Research Problem

General Motors (GM) sought various ways of becoming a more competitive global firm during the 1990s. One of its solutions was to ask its design and engineering organizations, located in different parts of the world, to collaborate on the development of new sets of vehicles that would share vehicle architecture and selected components. Such vehicles would share the same platform or vehicle underbody. The belief was that economies of scale would result due to less engineering and fewer expensive dies to make parts. The problem was that the organizations participating in the first generation of these "global product programs" had been unable to work together effectively. As an in-house cultural anthropologist, I came on board to study and offer consulting advice to this collaborative effort, called the Delta Small Car Program, as it was being launched for the second time.

The partnership literature emphasizes decision-making dilemmas as one key source of conflict and major impediments to success (Spekman and Isabella 2000; Kalmbach and Roussel 1999; Segil 1996). Global product programs are partnerships (though the partners are all part of the same company), so it is likely that they would suffer from some of the same issues as partnerships formed from two different firms. Much of this literature highlights the individual's role in making decisions—in such situations as management (Martin 2007; Drucker 2005), public policy (Thomson and Perry 2006; Williams 2002), medical care (Levinson et al. 2005; Epstein et al. 2004), and consumer purchases (Kamaruddin and Mokhlis 2003). Some literature focuses on the criteria for making choices (e.g., financial return, rules based on social roles, routines, or norms [March 1997, 1994; Zhou 1997; Robbins 1996]). Still other literature emphasizes the context of group decision making (Tierney 2008; Brett et al. 2006; Kuhn and Poole 2000; Bettenhausen and Murnighan 1985).

Anthropologists have studied decision making to understand the culture of the local community (e.g., through individuals such as farmers [Barlett 1980]). But organizations involve groups of people who are often called on to work together, rather than separately, on work tasks. While organizational-culture issues related to work teams have been documented (Baba et al. 2004; Gluesing et al. 2003; Schwartzman 1993), their linkages to decision making have not been fully explored.

I delved into the cultural foundations of decision making in relation to global-program performance. I took a "cultural models" approach by focusing on the "implicit and tacit understandings" (Paolisso 2007:127) of the three Delta partners. Cultural models are used to organize information for whole domains of activity (Strauss and Quinn 1997; D'Andrade 1995); I applied this approach to decision-making expectations, assumptions, and practices. This paper builds on earlier research
where I examined autonomy, the core characteristic of GM culture, in relation to perceptions, organizational structure, and behavior on the Delta Program (Briody, et al.).

The three organizations, or "home units," involved in the launch of the Delta Program were Saturn Corporation, Adam Opel AG, and Small Car Group (a U.S.-based design and engineering group developing Chevrolet and Pontiac vehicles). Representatives of all three groups were part of a matrix structure composed of employees from these three organizations. They shared the same workspace in Warren, MI during the first two years of the development work, when I was associated with the program. The majority of Delta Program personnel were assigned cubicles in a large, well-lit, open space covering much of the second floor of one particular building; a smaller group was located in a different building nearby. The majority of program personnel were product engineers and designers, although representatives of other functional areas (e.g., purchasing, marketing) were also involved.

Small Car Group (SCG) was the largest of the three partners because of its designation as the "lead unit and home base" for the program; its vehicles would be produced and sold first, followed by a staggered introduction of the Saturn and Opel vehicles over a three-year period. Consequently, SCG held the key leadership positions on the Delta Program, including the positions of global program manager, chief engineer, and planner, among others.

**Research Methods and Design**

I used a combination of observation and interviews to collect data from Delta Program participants. The observations occurred during lengthy engineering and business meetings to which I had been invited by program leaders. I took notes as the meetings unfolded, doing my best to capture participants' statements as completely and accurately as possible. Later, I tape recorded my recollections and had them transcribed. In total, I spent 81 hours observing 23 Delta meetings.

My observations were complemented by 91 one-on-one interviews with program participants, many conducted as a follow-up to the meetings. Such discussions enhanced my understanding of the technical and business issues and individual reactions to them. I used these interviews and observations to make sense of the emerging culture of this internal partnership. In addition, I presented my analyses to a few hundred program personnel, as well as to senior GM leaders. Each presentation was an opportunity to refine the analysis, gather additional detail and perspectives, validate the findings, and evaluate the recommendations.

