Heterogeneity of the steering of foreign subsidiaries in multinational automotive companies

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Abstract: Rising environmental complexity is leading to challenges in the steering of foreign subsidiaries in multinational companies (MNCs). The actual local embeddedness literature recommends that global standardisation and the most homogeneous steering of foreign subsidiaries possible should be subordinated to the efforts of the important subsidiaries to adopt a more local orientation and to achieve more heterogeneity in steering. This paper seeks to clarify the present extent of the heterogeneity of steering in MNCs. A literature review is carried out to find reasons for the demand for more heterogeneous steering and to identify decision principles that help in making efficient decisions. Hypotheses are made as to how far these decision principles bring about heterogeneous steering. They serve as a basis for the empirical examination of multinational German automotive companies. Contrary to expectations, the heterogeneity of steering in MNCs is still relatively low, but a clear influence of the different decision principles on the heterogeneity of the steering was found.

Keywords: steering; headquarter-subsidiary relationship; local embeddedness; automotive industry; multinational companies; MNCs; growth markets.


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1 Introduction

There is an ever-growing demand for a change in steering within multinational companies (MNCs) (Gammelgaard et al., 2012; Miozzo and Yamin, 2012; Amatucci and Mariotto, 2012; Daniels et al., 2015). This is due to the increasing complexity of the environment (Nohria and Ghoshal, 1994; Hoenen and Kostava, 2015) as a result of global trends such as the distinctiveness of customer desires, the increasing intelligence of data processing and new technologies in industry sectors (e.g., Deloitte, 2015; McKinsey & Company, 2016) which in any case are already characterised by the increasing importance of some growing markets which account for most of today’s growth (e.g., Ambos and Birkinshaw, 2010; Prahalad and Battat-Charyya, 2008; Obaya, 2014; Wang and Balcer, 2012). To satisfy demand among customers with rising incomes, but also in part to develop and manufacture products for the entire corporate group in order to build country-specific knowledge and competences, the subsidiaries in these markets strike for local orientation (Hoenen and Kostova, 2015; Costa et al., 2015; Jürgens and Krzywdzinski, 2013), autonomy and decentralisation (Yu et al., 2009; Gammelgaard et al., 2012; Baglieri et al., 2014). This not only increases local embeddedness (Nell and Ambos, 2013) but also leads to a rising heterogeneity in the steering of subsidiaries.

The MNC of the 21st century has therefore been advised for some years now to become a ‘multi-hub organisation’ (Prahalad and Bhattacharyya, 2008), i.e., a network to be steered as individually and therefore heterogeneously as possible [cf. Mudambi et al., (2014), p.102; Najafi-Tavani et al., (2014), p.122; Meyer and Su, (2015), p.150].

At the same time, however, the need for more heterogeneous steering has been overlaid, particularly in capital-intensive sectors, by the demand for global standardisation [‘global imperative’, Daniels et al., (2015), p.660]. From this point of view, the subsidiaries’ desire for autonomy has to be restricted (Delany, 2000; Sargent and Matthews, 2006) by means of product platforms and global shared manufacturing and purchasing in order to tap world-wide synergies and minimise costs [Verbeke and Kennworthy, (2008), p.951; Rangan and Sengul, 2009].

In this article, we first scrutinise more closely the reasons for the increasing demand for stronger heterogenisation in the steering of subsidiaries of MNCs given in the literature and introduce decision principles by which steering homogeneity or heterogeneity are influenced. We deduce hypotheses about which decision principles cause an intense heterogenisation of the steering. These hypotheses serve as a basis for the empirical examination of 90 subsidiaries of 15 multinational German automotive companies with wholly-owned or controlled manufacturing subsidiaries in six countries, in order to examine the extent to which decision principles which support heterogeneous steering are used. Management implications for the handling of steering can be deduced from these results.

2 Literature review

2.1 Demand for more intensely heterogeneous steering

The demand for more heterogeneous steering of foreign subsidiaries in MNC arises from the relationship of the subsidiaries with the parents or headquarters (Birkinshaw and
Heterogeneity of the steering of foreign subsidiaries

Hood, 1998), particularly in complex matrix or network structures with functional departments, business units and geographic areas which pursue their own goals or interests and are in opposition to the subsidiaries’ goals (Gavidia, 2016). This demand has reignited the debate about the headquarter-subsidiary relationship, with fundamental concepts such as hierarchy and coordination and a subsidiary’s autonomy (e.g., Gammelgaard et al., 2012).

