What Knowledge Tears Apart, Networks Make Whole

By Karen Stephenson

Every organization has a wealth of knowledge stored in the memories and intuitions of its employees. This tacit knowledge is shared through formal and non-formal networks which bond and motivate people within the organization. Karen Stephenson goes at the importance of trust in the creation of such networks and explains why managers must harness the power of networks to efficiently guide innovation and change.

Introduction

Knowledge economy, knowledge organization, knowledge networks, knowledge by any other name I call a fad. After listening to knowledge gurus spout less and less about knowledge, I have come to the conclusion, that we are going 'knowhere' with knowledge. Too much knowledge without integration tears us apart. The wisdom to integrate knowledge by assembling key people and skills remains the ancient art.

Experience has long been considered the best teacher of knowledge. Since we cannot experience everything, other people's experiences, and hence other people, become the surrogate for knowledge. 'I store my knowledge in my friends' is an axiom for collecting knowledge through collecting people. 'A friend of a friend is a friend' or 'an enemy of a friend is an enemy' are two more axioms for knowledge transfer through people via their entrusted relationships.

We can summon knowledge from ourselves, but how do we elicit knowledge on demand or 'just in time' from others? This becomes salient in knowledge driven organizations where critical knowledge is not only stored in computers, database, facilities, files, etc. but in people. A major obstacle for organizations is that of linking the knowledge stored in people to that in organizational processes. Why? Process knowledge can be transferred on demand and does not necessarily depend on the presence or absence of people. Thus the employee is free to take that needed vacation and the organization is able to go about its business. This knowledge transfer is not well understood for tacit knowledge, the subject of our discussion here.

Tacit knowledge

When you teach a child to ride a bicycle, there are certain inexorable truths that you convey about the skill, such as where to put your feet (on the pedals, not the handlebars), where to put your hands (on the handlebars, not the pedals) and where to sit. There is much more to riding a bicycle that cannot be adequately articulated – balance, control, the sensation of riding, etc.

The same could be said of alpine skiing. The basic premise of putting your feet in your boots, your boots on skis and pointing downhill is a fearsome scenario that would hardly suffice as advice for anyone learning how to ski. When you can't define what you know, how do you teach it?

Not being able to define what you know usually comes from embodied experience – 'felt knowledge' – and is often called tacit knowledge. The adjectives 'felt' and 'tacit' are meant to convey the ineffable and unarticulated forms of knowledge which come from experience, such as learning to ski or cycle. As we experience life, we store our learning as tacit knowledge in memories and intuitions. What we don't experience or learn, we can glean from others. Thus, people become knowledge storehouses from whom we can 'indirectly', making them our surrogates for direct experience.

In rapid, radical change, this form of knowledge becomes a critical resource for innovation. We don't realize what we know until the immediacy of the moment forces to the foreground knowledge weren't aware we had. If business could methodically and efficiently mine this type of knowledge from its people, then managers and executives could more strategically steer the evolution of innovation. Since business is only as good as its next new idea or suite of ideas, this know-how is essential in a knowledge economy.

The role of trust in transferring tacit knowledge

I have stated that tacit knowledge is the source of innovation. A catalyst for the creation of tacit knowledge is trust. Unarticulated, tacit knowledge can find expression in collegial discussions with others, in which experiences are shared. This knowledge transfer is subtle and mediated by the trust among colleagues. Thus, trust is the medium and knowledge the message. In this way, experience is transferred from those who have it to those who don't.

This is the primary reason why mentorship and apprenticeship are critical practices of knowledge transfer, Mentoring is the oldest form of knowledge transfer and still the most efficient when exchanging knowledge between humans. It is made tangible by the trust relationship that develops between mentor and mentee. How does it happen?