**Findings**

**An Engineering Meeting Excerpt**

Over the course of many meetings, I was able to follow and document certain engineering issues, one of which was the park-brake-cable routing. As the name implies, it is the routing or path that the park-brake cable takes in the vehicle. This routing issue was one of thousands of issues that the
vehicle program had to solve to create a common or "converged" platform for the Delta vehicles. Members of all three organizations were expected to participate in the program's meetings, an expectation that was particularly difficult for both Opel and Saturn because they had so few employees assigned to the program. An excerpt from one of the engineering meetings provides some insight into the cultural dynamics of the program.

A SCG employee serving as team leader reported on her team's activities. She stated that her team "met on four dates, four hours each, 15-20 people each time" to rate several park-brake-cable routings for all the Delta vehicles. A majority of the team selected the cable that received the most points in their rating system. She concluded her presentation by remarking, "Opel isn't happy with this decision." The chief engineer for the Delta Program replied, "If the primary stakeholders were there and if there was no support by the Opel folks, then we don't have a decision." Opel members commented that they had never agreed with the rating process, that they were "overruled by the others," and that the park brake was "more important" to them than it was to either Saturn or SCG. The lead Saturn engineer stated, "We have a process breakdown." The chief engineer continued, "We need to get this (decision-making process) nailed down. We aren't going to have equal numbers of people on the team to enforce consensus. When we make a decision, we have to have consensus. You have to be 70 percent comfortable with something. If those two (Opel) guys didn't buy in...."

The discussion continued as team members explained how they approached the rating process. When the team leader pushed for a decision on the routing, the chief engineer appealed to Opel's lead engineer saying, "This (rating system) process is a way to take personal opinions (out of) the ratings. We really do need your help. We need to reinforce this. If (the Opel guy) didn't feel like he could express his views...." His voice trailed off. "Stakeholders like (him) need to buy in." Opel's lead engineer responded, "If you want a decision for the (engineering meeting) tell me; I didn't know it was on the agenda today." Opel's lead engineer then said, "Let me know if there is no buy in—I can go to (my leadership group in Germany)." The chief engineer turned to the team leader's supervisor to reinforce his view: "Let's investigate what it takes to get consensus. We have to improve on the process to get empowerment."

Next, the team leader asked if a decision was made about the routing. The chief engineer responded that the routing chosen by the team would be "mainstream" (i.e., the standard) for the Delta vehicles but that "we will work with Opel" (i.e., to address Opel's concerns). The Opel lead engineer disagreed stating that he needed "to keep this issue open." Then the chief
engineer asked how much time the Opel lead engineer needed; the latter indicated that he would discuss it with his senior leadership "this week." Another team member pointed out, "We had the team do the work. If we deviate from what the team did, we aren't instructing people to do the work. The team has to get consensus. With all due respect to (the Opel lead engineer), we don't need him to go back (to Germany)...and get a couple more opinions." Following up, the chief engineer said to Opel's lead engineer, "We need for you to accept this team's decision. We have to allow the team to be empowered, but we recognize that there is more work to do." Opel's lead engineer replied, "I agree with you...but this team didn't come out with a consensus decision." The chief engineer concluded by saying, "By the end of business Friday, we will have a decision. There is a second piece of this. Make sure the stakeholders in the room are the right people and are empowered and responsible for their stake. It is crucial that the process gets followed."

Lack of an Agreed-Upon Decision-Making Model

This excerpt offers powerful evidence of three different decision-making models. As the participants contributed to the discussion, their comments reflected the decision-making model of the organization they represented.

SCG's Majority-Preferred Model. The SCG team leader explained the tabulation of the points associated with the routings, indicated the team's choice for a routing, and stated that Opel "isn't happy with this decision." Her statement implied that both SCG and Saturn members of the routing team, representing the majority view, had reached agreement but that Opel team members had not. Indeed, Opel commented that it was "overruled by the others."

