Creating a tribal approach for innovation in organizations

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Tribal innovation; Organizational communication; Innovative organizations; Tribal instincts; Institutional knowledge; Emergent structures

Abstract The purpose of this article is to describe how innovative organizations work beyond traditional overlays of rules, hierarchy, and process. This cultural context is best described as tribal and can be framed as seven key instincts: ambition, emergent structure, roles and responsibilities, trust, navigation, resolve, and sacrifice. This tribal approach provides a useful framework for organizations seeking to improve their predisposition for discovering extraordinary ideas.

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1. How did they do that?

Perhaps all of us have asked this question at the end of a magician’s illusion, after a fantastic athletic feat, or the conclusion of a perfect performance of a difficult musical score. I found myself asking this question repeatedly over the past 3 years as I interviewed, surveyed, and worked alongside technolo-gists, technology managers, product managers, and entrepreneurs in the identification of life-changing technologies (Segars, 2018). While the technologies and associated applications are amazing, the way in which these labs, think tanks, skunkworks, and start-ups work is equally impressive and, in many respects, defies traditional overlays of task, process, reward, and leadership. Initially, it is important to point out that these groups are more than teams, they are more than people assigned to a project, and their task is more than a job. There is something that connects them with each other and something that connects them with their purpose that is ‘tribal.’ They crave hardship, relish difficult tasks, value initiative, intently observe, willingly share, and are guided by thoughtful consensus. In the past, these instincts allowed ancient tribes to accomplish incredible feats and are a driving force in the efforts of today’s most innovative organizations.

2. Tribal instincts

A tribe is a legendary and sometimes romanticized concept. Tribes have as their core a connection

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among members and a responsibility to look out for each other in all circumstances. In the extreme cases, tribal members are even willing to fight and die for each other. A tribe is bonded by a strong sense of shared values, meaning, and purpose in life. Most importantly, these tribal instincts are not the norm; they are the exception. Perhaps that is what makes a tribe so special and something sought after by many people. Benjamin Franklin noticed this phenomenon between English settlers and American Indians. English settlers would voluntarily join the tribes of American Indians in many cases. However, there were very few cases in which the reverse would happen. Even when settlers were captured by American Indians, they would sometimes refuse to be returned to their settlements when given the opportunity to escape. Franklin theorized that it had to do with their tribal mentality and their strong sense of belonging built into their way of life (Junger, 2016).

While the context of business innovation is not one of human survival and no one is asked to sacrifice his or her life for another, there are identifiable attributes of tribal instinct found among high-performing groups that are not found in typical organizational teams (Nylen & Holmstrom, 2015). As illustrated in Table 1, this research identifies seven key attributes of tribal instinct that seem to drive extraordinary innovation:

1. Ambition: Thinking bigger, asking bigger questions;
2. Structure: Emergent rules and processes grounded in shared beliefs and values;
3. Roles and responsibilities: Well-defined roles and expectations based on the talents and experiences of members;
4. Trust: A strong code of sharing resources, knowledge, and rewards;
5. Navigation: Extensive use of analytics, calculations, and experience as a tribal compass;
6. Resolve: Patience and perseverance in the face of calamity; and
7. Sacrifice: A sense of selflessness, putting the interests of the tribe ahead of subgroups or individuals.

These instincts work together to form a gestalt or culture that predisposes the tribe to canvas a wider set of possibilities, fully utilize the talents of tribal members, objectively evaluate the merits of potential solutions, and arrive at a consensus-based course of action.

3. Ambition: Think bigger, ask bigger questions

The tribal instinct of ambition is based on framing problems and challenges in terms bigger than the initial description or conception. As noticed by managers within the organizations studied, it is very easy to frame problems and issues in small terms. After all, it is a basic human tendency to structure uncertainty or challenges in a way that results in a rational and attainable solution. Therefore, a vicious cycle of thinking small can easily prevail as leaders frame problems narrowly and those charged with finding solutions continue to narrow the problem even further. Each party will continue this cycle until an answer is found; then, both parties will call it a problem solved and another example of innovation. Tribal ambition asks bigger questions, searches outside of conventional boundaries for solutions, and utilizes stories to build a shared context for possibilities that push the boundary of imagination (Laursen & Salter, 2005).