To understand how mentorship works, let's take a view from afar. Imagine a cocktail party which you have been persuaded to attend by your spouse. Your spouse needs your moral support at this business function as he or she plans

their tactics for their next promotion and your subsequent vacation to the Bahamas. Being a selfless and loving spouse (and imagining the wind against your face on the beach) you go. Hundreds of people are in full party by the time you arrive. Lit faces, rooms and cigars create a three-ring circus. At the periphery you take a deep breath and give a sidewise glance to the space by your side that was filled by your spouse only moments ago. Now vanished, your spouse is working the room, making that promotion happen, So there you are. Stranded! A server places a glass of wine in your hand. You hurriedly gulp the wine to take the edge off your discomfort and have already started on your second glass when your feigned knowing nods and smiles invite the 'small talk' of others. "How do you know our host?' and other bland queries lead you to a third, even fourth glass of wine and more meaningful discussions about such things as educating the next generation, public elections, neighborhood issues and global warming. By the time the fifth glass of wine is making its way to your brain and you no longer recognize your spouse, you're in deep conversation about more intimate matters such as marriages, divorces, parenting, etc. These and other life-threatening situations are the times in which trust (and, sometimes trouble) are forged.

Let's step back and analyze the situation closely. In the small talk of cocktail parties, humans are at random walk, desperately seeking points of similarity through visibility: height, girth, dress, gender, race, accent, hair and eye color, etc. Reading the audience and working a room are ancient skills encoded in us by our forebears who sat cheek by jowl around the campfire; an earlier and more primordial form of cocktail party. I confess to having attended countless cocktail parties and continue to be amazed how, after just a few drinks, I end up with people who are like me in some way – same experiences, same clothes same interests, etc. It's not the alcohol talking, but the ancient drive of seeking similarity: 'You look like me, you think like me, you dress like me ... you're one of us.' When people connect at this basic level, they are engaging in an embryonic form of trust with each other. What began as a room full of disconnected people may end up as a network of people connected in invisible lines of trust.

These invisible lines of trust don't just operate at cocktail parties. They also surreptitiously galvanize people in an organization by connecting them to each other. These connections, or networks, of trust are the veins of a natural resource of knowledge, a honeycomb of collective consciousness which is mined for hidden sources of innovation. The challenge is to detect to them, render them visible, understand their underlying structure and leverage them to increase productivity.

Networks: what you see is not what you get

A network is a seamless and invisible web of entrusted connections. Differential and deferential reciprocity, achieved largely through face-to-face and/or frequent interactions, holds these trust-based connections in place. Trust, typically conceived as a 'warm and fuzzy' form of social capital, can be highly coercive and used to groom and maintain network contacts for monopolizing resources.

A network is the invisible structure of culture. It is an amalgam of bits and pieces of isolated knowledge in a collection of people. Trust is the glue that makes knowledge whole by holding human networks together. Trust is not unlike the shared electrons that bind benzene or the field theory that prevails upon protons to produce sub-nuclear cohesion. Cursory calculations reveal that 'matter' matters little. Rather it is the field of energy that makes brick walls, steel plates and diamonds impenetrable. So it is with culture. Culture is impervious to process changes, change management or reengineering because of its field of energy: the networks of trust. Thus new knowledge will be accepted only if adopted by the networks.

Nature and networks

Networks are based on trust. Because trust is determined through face-to-face interactions, one needs to appreciate the profound and stark truth about networks: 'You don't look like me, you don't dress like me, you don't think like me, therefore I don't want to know or understand you.' This fetish for the familiar is fundamentally tribal and resistant to the heterogeneous qualities of hierarchical organization. So the last, and perhaps the most important, point to make about knowledge and networks is that, contrary to popular opinion, there is a dark side to networks.

They are exclusionary groupings, based on like seeking like, and mask a fundamental fear of differences. A network is the most natural (and most ancient) form of grouping. Its cultural complement is found in hierarchies.