SCG's model or approach was a cross between "majority rule," (de Tocqueville 1990:238) in which attempts are made to foster as much consensus as possible, and "leadership rule" in which the leader plays a significant role in directing decision making. SCG employees expected to contribute their ideas to unit operations via information sharing and debate. There were frequent and continuous efforts to "pitch" both technical and business-related ideas in the hopes of generating "buy-in" from the appropriate leader(s) and organizational members. In the excerpt, the team leader exhibited this pattern by twice attempting to get the chief engineer to finalize the decision about the routing that her team had chosen.

A cultural principle associated with the majority-preferred model was alliance formation or the cultivation of potential "allies." In the course of day-to-day program activity, these alliances varied in duration. Some lasted only as long as it took to get a decision made. As issues emerged, SCG program personnel attempted to solve them by seeking recognition and approval. The team leader sought support from the chief engineer as a way to finalize her team's decision and counterbalance any opposing perspective. Some allies carried more weight than others. For example, if the relevant leader(s) agreed with a particular proposal, there was a greater likelihood that the proposal would
be accepted and the decision made. The team leader convinced the chief engineer of the merits of her team's choice for a routing. As a result, the chief engineer pressed Opel's lead engineer to "accept this team's decision," vowing to make a final decision "by the end of business Friday."

*Saturn's 100-Percent-Consensus Model*—The word "consensus" appeared five times in this excerpt and was the hallmark of Saturn's decision-making model. Saturn employees expected to make their decisions based on 100-percent consensus. They pointed out that they valued the viewpoints of their Saturn colleagues and worked together to arrive at the best possible solution. Arriving at unanimous consent could take considerable time and energy. However, one strategy they used to enable their decision-making model was to adhere to the rule of thumb that if someone were 70-percent comfortable with a proposed decision, he/she must be 100-percent committed to it. The chief engineer, an SCG employee who had spent time at Saturn, alluded to this rule of thumb in the excerpt.

At Saturn, key relationships were those within any given "team"—a diverse group typically composed of employees and their supervisors. When the "team" was unable to make a particular decision, Saturn used a second strategy to achieve consensus: team members sought assistance from a higher-ranking management group. In this excerpt, Saturn's lead engineer corroborated the routing team's choice. Later, a member of the routing team emphasized that the team did the work and that securing "a couple more opinions" from Germany would "deviate from what the team did." This individual was appealing to Delta's chief engineer who was serving in that higher-ranking management role.

The team concept mattered to Saturn employees. Indeed, equality was a cultural principle interwoven throughout Saturn's organizational culture. Saturn employees seemed to expect and value diversity, using it to mold their knowledge base and decision-making model. They were strongly oriented towards inclusiveness. An important element of Saturn's culture was that all organizational members had a contribution to make. As such, the work and the culture associated with Saturn were viewed as both cooperative and collaborative in nature.

In the excerpt, Opel's lead engineer correctly pointed out that "this (routing) team didn't come out with a consensus decision." In recognizing that argument, Delta's chief engineer identified a critical element in the consensus approach—the importance of having the appropriate decision makers in place. He wound down the meeting by stating, "Make sure the stakeholders in the room are the right people and are empowered and responsible for their stake." In essence he was saying that unless the team was robust enough (e.g., based on knowledge, authority), consensus decisions had the potential to be rejected.

*Opel's Leadership-Driven Model*—This model emphasized the central role played by the leadership. In this excerpt, it was exemplified by Opel's lead engineer who questioned Delta's chief engineer by saying, "If you want a decision for the (engineering meeting), tell me." The model did not imply that a single individual could make a decision. In the period prior to a decision, the leader requested input from numerous sources. Employees would then provide substantive information as well as an
assessment of a given proposal. Employees told me they were not constrained in expressing their opinions. Their supervisors tried to resolve issues and make decisions which were both consistent with the "data" and which tended to reflect widespread organizational support. The key relationship at Opel was between the leader and his subordinates.