A key aspect of thinking bigger is to use small words to ask big questions. The words why, how, when, where, what, and who are not big or complex words but they ask big questions. I observed a great example of this approach firsthand in an innovative media enterprise. The task before the firm was to create a new series of science-fiction movies. Senior
management initially stated the problem in a very rational way: How do we create a science-fiction series that will meet or exceed the return objectives of our parent organization? While certainly a question that seems right out of the MBA classroom, it is inherently small. The initial sample set, or prior art, that will be heavily weighted in the discussion will be science-fiction movies that have been successful in these terms. Therefore, the initial and strong tendency will be to write, direct, and distribute a similar series of films. In doing so, a vast collection of films, stories, and approaches that are not classified as successful science fiction will go unnoticed and undiscussed. True to the instinct of ambition, the small question was elevated when a tribe within the organization took over. Knowing that the foundation of any movie, television show, novel, fable, or fairytale is the story and storytelling, the tribe began deep discussions of traditional and nontraditional stories and of traditional and nontraditional storytelling. This opened up an incredible frontier of possibilities, prior art, and, most importantly, revealed a bigger question: How do we tell an amazing story? This is a very different vision and a very different quest; plus, it is ambitious and engaging. The result was a set of ideas that would have otherwise gone unnoticed. Similar to the Vikings use of the compass for navigation and the irrigation techniques discovered by Navajo Indians, framing questions in a bigger context results in discovery and ideas that are beyond a fix. Instead, the chances to identify the problem correctly, underlying chains of cause and effect, and meaningful solutions are enhanced.

4. Structure: Emergent rules based on values, beliefs, and work ethic

It is tempting to think of structure and processes as something that might impede discovery. After all, a work environment of free-wheeling, be-yourself teams and individuals that defy corporate tradition is a very appealing and entertaining notion. While a great narrative, the opposite seems true: Structure is a key tribal instinct. However, it is not structure in the traditional sense (i.e., organizational design, processes, decision rights). It is emergent structure that is rooted heavily in the values, beliefs, and work ethic of the tribe (Cable, 2018). The definitive aspects of this structure are consensus, human touch, frugality, ceremony, storytelling, and loyalty.

Consensus is the driving force of authority within a tribe and the tribal leader is tasked with creating the means and methods to reach it effectively. As noted by many managers, the toughest aspect of this structural characteristic is determining when a consensus emerges and dealing with the potential fallout if not all members are in complete agreement. However, knowing that consensus rather than an executive decision will guide the tribe is a powerful stimulus for robust discussion, expansion of boundaries, and collection of data. Human touch is also a key aspect of tribal structure. Of course, this a sensitive and important issue in the workplace and boundaries must be respected. That said, it is very noticeable that a handshake, a respectful embrace, a high five, a fist bump, eye contact, or even a nod does wonders to connect members of a tribe. In this spirit, a kindergarten teacher in Texas assigns a student each day to be the greeter for the class. Each child is greeted by name, given a handshake or a hug, and welcomed to the room. As noted by the teacher, this has become a favorite ritual of the class and created a connectedness among the students (Shaw Brown, 2018). Similar forms of interaction and ritual were obvious in the highest performing groups of this study.

Another emergent structure of tribes is frugality. In almost all of the groups studied, excess in terms of PowerPoint presentations, data, personnel, reports, consultants, and other corporate baggage is something to be avoided. In addition, the talents of members, resources, and time are used for fullest effect. This is true to the tactics of the great tribes of history such as the Apache, Zulu, and clans of Vikings. Such tribes traveled with little surplus and were ready to move at a moment’s notice. The Wright Brothers also employed this instinct in their invention of the flying machine. While the U.S. government commissioned an enormous and failed project under Samuel Langley, the Wrights successfully arrived at the invention by finding creative ways to invest the small amount of resources at their disposal. It is ironic that their lack of resources made them more creative and focused (McCullough, 2015).