First of all, contingency theory considers different environmental conditions at headquarters/parent und subsidiaries (e.g., Doz and Prahalad, 1991; Gavidia, 2016), which have been discussed for a long time now as the global-local – ‘GLOCAL’ – dilemma (Laudien and Freiling, 2011). Although today global integration or standardisation is still necessary to pursue the goal of improving process efficiency and reducing redundancies, there is a growing need for local adaptation enabling greater creative freedom, flexibility and market proximity. In international management research, it is therefore becoming increasingly common to focus on individual subsidiaries, thus masking the interests of the parent companies to a large extent (cf. Najafi-Tavani et al., 2014). This, however, still fails to do justice to the reality in many companies [cf. Nell and Ambos, (2013), p.1088].

In order to demonstrate the demand for more heterogeneous steering of subsidiaries, in important foreign markets at least, the contingency perspective was subsequently integrated into a broader agency perspective, which is suitable for cooperative and interactive structures (Eisenhardt, 1989) if the stringent assumptions of the traditional financial models of the agency theory are eliminated (Hoenen and Kostova, 2015). As a ‘mid-range theory’ (Ambos et al., 2016), it explains that in the event of embeddedness in multi social contexts (Meyer et al., 2011), i.e., in complex agency relationships with functions and business units at the headquarters as multiple principals and different subsidiaries in important foreign markets as multiple agents (O’Donnell, 2000; Dörrenbächer and Geppert, 2009; Hoenen and Kostova, 2015), top managers in these subsidiaries demand greater consideration of their interests and therefore heterogeneous steering (Björkman et al., 2004; Ambos et al., 2016). This is the only way in which they can use the environments in which they are embedded, not only for their own goals but also for those of the parent company. For this purpose, they attempt to create trust and shared norms and values through socialisation (Eisenhardt, 1989).

Because the agency relationship is becoming more and more complex, it requires other explanations of the parent-subsidiary relationship to supplement the broader agency theory: in particular, the resource-dependency theory and the competence-based approach can be used to furnish evidence of the demand for a more heterogeneous steering [cf. e.g., O’Donnell, (2000), p.525; Gupta and Govandarajan, 2000; Egelhoff, 2010; Ambos and Mahnke, 2010; Gammelgaard et al., (2011), p.371].

The resource-dependency theory is based on the control of (tangible) strategic resources (capital, input materials and human resources) within organisations (Pfeffer and Salancik, 1978) and explains the demand for more heterogeneous steering of MNCs by the increasing power of important subsidiaries in growing country markets (cf. Mudambi and Navarra, 2004; Mudambi and Pedersen, 2007).

The knowledge and competence-based approach shows that the subsidiaries would like to be steered as heterogeneously as possible in order to be able to build (intangible) knowledge (Adenfelt and Lagerström, 2008) and transfer it as a quasi-public good [Buchanan, (1965), pp.2–3] within MNCs [cf. Najafi-Tavani et al., (2014), p.122;
Mudambi et al., (2014), p.102; Meyer and Su, (2015), p.150], even if this is in opposition to the parent companies’ interest in the most homogeneous steering possible.

2.2 Decision principles to structure the interaction between parent company and subsidiaries

Decision principles [cf. Laux, (2005), p.28] help organisations with a high requirement for decision making under imperfect information, risk or uncertainty to pre-select alternatives for action [cf. Eisenführ and Weber, (2003), p.85]. Like decision-making structures (Csaszar and Eggers, 2013) or preference structures (Toubia et al., 2013), they lay down a framework with which decisions can be made more easily and quickly (Schoemaker and Russo, 2001). Therefore, they help to make efficient decisions – in this case in the context of the steering of MNCs under increasing heterogeneity of the country markets (cf. Roberto, 2004).