SCG and Saturn members on the routing team assumed that their Opel colleagues could make a decision on behalf of Opel. That same assumption emerged twice during the engineering meeting. First, both the chief engineer and the Saturn lead engineer indicated their displeasure when they learned that the Opel members did not abide by the results of the rating process. Second, the chief engineer subsequently appealed to the Opel lead engineer by saying, "We really do need your help…If (the Opel guy) didn't feel like he could express his views…" The chief engineer seemed to be expecting that the Opel lead engineer could and should delegate decision-making authority to the Opel employees on the Delta Program. Moreover, one of the members of the routing team raised the issue of whether even Opel's lead engineer could make the routing decision. It was clearly the case that much more discussion with and input from colleagues in Germany was required for any Opel member of Delta to make a decision.

Hierarchy was the cultural principle shaping working relationships at Opel. There was a strong recognition of and regard for individuals in positions of authority. Much of this respect stemmed from their technical areas of expertise and the judgment that they applied in coordinating and managing projects and people. Throughout the organization, leaders were the glue holding the work networks and systems together. Leaders and subordinates were linked together in ascending rank order to create an organizational structure and culture that placed a high value on authority (Hall and Hall 1989). Once the decision was final, organizational members fell in line behind it.

Decision Swings

The ambiguity surrounding decision making pervaded both the routing team and participants at the engineering meeting. Each Delta member continued to advocate for his/her home unit's decision-making model. Frustration ran high because both groups reached the identical impasse. It was neither clear that anyone fully understood the stalemate, nor that it was possible to rise above it. Decision swings characterized the routing discussion: the decision changed five times over the course of the meeting.

1. The team leader reported that the routing team made a decision by selecting a routing for the Delta vehicles and then stated, "Opel isn't happy with this decision."

2. The chief engineer revoked the team's decision when he pointed out, "If the primary stakeholders were there and if there was no support by the Opel folks, then we don't have a decision."

3. In response to a question from the team leader about whether those at the engineering
meeting supported the team’s choice of the routing, the chief engineer remade the decision. He announced that the routing chosen by the team would be "mainstream" for the Delta vehicles but that "we will work with Opel." This statement implied that the Delta-Saturn and Delta-SCG vehicles would adhere to the team's recommendation, while the routing decision for the Delta-Opel vehicles was not yet made.

4. The Opel lead engineer voided the chief engineer’s decision by stating that he needed "to keep this issue open." He was not willing to support the team’s choice of a routing for the Delta-Opel vehicles.

5. At the end of the excerpt, the chief engineer agreed to put the decision on hold when he asked the Opel lead engineer how much time he would need to secure a routing decision on the Delta-Opel vehicles. The chief engineer also pressed the Opel lead engineer to solidify a decision by Friday, three days later.

Not only did the routing team and those at the engineering meeting revisit decisions, but any decisions made seemed momentary. When the team was unable to resolve the routing dilemma in its meeting, an attempt was made at the engineering meeting. Neither was successful. This decision-making dilemma demonstrates how difficult it was to move beyond one’s own model of decision making and the organizational goals, traditions, and constraints with which it was associated.

Placing the Routing Decision in Context

Several team meetings occurred before the team leader’s presentation at the Delta Program engineering meeting. I estimated that the routing team spent at least 280 labor hours in these team meetings. This estimate does not include the team leader’s efforts to organize and manage the team, any of the participants’ work on the routing decision (beyond the time frame of the four team meetings), the time spent during the engineering meeting by the 22 participants to listen to the routing discussion, or any subsequent work undertaken by team members or others on this issue. As such, my estimate is quite conservative.

There was still no agreement about the routing on the Friday when Opel’s lead engineer had promised to convey Opel’s decision for the Delta-Opel vehicles. Over the ensuing months, the status of the routing came up from time to time. Oftentimes, Delta employees joked with me about the fact that a program-wide routing decision for all of the Delta vehicles had not been reached. Sixteen months after the routing team had been formed, I received an email stating that the park-brake-cable routing selected by the routing team would only be used on the Delta-Saturn and Delta-SCG vehicles. The Delta-Opel vehicles would use a different routing due to cost considerations.

