 4 Survey Demographics

	Absolute	Relative
<i>Gender</i>		
Female	162	28.6%
Male	400 (5)	70.7%
No response	4	0.7%
<i>Age</i>		

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20-29	235	41.5%
30-39	188	33.2%
40-49	85	15.0%
50-59	46	8.1%
Above 59	3	0.5%
No response	9	1.6%
<i>Level of Education</i>		
PhD	32 (1)	5.7%
Master's / MBA	398 (2)	70.3%
Bachelor	117	20.7%
Trade/Technical/Vocational Training	2	0.4%
High school	6	1.1%
Other	4 (1)	0.7%
No response	7	1.2%
<i>Nationality (sorted by frequency)</i>		
Germany	106 (3)	18.7%
China	50	8.8%
USA	47	8.3%
India	41 (1)	7.2%
Canada	30	5.3%
Italy	26	4.8%
France	27 (2)	4.6%
Brazil	22	4.1%
UK	23 (1)	3.9%
Austria	21	3.7%
Portugal	21	3.7%
Belgium	20	3.5%
Australia	18 (1)	3.2%
Spain	14	2.5%
South Africa	13	2.3%
Denmark	12	2.1%
Netherlands	11	1.9%
Japan	11 (1)	1.9%
Poland	9	1.6%
Romania	9	1.6%
Russia	7	1.2%
Norway	6	1.1%
Slovenia	6	1.1%
South Korea	6	1.1%
Bulgaria	5	0.9%
Israel	5	0.9%
<i>Consulting Experience</i>		
Less than 1 year	12	2.1%
1-2 years	187	33.0%
2.5-5 years	158 (2)	27.9%
5.5-9.5years	57	10.1%
10-19 years	99	17.5%
20-29 years	41 (1)	7.2%
30-40 years	6	1.1%
No response	6	1.1%
<i>Career Level</i>		
Partner	66 (1)	11.7%
Director	47	8.3%
Senior Manager	61 (1)	10.8%

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Manager	76	13.4%
Senior Consultant	121 (2)	21.4%
Consultant	139 (1)	24.6%
Business Analyst	41	6.9%
Intern	4	0.7%
Other	9	1.6%
No response	4	0.7%
<i>Industry Affiliation</i>		
Consumer and Industrial Products	110	19.4%
Energy & Resources	47 (1)	8.3%
Financial Services	93 (2)	16.4%
Life Sciences and Healthcare	48	8.5%
Public	43	7.4%
Technology, Media and Telecom	60 (1)	10.4%
None	127 (1)	22.4%
Other	36	6.4%
No response	4	0.7%
Total	566 (9)	100.0%
In brackets (x) are the number of cases excluded from the regression analysis		

ADDITIONAL APPENDIX REFERENCES

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