Four decision principles are cited in the literature which influences the extent of decentralisation and therefore the extent of the heterogeneity of steering:

1. **Top down solutions**, which are sought within the hierarchy through quasi-monopolistic decision making rules, with a decision leader who determines an optimum goal achievement point (level of heterogeneity of steering) to which the decision follower (in this case the subsidiary) has to adapt (cf. Hill, 2011).

2. **Market solutions**, which are sought in competition among the subsidiaries, instigated by the parent company [decision-making through competitive mechanisms as in Adenfelt and Lagerström, 2008; Frost et al., (2002), p.2]. Only those subsidiaries will be selected by headquarters that possess distinct knowledge in a certain field and have intermediate responsibility for developing and sharing knowledge with other subsidiaries (ibid).

3. **Joint solutions**, which are sought by negotiation in accordance with economic negotiation theory (cf. Bazerman et al., 1985; Thompson, 2006) as joint decision making, in this case by the parent company and subsidiaries through negotiation about the autonomy of the subsidiaries (Gammelgaard et al., 2012). Joint solutions between the parent company and individual important subsidiaries are needed in order to arrive at a joint decision in the event of conflicting interests.

4. **Balanced solutions**, which are sought by balancing the level of achievement of irreconcilable interests of the parent company and a subsidiary by means of long-term compromises (Mudambi, 2011). They level out conflicting interests over time that cannot be definitively resolved, but can only be reduced.

3 Hypotheses about the heterogeneity of the steering of MNCs

In the last section, four decision principles were named: top down solutions, market solutions, joint solutions and balanced solutions. Whether these decision principles are more likely to influence steering towards homogeneity or heterogeneity will now be examined.

Top down solutions give the parent company scope for action and therefore levers for more heterogeneous management (Hill, 2011) which, however, are limited to a large
extent by legislation and the importance of the relevant markets. For example, there are clear rules under law – and under capital market law – on compliance management systems (CMS) and internal capital markets. In addition, almost all stock exchange supervisory authorities at the important trading centres have demanded central financial control, i.e., a central internal capital market run by the parent companies of MNCs in order to have full transparency about the entire company’s financial situation at all times. We therefore have reason to assume that there are regulations that demand homogeneity:

Hypothesis 1 The more intensively the decision principle of the top down solution is used the lower the heterogeneity of the steering will be.

Basically, market solutions do offer scope for action and are therefore likely to exert an influence towards more heterogeneous steering of highly competitive subsidiaries. However, the scope is limited in the long-term by the fact that competition-based solutions often support those subsidiaries that are already strong (Adenfelt and Lagerström, 2008), until the strongest subsidiary in the internal race for excellence wins and other subsidiaries lose the internal competitive battle because of scarce resources. The following applies in principle:

Hypothesis 2 The more intensively the decision principle of the market solution is used, the higher the heterogeneity of steering will be.

In the long-term, it is to be expected that few countries will win in the competition between the subsidiaries, and that the heterogeneity of the steering will be reduced again.

Joint solutions between the parent company and individual important subsidiaries are needed (Gammelgaard et al., 2012) in order to arrive at a joint decision in the event of conflicting interests. Scope and leverage points are available here for more heterogeneous steering if individual solutions are sought. It follows that:

Hypothesis 3 The more intensely the decision principle ‘joint solution’ is used, the higher the heterogeneity of the steering will be.

Balanced solutions are interim solution. They create common rules on the basis of which the individual subsidiaries can be steered more individually. Balanced solutions mean that the parent and subsidiaries agree on long-term compromises, e.g., by establishing informal personal networks to improve communication [cf. Müller-Stewens and Brauer (2009), p. 166] from which the subsidiaries can be steered more individually, i.e.,

Hypothesis 4 The more the decision principle ‘balanced solution’ is used, the higher the heterogeneity of the steering will be.

In the next section, initial indications of the hypotheses argued in this section now have to be found empirically.

