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Understanding organization change and innovation

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Understanding Organization Change and Innovation: A Conversation with Mike Tushman

Abstract

Professor Michael Tushman was selected as the 2016 Organization Development and Change (ODC) Division's Distinguished Scholar. Following his address, he sat down with John Amis to discuss his ideas on organizational change and innovation. Inspired by an early practical experience at a work placement while an undergraduate student, Mike has engaged in a career-long pursuit of seeking to understand how and why some organizations are able to successfully engage in programs of change and innovation while others are not. Here he recounts his formative industry involvement that led to this fascination, the academic experiences that have helped him to develop into one of the field's most productive scholars, and what he perceives to be the most interesting, and potentially important, questions that researchers of change could profitably investigate in the future.

Understanding Organization Change and Innovation: A Conversation with Mike Tushman

Introduction

Michael Tushman is the Paul R. Lawrence, MBA Class of 1942 Professor of Business Administration in the Graduate School of Business at Harvard University; he also holds a cross appointment in the Harvard Graduate School of Education. Following an undergraduate degree at Northeastern University in Electrical Engineering, Mike earned a Master of Science degree in Organizational Behavior from Cornell University and then a PhD in Organization Studies from Massachusetts Institute of Technology.

A prolific author, Mike has authored, co-authored or edited thirteen books that have explored innovation, organization design, leadership, and organizational change (e.g., Hambrick, Nadler & Tushman, 1998; Henderson, Gulati & Tushman, 2015; Tushman & O'Reilly, 1997, O'Reilly and Tushman, 2016). He has also written over one hundred articles and book chapters, many of which have fundamentally changed the ways in which we think about organizational design, change and innovation (e.g., Anderson & Tushman, 1990; Benner & Tushman, 2003, 2002; Fellin, Lakhani, & Tushman, 2017; Gulati, Puranam, & Tushman, 2012; Nadler & Tushman, 1988, 1998; O'Reilly & Tushman, 2008, 2016; Tushman & Anderson, 1986; Tushman & Romanelli, 1985, 1994). Furthermore, Mike has also contributed over fifty cases (e.g., Tushman, Lifshitz-Assaf, & Herman, 2014; Tushman, Maclay & Herman, 2016).

A notable feature of Mike's research has been the ways in which he has brought together ideas on change, innovation and design to inform our thinking about how we organize. This was well exemplified in Mike's ODC Distinguished Scholar address, 'Shifting loci of innovation, organizational architectures and leading punctuated change.' In the conversation that follows, we use Mike's 2016 address as a starting point from which he leads us through the evolution of his thinking, the influences of colleagues and students, and his continual quest to better understand how organizations can more effectively change and innovate. We finish with his ideas on open innovation, something that he feels will redefine how we think about, and practice, change and innovation in organizations.

Early Motivations

JA: Mike perhaps we can start by reflecting back on some of the foundational influences that led to your decision to pursue an academic career.

MT: I have a bunch of relatives who are academics, and I really respected their lives and their work. But mostly it was while I was an electrical engineer in the Northeastern University Co-op programme, working at one of the greatest technology companies in the Boston area, General Radio. While I was there, General Radio lost tremendous market share until it was on the verge of failing. I felt paralysed because I thought I was going to be an electrical engineer, and that firms with great technical talent would always succeed. I wondered, 'what the heck happened?' That question, that experience, seeing the demise of a great firm and seeing a bunch of great electrical engineers, who were in my car pool, lose their jobs, led me away from electrical engineering to Cornell where I got a sense of what research into

organizations and technology was all about. That then led me to MIT, which at the time had a really great technology management programme.

So, what got me into the field was watching this organization essentially die, and then watching it get reborn. My first experience with what I later called punctuated change was seeing a revolution at that firm, executive succession, and sweeping changes – including the name of the company from General Radio to GenRad. At Cornell, I studied with Mike Beer and Leo Gruenfeld, really great social psychologists, and I got into the social-political networking kinds of issues associated with change at Corning, and then I picked that up at MIT.

JA: Your early inspiration, then, was phenomenological, rather than theoretical.

MT: Well certainly early on. I would be some engineer some place had it not been for that experience with General Radio. That led me away from electrical engineering. My early work on social networks came less from the phenomenon than from working with Tom Allen at MIT on the productivity and effectiveness of R&D labs (e.g., Tushman & Allen, 1979). However, I was always more interested in the organization, my head was always into what the heck happened to General Radio. So that work really happened more systematically after I got tenure at Columbia. A bunch of my early work was on power and politics (e.g., Tushman, 1977a) and social networks (e.g., Tichy, Tushman, & Fombrun, 1979; Tushman, 1977b), and the work on punctuated change happened at Columbia with some really great doctoral students (e.g., Tushman & Romanelli, 1985, 1994).

JA: As you started to get interested in change, who were your biggest academic influences?

MT: In my doctoral programme at MIT at the time there was a very normative approach to change, and I would have these big debates with Ed Schein, and Dick Beckhard about it. I was really a kind of a jerk in those days and I actually didn't believe the OD stuff, I found it too naïve, particularly with respect to what happened with General Radio. I just didn't buy the notions of communication and trust and authenticity at the time. So my work on change was partly a reaction to Ed's work on culture and Dick Beckhard's work on organization change.

I was particularly impacted by Paul Lawrence, who when I was in my doctoral programme was a visiting professor at Sloan. He became a member of my doctoral committee, and led me to being particularly interested in the structural issues around change. Lawrence and Lorsch (1967) had come out earlier, so that was a theoretical point of view that I was much enamoured by. Also, I was particularly moved by Karl Weick's work and trying to get his notion of organizing linked to the earlier work by Paul Lawrence, Simon (1947), and Katz and Kahn (1966). This got me interested in how to think about organizations, and how to think about organizations as systems. I was also really interested in Trist and Bamforth (1951) and the work coming out of the Tavistock Institute (http://www.tavinstitute.org).