These results were consistent with vehicle program conflicts I observed elsewhere in GM. They
were replicated in other Delta Program issues. They also emerged during a two-year study I conducted of a product program involving GM and a strategic alliance partner. Moreover, upon hearing the conclusions I drew from both the global program and the strategic alliance, some GM colleagues identified the same pattern in GM's North American product programs. There they found that the functional organizations (e.g., design, engineering) often had conflicting requirements and goals from those of the product teams; decision delays and other costly consequences resulted.

**A Broken Decision-Making Process**

Decisions crosscut all program activities on a daily basis. They were critical to getting work done and to the overall performance of the program. The indicators of decision paralysis, and its consequences, were among the most notable features on the Delta Program:

- Use of multiple decision models rather than one agreed-upon model
- Inability to make decisions stick
- Amount of frustration and irresolvable conflict
- Delays in reaching a final decision
- Cost in labor hours
- Senior-leadership intervention in program decisions
- Inability to achieve lead-time targets
- Extent of rework required

**Causes of the Broken Decision-Making Process**

My own observations and my discussions with product-program participants led me to conclude that there were two key explanations for the decision-making difficulties on global programs: internal cohesion and authority of decision maker. I define *internal cohesion* as the tendency to stick together such that elements are logically linked and united. When internal cohesion is low, work practices, methods, goals, and expectations differ, resulting in conflict. GM's global programs tended not to be internally cohesive because they consisted of autonomous organizations that had their own orientations to work and traditions. The park-brake-cable-routing example illustrated some of this variation, including the differences in decision-making models.

I define *authority of decision maker* as the power to manage the decision-making process by wielding influence and making final judgments. When the authority of decision maker is low, there are no clear lines of authority uniting program personnel. Under such circumstances it was difficult for program participants to identify who was in charge at any one point in time. The park-brake-cable-routing example demonstrated the lack of authority of decision maker—whether the team leader, Opel leader, or Delta Program chief engineer.

Internal cohesion and authority of decision maker are related variables. When there is low cohesion,
authority of decision maker is also low. Indeed, there tended to be little concern for the views expressed by the opposing camps and their decision maker(s). I observed many instances in which program personnel explored opportunities to reach agreement across organizational boundaries. However, when a solution was not found, the minority-partners appealed through their own chains of command to their senior leadership. They were often successful in getting their leaders to intervene and force a decision change that was favorable to them.

Internal cohesion was high for two of the three decision-making models—those of Saturn and Opel—and low for SCG. In the Saturn model, there was a strong orientation towards collaboration as the primary mechanism for getting the work done. Horizontal ties were particularly important in the completion of assignments. Informal and formal discussions were an integral part of the work environment. In the Opel decision-making model, there was a strong orientation towards overall organizational success with leaders playing a significant role. Vertical ties acted as the backbone around which all other work activities occurred. In both organizations, strong relationships among organizational members acted to reinforce a sense of community and purpose, thereby sustaining organizational unity. By contrast, SCG's decision-making model exhibited low internal cohesion. Vertical and horizontal ties were secondary or supplementary to the day-to-day tasks employees performed. Individuals spent much of their time drawing their own conclusions, giving their opinions, and securing support for their positions.

<table>
<thead>
<tr>
<th>Table 1: Cultural Attributes of the Delta Small Car Program</th>
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<tr>
<td>Decision-Making Model</td>
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<tr>
<td>Key Relationship</td>
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<td>Cultural Principle</td>
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<td>Internal Cohesion</td>
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<td>Authority of Decision Maker</td>
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Table by XNR Productions.

Authority of decision maker was high in Saturn and Opel's decision-making models and low for SCG. It was high for Opel because of the central role played by the leader and high for Saturn because the work group played the central role in crafting the decision. In SCG's decision-making model, it was difficult to identify decision makers whose word was final. As such, authority was not always consistent. It was possible for the majority view to hold at least some of the time, but not necessarily all the time (See Table 1).

**Why None of the Three Decision-Making Models Is Suitable for Global Programs**

It is important to consider whether any one of the three models might be appropriate for global programs. Global programs require authority of decision maker to be high. Since authority of decision maker was neither specific nor consistent in SCG, its majority-preferred decision-making
model would be inappropriate. Saturn and Opel's decision-making models exhibited high authority of decision maker, and they were associated with organizational cultures that were internally cohesive. However, the problem with using either the Saturn 100-percent consensus model or the Opel leadership-driven model is that by their very composition, global programs are not cohesive entities. They have no history, no shared work culture, and no common ground with respect to technical skills, ethnicity, or nationality, for example. Global programs are highly pluralistic in that they are composed of disparate groups whose work practices and methods are quite different.