Ceremony and storytelling are very important communicative structures. Within a tribe, collective and individual milestones, personal and professional, are routinely recognized, recounted, and enshrined. This builds a tribal history, a time for reflection, and, most importantly, a sense of collective pride. Closely tied to ceremony, storytelling is a primary means of creating common vision, common dialogue, and common knowledge among tribal members. Beyond data, stories provide analogies that reveal a greater scope of possibilities about what has happened, what is happening, and what might happen within a competitive context. In
the Battle of the Little Big Horn, Crazy Horse and Sitting Bull, war leaders of the Lakota tribe, developed tactics and orders of battle that were based, in part, on stories and experiences of hunting buffalo. The result was a stunning defeat of U.S. Army troops commanded by General George Custer (Philbrick, 2010). In the American Revolution, George Washington based many of his battle tactics on the stories he heard about Indian tribes as well as his own experiences in the French and Indian Wars (McCullough, 2006).

Perhaps the most important of all the emergent structures is loyalty. Tribal members are loyal to the tribe and the good of the tribe supersedes the good of an individual member. Again, this can be deceptively difficult in a workplace trending toward compartmentalizing work, taking away human touch, and rewarding individuals. Tribal members look after each other, celebrate as a tribe, and accept setbacks as a tribe. Loyalty and selflessness are critical when times for the tribe are the toughest. In fact, when recounting experiences and the times most cherished, many of the interviewees talked about the hardest times and the part of the journey when they were most sure that failure was at hand. To them, this was when loyalty and other emergent structures were most important; it was also part of the legend of their work and experiences.

5. Roles and responsibility

The tribal instinct of roles and responsibility is rooted in the role members play in the journey and the ability to adapt swiftly to new roles when needed. There are three important aspects associated with this instinct:

1. Defining the critical roles needed for the tribe to succeed;
2. Matching the talent, capabilities, and interests of members to roles; and
3. Coordinating sets of activities across roles.

Roles within tribes are legendary and include the chief (leadership), elders (wisdom), hunters (sustenance), scouts (intelligence), skinners (materials), and the shaman (medicine). These roles have been compared to the social tasks that are needed and frequently occur within startups (Greathouse, 2016). Within the teams of this study, these same roles as well as others seem to emerge early and are typically defined using very creative means.

Themes that give definition to the roles can be based on everything from science-fiction movies (e.g., The Matrix, Star Wars franchise), fantasy novels (e.g., Harry Potter, The Lord of the Rings) to characters found in video games (e.g., League of Legends, World of Warcraft). The important point is that these roles are deemed essential by members in coordinating and moving the tribe toward its destination. Table 2 illustrates some of the more colorful roles observed in the very best tribes of this research. As shown, aspects of leadership (architect), coordination (flamekeeper, facilitator), analytics (scientist, genius), bridgebuilder (seeker), and scribe (artist, author) are implied by these roles. Members are not required to stay exclusively within the roles throughout the project and more than one member can assume the same role. However, the assigned role and its outcomes are their primary responsibility. Though it is not necessary for every member to have a role (some may just participate), in teams where everyone has a role, there is a noticeable amount of increased engagement and efficiency (Horwitz & Horwitz, 2007). The most important point is that tribal roles and responsibilities are not left to chance or assumed to arise from group processes; instead, they are crafted, assigned, executed, and, if necessary, recrafted and reassigned.