Nature and culture

If networks are natural, hierarchies are cultural. Hierarchies are visibly and beautifully designed structures for incremental change; invisible networks for rapid, radical transformation. Let's examine the organizing principles of both. Hierarchies are held in place by three principles: depth; breadth or span of control; and the inverse relationship between the two. Depth is the number of layers of hierarchical levels found in every organization, ranging from two in entrepreneurial organizations (the president and everybody else) to over 200 in government. Most organizational or management literature deals with the dark side of depth, that is, the multiple hierarchical layers which serve as filtering mechanisms – making information disappear altogether or adding the patina of personal bias to information as it is handed off to those above. With so many hierarchical levels handling information flow, it can be difficult to monitor where and when information may get off track. Thus deep hierarchies are often perceived as black holes into which accountability is drawn and disappears.

Breadth or 'span of control' is the number of direct reports or the number of people reporting to the person above them. Span of control is a way of segmenting or compartmentalizing information so that it can be sorted. These

direct reports in turn have multiple direct reports to them and so on, as this self-replicating pattern cascades down the hierarchy.

A critical but subtle connection is the inverse relationship between these two organizing principles of depth and breadth. That is to say, a change in one direction will have the inverse or opposite effect in the other direction. For example, when one decreases the depth (flattens the organization), the breadth or span of control will increase. If one increases the depth (adds more hierarchical levels), the breadth will automatically decrease, that is different departments representing the elements of span of control will merge or be eliminated. This relationship consistently holds if one does not substantially change the population of the organization through a divestiture or acquisition. The organizing principles of hierarchies have inherent constraints, permitting organizations to change only incrementally.

When rapid or radical change is called for, executives must turn to the networks within their organization. Key positions in the network mobilize it to flexibly adapt to the exigencies of the moment. Three prototypical patterns emerge. The first pattern is the hub, as in a 'hub and spoke' system on a bicycle wheel. This pattern represents an optimal distribution system for centralizing work processes. The second pattern is the gatekeeper that is positioned on critical pathways connecting hubs to each other. These gatekeepers serve as important links or bridges within an organization. The third pattern is the pulsetaker, someone who is maximally connected to everyone via the shortest routes. Pulsetakers have their finger on the pulse of the organization and know what everyone is thinking and feeling. Machiavelli was a pulsetaker; someone behind the scenes but all-seeing. These culture carriers are usually invisible but always pivotal and should be used to slow or accelerate rates of change.

If one adds these patterns together, the DNA of a network is revealed. This cultural code is a highly structured form of interaction at the core of any network A metaphor for this network of connections is a high security room laced with laser beams and electronic eyes. An innocent gambol across the room will set off a series of alarms. It is the same in any organizational setting. If you are unaware of preexisting alliances connecting people, you too can unwillingly set off alarms. Therefore, harnessing the power of networks is the key to efficiently guiding innovation and change in a knowledge economy.

After reviewing the organizing principles of these two structures it becomes self-evident that hierarchy and network should be forever yoked together to assure balance and accountability. Any network can unravel a hierarchy and any hierarchy can crush a network. Hierarchy without network is austere; network without hierarchy is anarchy. Together they form a natural tension in the dance to discovery.

Conclusion

Let's review our argument, First, experience, direct or indirect, is the source of

tacit knowledge. Stored in people, tacit knowledge is actuated (shared) though trust formation. Trust develops in predictable network patterns that by their nature run counter (are mis-aligned) to hierarchical organization. If one treats tacit knowledge as a natural resource embodied in humans (or human resource), then knowing where and how to mine the networks for tacit knowledge is the turn-key solution for rapid innovation.

A dilemma facing managers and executives in the hierarchies of today is how to scale networks of trust from their primordial beginnings around the campfire and cocktail parties to globalized operations around the world. Learning to trust without the assurance of face-to-face contact is both a blessing and a curse: a curse, because we must learn to trust without the crutch of facial familiarity; a blessing because a familiar face can also lie. Without a face connected to the facts, we must learn to discern by using different criteria, e.g. quality, timeliness and integration of information. Humans have historically drawn boundaries around what they see in a face: race, gender and other visual cues. As these boundaries blur in a virtual world, what new boundaries and barriers await us as we learn to trust at a distance? It is a view from afar which human civilization has yet to see.