4 Empirical analysis

4.1 Methodology

The empirical analysis now has to examine how the four decision principles influence the heterogeneity of the steering of foreign subsidiaries. In order to review the homogeneity or heterogeneity of subsidiaries’ steering, the different subsidiaries of a MNC in various
countries have to be compared. To review the hypotheses, however, it was not possible to use individual subsidiaries of one MNC as a case study (e.g., Nell et al., 2011), since this research centres on initial tests of assumptions and not the identification of assumptions (e.g., Kasper et al., 2011). Likewise, it was not possible to survey a very large number of subsidiaries in one or two countries (Dörrenbächer and Gammelgaard, 2006), even in different industries (O’Donnell, 2000), since this would not have allowed any statements about the cross-border homogeneity or heterogeneity of the steering within MNCs. A multi-phase approach starting with an explorative study followed by an in-depth round of surveys (Schotter and Beamish, 2011) was also impossible for reasons of economy of research, since subsidiaries in different countries were being considered. Therefore, a quantitative approach was selected that allowed initial simple analyses and was economically feasible (cf. Bortz and Lienert, 2008).

We used an in-depth interview technique fairly similar to the approach of Nell et al. (2011), who ultimately conducted 55 in-depth interviews in nine large multinational corporations. We used this technique although we knew that it would restrict the final sample size due to time-intensive travelling, because experience shows that these sensitive topics do not generate enough response if only questionnaires are sent out. An individual’s response may be subject to personal bias; however, by analysing several countries for the selected MNCs we obtained a fairly representative view for each company.

Fifteen German automotive companies, OEMs and suppliers, with wholly-owned or controlled manufacturing subsidiaries in six countries (90 cases) were considered, because this offers a statistically meaningful basis (cf. Backhaus et al., 2015; Field, 1999). Of the few eligible markets, Brazil, China, India, Mexico, the USA and Russia were selected. Data were collected between 2014 and 2016 using a questionnaire. We conducted in-depth interviews with the top management (mainly local presidents or vice-presidents) of the subsidiaries. In China and Russia, some of the subsidiaries are joint ventures with a local partner, but issues related to standardisation and local adaptation are dominated by the German partner. CEOs of subsidiaries were chosen as respondents, because they seemed best able to provide estimates of the extent of the implementation of the decision principles [cf. similar approach by Delany, 2000; Björkman et al., (2004), p.446]. We surveyed the CEOs of the subsidiaries in order to capture the locally perceived intensity of corporate headquarters’ steering more accurately than if the headquarters themselves had been surveyed (cf. Mudambi et al., 2014). Subsidiaries embedded in local markets are more likely to be in a position to understand local market demand. They have better access to consumer information and possess unique capabilities that are hard to evaluate from a distance (cf. Ambos et al., 2016). The sample was constructed by selecting large German car producers and suppliers who were able and willing to respond in all six markets. To obtain a sample of 15 companies we needed to contact 45, as some were not willing to answer at all or not in all six subsidiaries. Complete confidentiality had to be assured. The companies in the final sample have a spread from nearly 200 billion euros to nearly 1 billion euros in turnover and from above 550,000 employees to below 5,000 employees.

We used a single-industry sample to avoid industry effects on different economic environments, local subsidies or investment patterns (cf. Miozzo and Yamin, 2012). In particular, this normed the company environment between local adaptation and global competitive needs for the subsidiaries surveyed. In addition, the automotive industry is
very capital intense with a high demand for global standardisation. If a high heterogeneous steering of foreign subsidiaries can be shown here, it is actually likely to be even stronger in other industries. In order also to achieve the highest possible comparability of the individual subsidiaries, only manufacturing subsidiaries were included (cf. Najafi-Tavani et al., 2014).

4.2 Operationalisation of the variables

The independent variable is the strength or intensity of the use of the four decision principles. This intensity was measured on a metric scale of 1 to 7, with equal distances between the steps of the scale being assumed and an absolute mid-point defined [cf. Field, 1999; Berry, (1993), pp.44–49; Bleymüller et al., (2008), p.139]. The data were derived from the firms’ questionnaire responses (cf. Berry, 1993; Berry and Feldman, 1985) in six subsidiaries of MNCs. Information about each of the four decision-making mechanisms were gathered on the basis of three scales. A mean value was created from these which, in turn, were aggregated for each company into a mean across its six subsidiaries. For example, for the top down solution questions were asked about

a  the headquarters as the sole decision maker
b  the predominant use of global steering mechanisms
c  direct steering of the subsidiaries by the headquarters.