<table>
<thead>
<tr>
<th>Architect</th>
<th>Provides leadership, vision, coaching, and direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeker</td>
<td>Roams among other teams; gives and receives information</td>
</tr>
<tr>
<td>Scientist</td>
<td>Provides research, data, scientific experiments</td>
</tr>
<tr>
<td>Facilitator</td>
<td>Stages formats of discussion, referees, negotiates, reasons</td>
</tr>
<tr>
<td>Flame keeper</td>
<td>Keeps track of time, finds resources, schedules</td>
</tr>
<tr>
<td>Artist</td>
<td>Transfers ideas to art; creates visuals, charts, illustrations</td>
</tr>
<tr>
<td>Author/ Historian</td>
<td>Transfers ideas to words and words into stories and documents</td>
</tr>
<tr>
<td>Genius</td>
<td>Provides expertise in critical subject matter</td>
</tr>
</tbody>
</table>
6. Trust and equity: Sharing resources, knowledge, and rewards

Tribes that face severe hardship through war or natural disasters almost never lapse into chaos or disarray. Instead, tightly connected groups tend to become more resilient and egalitarian, and develop a greater sense of trust and equity. In World War II, England braced for The Blitz, aerial bombardments intended to cause mass hysteria and break the spirit of its citizens. The Churchill government was worried that people would move into bomb shelters and never move out. These shelters might also become a breeding ground for discontent, criminal activity, and espionage. Instead, the complete opposite occurred. Throughout The Blitz, the people of London went to work, returned to shelters in an orderly manner, and adopted codes of conduct (emergent structure) to deal with the chaos. Sharing resources, caring for others, and communicating with each other credibly created the tribal instinct of trust and equity that allowed Londoners to endure a campaign of bombing that was more intense than that found on the battlefield (Harrison, 2010).

This type of egalitarianism provides a powerful bond among a group of people and it is particularly evident in the creation and exchange of knowledge. Four major types of knowledge exchange occur within a tribe:

- **Procedural knowledge** flows from member to member. This knowledge content is based on how to accomplish tasks, assess outcomes, and solve problems. It is a critical flow that cannot be encumbered by incentives or prior experiences that motivate members to stop sharing what they know. This flow is based in fact, is demonstrable, and is directly applicable. Knowledge that does not meet these standards is discouraged and often deemed more of a hazard than a help.

- **Embedded knowledge** flows from the tribe to the member. This is knowledge content that conveys culture, process, codes of conduct, and systems of rewards. This flow is important and should not be heavily codified in documents and other policy/procedure.

- **Institutional knowledge** flows from the member to the tribe. Bringing to the tribe lessons learned, promising paths forward, and the collective knowledge that exists outside the tribe creates velocity in moving forward, eliminates duplicity, and takes better advantage of available resources.

- **Community knowledge** is rooted in collaboration, cooperation, and synergistic opportunities between tribes. The concept of a tribal council is a notable coordinating structure in this flow. In these councils, ceremony and storytelling become important avenues of creating rich flows of community knowledge. Like knowledge, other flows of resources (e.g., time, money, technology) move openly and fairly between tribes and members when the tribal instinct of trust is present.

These flows, along with honest communication and stories about what is prized, what is feared, and what might be done, are key aspects of building the instinct of trust (Ryan, 2018).

7. Navigation: Analytics, not fantasy

Navigation is another key dimension of tribal instinct. There are three important aspects of this activity:

1. The linking of numbers, analytics, and key performance indicators;
2. The causal interpretation of the linkages; and
3. Determination if the linkages are moving the tribe toward the intended outcome.

These linkages and associated interpretation can be thought of as a chain of logic. Tribes are well equipped for assessing the viability and trajectory of a chain of logic because of their deep appreciation for stories and data. Plus, the trait of frugality places emphasis on gathering only the signs, data points, or stories that are most relevant while leaving unneeded information behind. However, the most interesting aspect of this instinct is the innate understanding of the complex relationship between conventional wisdom and numbers (Magretta, 2002). Figure 1 illustrates this interesting dynamic.