**Outcome**

A first step toward change arrived during the presentation of the initial results to program participants. I was able to raise their awareness of the organizational-culture differences, including their decision-making dilemmas. My later presentations, discussions with Delta leaders, and workshop materials helped them as they tried to develop a "Delta culture." These opportunities enabled dialogue and debate on the recommendations I proposed. In particular, I emphasized that internal cohesion and authority of decision maker were necessary conditions for making appropriate and timely decisions. Because there was no simple, singular change that would enable global programs to operate more effectively, I argued that it was important to develop solutions to the two principal sources of the decision-making paralysis.

Therefore, I proposed some recommendations to improve internal cohesion. Here are a few of them:

Evaluate and reward global-program participants using overall program metrics. Performance objectives and monetary incentives are powerful motivators that can be used to encourage program personnel to focus on program-specific goals, collaborate, compromise, and make appropriate trade-offs as a partnership. When participants pay attention to overall global-program success, internal cohesion improves.

Assign process-support personnel—including cross-cultural experts—to assist global programs on an ongoing basis. Understanding cultural differences is not intuitive. Support is needed in exploring assumptions among the partnering organizations, examining work-related dilemmas, and managing conflict. Such assistance would provide global programs with needed cultural skills and knowledge to enhance their ability to work together effectively.

I also made a series of other recommendations to improve authority of decision maker:

Specify roles and responsibilities, including program authority, to reduce the ambiguity and internal conflict associated with managing global programs. Alternate and more efficient strategies can be devised to get the work done (e.g., Opel works on task X on behalf of all three partners) so that all organizations benefit.

Assign one leader with authority to manage each global program. A single leader with authority can
arrest (or severely restrict) senior leadership interventions that cause costly delays and rework, create redundancy and inefficiency in dealing with day-to-day technical issues, and lead to management-credibility issues.

Employ a binding-arbitration model to help program personnel make fast and effective decisions. Partnering organizations will not always be able to reach consensus. A highly-respected, experienced, objective, and empowered arbitrator (or arbitration panel) can be called upon sparingly to settle significant disputes, which would then keep the program on track.

Anthropological Significance

Anthropologists excel at understanding the "emic" (i.e., insider) perspective. Using fundamental techniques of the "anthropological toolkit," such as observation and interviews, positions anthropologists to describe and explain cultural similarities and differences. The comparative method helped me to create the appropriate unit of analysis for the cultural groupings. My data revealed, for example, that organizational-culture differences trumped national-culture differences in explaining the distinctive decision-making patterns (Briody et al. 2004). Not only did the two American organizations (Saturn and SCG) employ different decision-making models, but the Americans who worked for Opel adhered to Opel's decision-making model. As the field work continued, I was able to document both the strength and the impact of these decision-making differences on overall program performance. Indeed, I found that there was no single, shared decision-making model for the Delta Program which ultimately compromised the program’s ability to achieve its goals.

Author Biography

Elizabeth K. Briody is a cultural anthropologist who has been engaged in cultural change efforts for over 25 years. She is recognized as one of the world's leading experts on the culture of work and organizations with numerous publications, a patent, innovative tools, and awards. Much of her work experience is based on her research at General Motors R&D where she was a Technical Fellow. She is founder of Cultural Keys LLC, a consulting firm specializing in three work streams: improving work culture, increasing partnership effectiveness, and enhancing health care satisfaction. Recent publications include Transforming Culture (with R.T. Trotter, II and T.L. Meerwarth, 2010) and Partnering for Organizational Performance (with R.T. Trotter, II, 2008). She is Past President of the National Association for the Practice of Anthropology. She is also Adjunct Professor at the Eli Broad Graduate School of Management at Michigan State University, and in the Anthropology Departments at Northern Arizona University and Wayne State University.

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