In the case of the decision principle of the joint solution, questions were asked about

a  the use of joint negotiating processes
b  joint decision processes
c  joint conflict resolution mechanisms (cf. Figure 1).

The dependent variable is the heterogeneity in the steering of subsidiaries of MNCs. It was operationalised by the variance between the mean values of the intensity with which 13 repeatedly mentioned instruments employed by the parent company to steer its foreign subsidiaries are used at each of the six subsidiaries (cf. Figure 1). These 13 steering instruments (SIs) can be assigned to three steering approaches (cf. also Figure 1 and Annex): ‘regulatory structures’ (e.g., mentoring or compliance management), ‘allocation of tangible resources’ (e.g., creation of good communication through personnel transfers) and ‘transfer and creation of knowledge’ (e.g., establishing of centres of excellence, cf. e.g., Gupta and Govandarajan, 2000; Ambos and Mahnke, 2010; Egelhoff, 2010; Proff and Proff, 2017). They serve here to operationalise the heterogeneity of steering per company via six subsidiaries for each company.

This intensity of the use of the 13 SIs was also measured on a metric scale of 1 to 7, with equal distances between the steps of the scale being assumed and an absolute mid-point defined [cf. Field, 1999; Berry, (1993), pp.44–49; Bleymüller et al., (2008), p.139]. The data were drawn from the questionnaire responses of the firms (cf. Berry 2003; Berry and Feldman, 1985). The average steering intensity was calculated for all 13 SIs for each subsidiary and the variance within the six subsidiaries determined for each SI and the average calculated for each company (cf. Figure 1). The variances were calculated for all variables both as the sum of the squared deviations and as the standard
deviation [cf. on this subject Bleymüller et al., (2008), p.18]. The greater the average variance of the SIs of the subsidiaries from the mean the greater is the steering heterogeneity as the dependent explanatory variable.

Figure 1  Operationalisation of variables (see online version for colours)

Source:  Own compilation

We entered a number of control variables in the questionnaire. According to Kutschker and Schmid (2011), important control variables are:

1  the subsidiary’s host country
2  the position of the company in the automotive value chain (automotive manufacturer or automotive supplier)
3  the form of ownership (privately owned or quoted on the stock market)
4  the age/maturity of the subsidiaries (see also Frost, 2001)
5  the size of the subsidiary [turnover see Ambos et al., (2011), p.308]
6  the nationality of the CEO of the subsidiary (see Dörrenbächer and Geppert, 2009).

4.3  Empirical results and discussion

The steering intensity seems to be country-dependent [Figure 2(a)]: China, assumed to be a very important emerging market, shows a very high steering intensity of 4.37, whereas Russia – with its political conflicts and embargoes – is less intensively steered (3.80).
This result permits the assumption that the extent to which global business units – driven by global competitive pressure – intervene in the steering of subsidiaries depends on the assumed importance of the market to the achievement of the business unit’s goals.

The position of the companies surveyed in the automotive value chain, i.e., the question of whether the subsidiary considered was an automotive manufacturer or a supplier, also influenced the steering intensity [Figure 2(b)]. The manufacturers’ steering intensity is significantly higher than that of the suppliers’ (average assessment of 4.26 versus 3.94). This is a somewhat surprising result because suppliers in different country markets often serve the same customers and therefore have to coordinate their price and product policies particularly well (cf. Manello, 2012; Manello and Calabrese, 2015) therefore they would have been expected to tend to have a higher steering intensity.

The heterogeneity of subsidiary management in each of the 15 MNCs is low on the average of all 15 companies studied. The distribution is strongly skewed to the left – 12 of the 15 cases are below average [Figure 2(c)]. Despite the increased local embeddedness and autonomy called for by the literature, surprisingly homogeneous steering is therefore demonstrated within the 15 multinational automotive companies considered here.

Figure 2  Descriptive statistics

To analyse the four Hypotheses 1–4 set forth in the last section, a multiple regression was carried out (Bleymüller et al., 2008; Backhaus et al., 2015; Bortz and Lienert, 2008). The results are summarised in Figure 3.