When conventional wisdom and numbers indicate success, sound logic prevails. This is an environment of a yellow brick road (upper right quadrant of Figure 1) and represents the current state of the art. At the other extreme, chains of logic in which wisdom and numbers indicate failure are a march of folly (lower left quadrant of Figure 1). Although this condition may prevail for a chain of logic, some organizations will still attempt to implement the chain (Kathan, Matzler, & Veider, 2016). The reason for this is pretzel logic: a system of flawed logic that
Figure 1. Navigation: Wisdom, numbers, and logic

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Turned Upside Down (Twisted Logic)</td>
<td>Yellow Brick Road (Sound Logic)</td>
</tr>
<tr>
<td>Chains of logic that should work but do not work</td>
<td>Chains of logic that should work and do work</td>
</tr>
<tr>
<td>March of Folly (Pretzel Logic)</td>
<td>Lightning In a Bottle (Counter Logic)</td>
</tr>
<tr>
<td>Chains of logic that should not work and do not work</td>
<td>Chains of logic that should not work but do work</td>
</tr>
</tbody>
</table>

Conventional Wisdom Says the Chain of Logic Is Successful

Numbers Say the Chain of Logic Is Successful

supports a nonsensical conclusion; primarily, a belief that the outcome will be somehow different for the perpetrator because of special insights or capabilities. This is very seldom true. As mentioned earlier, Custer’s Last Stand against the Lakota Nation is a vivid example of this logic. Apple’s attempt to add music by the rock band U2 to the iTunes account of all their customers without their consent is another example.

When wisdom signals success but the numbers signal trouble, the result is a world turned upside down (upper left quadrant of Figure 1). Again, some organizations will attempt this chain believing the numbers are not as strong a signal as conventional wisdom. In this context, twisted logic prevails. Everything that once worked for an organization begins to work against it or all you know is wrong. The typical origin of this situation is the belief that a successful chain is transferable to any context. The use of World War II fighting tactics in the jungles of Vietnam was a very stark example of this logic for the U.S. military. Walmart’s unsuccessful entry into Germany and other European countries is an example of this twisted logic in today’s context of business. In politics, the presidential campaign of Hillary Clinton might be considered a use of political tactics that was consistent with prevailing conventional wisdom but was a failure in numbers (Stevenson, 2016).

The most interesting context of shifting chains of logic is lightning in a bottle (lower left quadrant of Figure 1). Counter logic prevails in this situation because conventional wisdom signals failure while the numbers signal success. This is the context of the most innovative organizations and where the decoupling of wisdom and numbers is most important. As Wilber and Orville Wright experimented with their flying machines at the turn of the century, many leading experts ridiculed and scoffed at their efforts. Yet, their experiments yielded data and results that defied much of conventional wisdom. Although they were two brothers from nowhere, bicycle makers, and not part of the intellectual elite, they demonstrated every aspect of tribal instinct in their process of invention—particularly, a mastery of logic that matched their initiatives to outcomes (McCullough, 2015). Modern examples such as Southwest Airlines, Uber, YouTube, and bottled water are powerful reminders that lightning-in-a-bottle types of innovations can completely recast prevailing chains of logic. Understanding the unusual interplay of wisdom and numbers is key in developing the tribal instinct of navigation.

8. Resolve: Patience and perseverance

Risk is an unfortunate but likely consequence of any ambitious endeavor. While there are many stories and articles that tout fast innovation and failing fast, the experiences observed in this research were tedious, cumbersome, and involved many setbacks (see Appendix). New ideas and promising frontiers rarely appear as a beautiful swan; instead, they first appear as ugly ducklings. It is very tribal to turn ugly ducklings into swans. To help in this process, it is useful to categorize an endeavor or project in terms
of its predisposition for setbacks. As illustrated in Figure 2, three broad aspects of riskiness are:

1. **Structure**: How well understood is the problem? Are there paths of prior success? Has this been done before?