The multiple regression analyses show that an estimate using a linear multiple model offers the best explanation of the variation in total heterogeneity through the sum of the
squared deviations ($R^2 = 74\%$) compared to alternative regression models (a multiple linear regression based on standard deviations, an exponential model based on the sum of squared deviations and an exponential model based on the sum of standard deviations, cf. on this subject Backhaus et al., 2015). The linear multiple model of the sum of squared deviations is confirmed as significant (F test significance level $> 0.05$) and shows no autocorrelation in the residuals (Durbin Watson $> 1.9$) or heteroscedasticity. Likewise, there is no multicollinearity of the regressors [cf. Berry, (1993), p.12]. Internal consistency of the items analysed (Cronbach’s alpha) is given, at $> 0.7$.

The variation of the total heterogeneity is mainly attributable to the use of the decision principles of top down solutions, market solutions and balanced solutions ($\alpha < 0.05$, see Figure 3). The decision principle of joint solutions, in contrast, does not make a significant regressor in this sample because the regression coefficient of the joint solution is zero.

The decision principles of top down solutions (regression coefficient of $-0.26$) and market solutions (regression coefficient of $0.11$) explain the heterogeneity of steering via the use of decision principles according to Hypotheses 1 and 2: top down solutions hinder heterogeneity of steering, while market solutions support them.

Somewhat contrary to expectations, the decision principle of balanced solutions does not increase the heterogeneity of steering, but actually reduces it (regression coefficient of $-0.089$ according to Hypothesis 4). It turns out that a balanced solution based on compromises takes a fairly long time, so that degrees of freedom are the sole province of active managers. In order to prepare the formation of compromises, a common base must first be created. As a result, homogeneity actually increases temporarily, as the study showed. Hypothesis 4 is rejected at the moment.

The influence of the top down decision principle on the heterogeneity/homogeneity of steering is around three times as high as that of balanced solutions and more than twice as high as that of market solutions.

The control variables of age, size, ownership structure or nationality of the CEO showed no significant impact.

Figure 3  Results from the regression (see online version for colours)

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<tr>
<th>Summary</th>
<th>ANOVA</th>
<th>Coefficients</th>
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<tr>
<td>$R^2$</td>
<td>Durbin Watson</td>
<td>F</td>
</tr>
<tr>
<td>0.74</td>
<td>&gt;1.9</td>
<td>7.11</td>
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Average n = 90

The size of the coefficients of the regressors shows that the surveyed managers of important subsidiaries of German MNCs in the capital-intensive automotive industry judge the pressures of global standardisation, which demands greater homogeneity of steering, to be greater than the demand for local adaptation and therefore a more heterogeneous steering of foreign subsidiaries.
5 Management implications

The empirical study shows that the steering of foreign subsidiaries in the German automotive industry has been surprisingly homogeneous to date, although important growing markets are becoming increasingly distinctive and local embeddedness is therefore becoming more and more important: only three of the 15 companies surveyed steer the subsidiaries in six growing markets which were surveyed on a country-specific basis and therefore heterogeneously, and in addition in these three companies so far only primarily the Chinese market is steered in a country-specific way, e.g., with CEOs on board level.

Even where companies seek joint solutions that promote heterogeneity, e.g., in decisions on transfer prices, and market solutions, e.g., in decisions on the allocation of responsibilities for developing and sharing knowledge within the MNCs, top-down solutions currently prevail in German automotive companies, e.g., in decisions on the use of the internal capital market. Even in the longer term, when the decision principle of balanced solutions is likely to take effect better in the future and the heterogeneity of steering will probably increase, there will still be tasks in MNCs that have to be resolved top-down, and therefore homogeneously. Therefore, the demand for global standardisation [‘global imperative’, Daniels et al., (2015), pp.660] is currently dominant and is also unlikely to lose its significance entirely in the future, in view of the high fixed costs in the capital-intensive automotive industry.

The demand for increasing heterogeneity in MNCs is therefore of greater importance for industries requiring less capital and fixed costs, e.g., in the services sector.

The following recommendations on action for multinational automotive companies can therefore be argued on this basis:

• Market and competitive requirements have to be complied with in order to operate successfully in the market, since high capital intensity in particular restricts the scope of action because it imposes a need for global sales volumes, which makes the desire confirmed in all six countries for more distinctive country-specific offerings appear impractical in terms of business economics.