2. **Technological Experience**: Do we have staff, resources, and knowledge to address the problem?

3. **Scope**: How big is the project? How encompassing is it to the organization? What amount of resources will be required?

If a project measures low on structure, high on scope, and low on technological skill, then it is the riskiest (Type 8). It is quite likely that many nontribal organizations will pass on such a project. In fact, most noninnovative organizations fall into the habit of only considering easier projects such as Type 1 or Type 2. Interestingly, the iPhone would have initially appeared as a Type 8 project to Apple. At that time, Apple was not clear about what the market valued (low structure), Apple had few partners or little expertise in telecommunication (low technological skill), and the scope of the project was large. The device was a sea change for the organization. Yet, the company was extremely efficient in deconstructing each risk factor and eventually moving the project to safer ground (Type 1 or 2). The Wright Brothers followed a very similar progression in their invention of the flying machine. Although other inventors, most notably Sam Langley, had more money and trained scientists than the Wrights, their projects always remained Type 8.

Importantly, there is not one prescribed path in moving a Type 8 project to a Type 1 or Type 2 project. In the case of Apple, the structure of the problem seemed to be addressed first. This involved developing an outcome for the project in terms of how people use information and how technology was converging. It then leaped the technological hurdle by partnering with AT&T. Finally, the projects were divided into logical phases and prioritized to meet the challenges of scope (Merchant, 2017). The Wright Brothers leapt the technological hurdle first. They did this through self-education and experimentation. They successfully defined the problem, thereby moving the project from low to high structure. Finally, the Wrights broke the project down and solved one piece at a time. This approach was quite different from other experimenters and allowed two ordinary people to discover the extraordinary. Patience and perseverance are not the most exciting aspects of innovation, but they are crucial to accomplishing something more than ordinary. It is very tempting to lower ambition, ask smaller questions, and then cast the needed project as either a Type 1 or a Type 2. However, groups with a tribal instinct seek out the difficult projects.
and then find creative ways to predisposition the effort for success.

9. Sacrifice: Triage and investment

Sacrifice is not a term typically associated with exploring new frontiers or generating fantastic ideas. However, it is a strong tribal instinct and it is also a critical component of successful innovation. Sacrifice is the ultimate act of organizational selflessness; rather than do what is best for a powerful member or an influential subgroup, decisions are based on benefitting the entire tribe. Beyond this, decisions are based on what will make the tribe viable in the future rather than what has made the tribe viable in the past. Therefore, it is this act of sacrifice that sheds or deescalates nonperforming initiatives and replaces them with new, more promising initiatives. Organizations without this instinct may add new initiatives or programs of change, but never sacrifice the original initiatives these new projects are designed to replace. This results in a crowded house of failed, fading, uncertain, promising, and performing initiatives. Such crowding can create the dangerous paradox in which everything is important and nothing is important. In this context, crowding may limit resources needed for the successful launch of new initiatives or the required upkeep of performing initiatives. In turn, nonperforming initiatives may receive excessive resources. When this occurs, the organization may lose its focus and sense of direction as it plants one foot firmly in the past while the other foot timidly steps toward the future (Smith & Tushman, 2005). Organizations with a tribal instinct of sacrifice think of innovation not only as the launch of new initiatives but also as the letting go of nonperforming initiatives.

As discovered by many organizations in this study, a useful way to unlock the everything-is-important-and-nothing-is-important paradox is to think about organizational sacrifice as a form of investment triage. Money must flow to the most important organizational priorities and that flow frequently comes from organizational priorities that are losing importance. To do this effectively, the organization must objectively ask four questions:

1. What initiatives are most important for competitive survival today?
2. What initiatives will be most important in the future?
3. What initiatives are becoming less strategically important?
4. What initiatives no longer provide any strategic advantage?

As illustrated in Figure 3, these can be framed as stars, rising stars, falling stars, and legacy.

The giving and taking away of investment dollars/resources are the key to successful investment triage. This activity also addresses the everything-is-important-and-nothing-is-important paradox. Star and rising star products/projects require investment slack. Falling star and legacy products/projects require investment control. There are instances when investment in a falling star can result in a new rising star or star; however, typically the investment flows out of falling stars and legacy into

![Figure 3. Sacrifice: Investment triage](image-url)
rising stars. While conceptually easy, it was noted by most managers that this is the toughest of the instincts to implement. Sacrifice is deeply personal, and it is an instinct earned through trial, difficult decisions, and the acquired ability to pioneer new paths. Recent examples of Sears and General Electric demonstrate the danger of failing to recognize shifts in chains of logic and the implied shifts in investment required to remain competitive.

10. Summary

At some point in our lives, it is likely that we experienced a feeling of purpose and belonging that was more than just being a member of a team. In all likelihood, that experience resulted in some outcome that was more than the ordinary. The gestalt of tribal instincts provides an explanatory framework of that elusive notion of culture that is so important in achieving breakthrough innovation. Importantly, there is nothing exclusive about tribes and tribal membership; the central theme of the seven instincts is unity. The modern technology of Bluetooth is a great example of this notion. Harald Bluetooth was a Viking king of Denmark many centuries ago. Unlike other kings, Harald brought different Viking tribes together, uniting all of Scandinavia. The pioneer of Bluetooth technology, Jim Kardach considered the technology to be about uniting, therefore, he decided to name the invention Bluetooth. In fact, the Bluetooth symbol blends the Nordic runes for B and H, the initials of Harald Bluetooth.

Many of today’s leaders are faced with innovation challenges that require the commitment, zeal, and dedication beyond that of a typical team. In addition, many of today’s professionals are seeking something more meaningful in their work. A unique opportunity exists to unite these organizational challenges with the interpersonal desire for connectedness through the building of tribes and adoption of tribal innovation. This research provides a set of principles and assorted tools for creating a tribal approach for innovation within the organizational frame. This approach creates a predisposition of effective social dynamics and problem solving that has resulted in extraordinary achievements in history as well as cutting-edge ideas within today’s most innovative organizations.

Appendix

This research began with extensive, structured interviews with teams of technologists, scientists, and managers working in the information, chemical, materials, and medical sciences. These teams were tasked with developing new products and services in evolving fields such as biotechnology, machine learning, robotics, and additive manufacturing. This was accompanied by direct observation and participation on selected projects. Through this process, the initial conceptualization of tribes and tribal instincts was developed. These instincts and definitional contexts were further developed through interviews with leaders of the Navajo, Lumbee, Cherokee, and Seminole tribes. Following the interviews, two surveys of project leaders, technologists, and technology managers were conducted. To qualify as a respondent, the technologists, business developers, and managers of the targeted firms had to have at least 10 years of industry experience. The nonrandom survey is U.S. based although most of the firms represented had international interests and operations. The businesses represented in the survey spanned a wide range of technological endeavors and ranged from startups of 2 years to firms with business legacies of 50 plus years. In all instances, care was taken to include respondents and associated businesses that were entrepreneurial and operating in evolving technology-based industries. Over 300 respondents participated in both surveys. In survey one, a list of items that included measures of tribal instincts was sent for consideration. The respondents were asked to evaluate the impact of these behaviors in identification and development of breakthrough ideas. The respondents were also given the opportunity to add and assess the impact of any other behaviors or activities that might have been overlooked. In a confirmatory context, the results of this survey were then factor analyzed to assess the structure of the underlying instincts and their impact on team performance. Through this technique, the seven tribal instincts were formally verified. These instincts were then described more fully and sent back to respondents in a second survey to assess their validity and their impact. The results of the second survey implied very strong support for the tribal instincts and very strong support for their impact. As a follow-up, random respondents were chosen for Skype interviews and field visits to further assess the validity of the instincts and gather more context about their impacts.

References