• At the moment, multinational automotive companies therefore have to deal with the current environmental constraints: strong global competitive pressure and the need to roll out products globally by means of product platforms and global shared manufacturing and purchasing in order to tap world-wide synergies and minimise costs.

• Nevertheless, multinational automotive companies should try to become more flexible and to reduce centralised activities, and to use the degrees of freedom already offered today by the joint and market-based solution in order to address subsidiaries in a more country-specific way.

• At the same time, MNCs should systematically seek balanced solutions even today in order to create further degrees of freedom in the approach to individual markets, even if they will not take effect until the long-term.

• Through more extensive outsourcing or the replacement of capital-intensive manufacturing technologies (e.g., 3D printing instead of stamping), a reduction of capital intensity in the automotive industry might be possible and new degrees of freedom will arise – but also only in the longer term.
6 Limitations and outlook

This paper has some limitations, as a result of which further research is required:

1 Multi-industry research would be needed to differentiate MNCs with different capital and technology intensities in order to gain a perspective on whether global subsidiary management is particularly important in capital and technology-intensive industries with multi-level production processes such as the automotive industry. This is because, in contrast to MNCs in less capital and technology-intensive industries such as the consumer goods industry, they have very much longer product life cycles and very much higher warranties and liabilities, which demand a very different level of error avoidance and quality. As a result, an industry’s capital intensity and technology intensity influence the intensity and heterogeneity of subsidiary management.

2 A distinction should be made between wholly-owned subsidiaries and joint ventures to detail the impact of different levels of control on the homogeneity and heterogeneity of subsidiary management.

3 Furthermore, MNCs from home markets other than Germany needs to be considered.

4 It is important also to discuss the management implications at the parent companies and to reflect them in new considerations of the value created by the parent companies.

Overall, it should be stated that there is no patent recipe for steering. There will always be a demand for global standardisation because regulations will continue to exist. At the same time, however, there are also degrees of freedom for a higher level of country-specific steering which multinational automotive companies should use. It is therefore important for them to recognise important restrictions and tap opportunities.

References


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Annex

**Instruments for steering subsidiaries**

Explanations of the management of foreign subsidiaries are sought in three main approaches in international management literature (cf. e.g., Gupta and Govindarajan, 2000; Ambos and Mahnke, 2010; Egelhoff, 2010; Proff and Proff, 2017):

1. in the regulatory structures (e.g., Mudambi and Navarra, 2004; D’Agostino and Santangelo, 2012)
2. in the allocation and transfer of resources (e.g., Stein, 1997)
3. in the development and transfer of competences (e.g., Gupta and Govindarajan, 2000).

They form the basis of a large number of SIs, of which 13 important instruments are repeatedly mentioned (see Table 1). They show the bandwidth of the steering stimuli from the parent company to the subsidiaries and could be further refined, which, however, is not useful in this case.
Table 1

<table>
<thead>
<tr>
<th>Steering approaches</th>
<th>Regulatory structure</th>
<th>Allocation of tangible resources</th>
<th>Transfer and creation of competences</th>
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<tbody>
<tr>
<td>SI 1: Management board</td>
<td>SI 7: Project-related use of internal capital markets</td>
<td>SI 10: Establishment of centres of excellence</td>
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<tr>
<td>SI 2: Mentoring</td>
<td>SI 8: Efficient involvement of foreign subsidiaries in the determination of transfer prices</td>
<td>SI 11: Deployment of transnational teams</td>
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<td>SI 3: Common values</td>
<td>SI 9: Creation of good communication through personnel transfers</td>
<td>SI 12: Attempt at boundary spanning</td>
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<tr>
<td>SI 4: Compliance management</td>
<td>SI 5: Grouping of subsidiaries</td>
<td>SI 13: Transfer of knowledge within the MNC</td>
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<tr>
<td>SI 6: Direct use of subsidiaries as local offices</td>
<td>SI 11: Establishment of centres of excellence</td>
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There is no comprehensive explanation of the management of subsidiaries or international coordination; hence, all three explanations are drawn upon. This is possible, at least in an environment having only incremental, seldom and weak changes like that of many traditional sectors such as the capital-intensive industries considered (cf. Milgrom and Roberts, 1990).