But, what I was always trying to understand, because of what I saw at General Radio, was how and why organizations don't change smoothly, they change through these punctuations. I'm not sure that emerged from any theoretical frame, I just saw it. I

mean, you're right, I really actually saw it. I didn't see the change literature spending enough time on these systemwide shifts.

Interdisciplinarity and the Pursuit of Understanding

JA: You mentioned earlier about the influence of Paul Lawrence when he was a visiting scholar at MIT, and you have been a visiting scholar at Bocconi, INSEAD and MIT, and you also have an appointment in the Harvard Graduate School of Education. Has this exposure to different people and ideas been a conscious strategy that you've pursued over time or is it something that's just emerged?

MT: I think that my move from engineering to organization behavior at Cornell, and then from Cornell to MIT, and then Columbia, and a series of visiting relationships, has been central to how I've grown as a scholar. I think that the networks that I've developed, and the exposure to different ideas, whether it be at Bocconi or at Fontainebleau (INSEAD) or at MIT, where I was on Sabbatical, or now at the Harvard Graduate School of Education School, has been fundamental for me. That whole notion of getting out of Columbia where I was for many years, or getting out of Harvard, was really important. You know when I think of where I've gotten ideas from and how my ideas have shifted over time, the locus of that shifting has been either because I have visited different places, the relationships that I have developed at these places, or my doctoral students.

JA: We can see, then, your interdisciplinarity starting to emerge. You have mentioned moving from electrical engineering to organization behavior, and then subsequently your more macro interests in organizations and how they change. Then there are the influences developed at different geographical locations, and with different communities of scholars. Do you see yourself as an interdisciplinary academic?

MT: Yes, I do. I just finished an essay on Paul Lawrence (Tushman, 2017), and in doing this, I have been struck with how organizational behavior, from the very beginning, was an interdisciplinary field influenced by psychology, sociology, economics, and political science, as they apply to organizations. So, yes, I definitely see myself as a phenomenon-driven, in my case innovation- and change-driven, scholar who takes what he needs from different spaces to understand that phenomenon.

And one of my points in this paper on Paul is that organization behavior is rapidly devolving into sociology, or psychology, or economics, and that interdisciplinary approach that has been so fruitful to our field is under attack. At least it is at risk. So, yes, I think that the phenomenon is really important, and you understand it through different points of view.

JA: I agree that we are seeing this increase in specialization, as you have mentioned, so how do we avoid becoming siloed in our work and in our thinking?

MT: I have been quite adamant at the academy and with my colleagues here at Harvard that we have to be focused on the phenomena. We are at a professional school so we have to be able to address our students and executives on how to make organizations work better. When we think about organizations and their complexity, and how to intervene, we see that the world is not sliced into psychology and

sociology and economics, the world is some combination of them. I think the silo mentality that is attacking a lot of business schools is fine if you just want to be a sociologist or an economist, but if you are in a professional school dealing with the real world, those silos get in the way.

JA: So how do we avoid that silo mentality?

MT: Well, one is getting around and exposing yourself to different ideas, that is for sure. But also getting into the real world. I think that every idea that I've had, including my most recent stuff on identity, has developed in some fundamental way from actually seeing something in the real world, actually seeing it out in the field, and saying 'hey that's really interesting, that's really quite fundamental, what's going on here?'

My work on ambidexterity, or this work on identity that I am doing now, did not come from sociology, did not come from psychology, did not come from the literature, it came from actually seeing it. Having seen it, we can then ask where in the field can we take theoretical ideas, underlying mechanisms, to understand this phenomenon?

It is both getting around, as in being a cosmopolitan as opposed to a local, but also not getting decoupled from the real world.

A Singular Focus on *The* Question…
JA: Building on our conversation above, you have produced a stream of work that has investigated a wide range of social phenomena, including social networks, design, temporality, politics, episodic change, innovation, leadership, and ambidexterity. However, rather than discarding topics once you have looked at them for a while, you seem to keep coming back to them. It seems as though your position is continually getting informed as you go forward, as opposed to leaving something behind when you have explored it. Is that an accurate characterization?

MT: I think I've done one thing in my whole career.

I study innovation and change. All I've done from the get go is try to understand issues of innovation and organizational change. At first it was R&D, but that was not enough, it has to be the organization, and the power and politics associated with innovation in order to break with inertia. Then there was the notion of punctuation and technical change and confidence enhancing, confidence destroying, these are all just studying the same thing, how do organizations evolve, when do they evolve, and under what condition? Thus, it's one thing, if you will, one thing leading to another, kind of organically. But literally, I am not kidding, my anchor you know, in the Ed Schein notion of career anchor, my career anchor is from car-pooling with my electrical engineering friends when I was in college, and having them saying to me, 'hey you're some young engineer, our company is going out of business, why is that?' I've been asking that question since I was an undergraduate.

JA: You have been continually trying to get a better informed understanding of that question.

MT: Yes. And my work right now on the impact of open innovation, on incumbent organizations, is the same thing. What is the impact of the web and the logic of openness on incumbent firms? We have been discovering that identity is a big deal.

What I really hammer with my doctoral students is to have a dependent variable that the world cares about and is big enough to inform lots of research. My dependent variable has been innovation/change.

JA: As you have continually pursued this question from multiple angles, you have developed several insights that have transformed our theoretical and practical understanding of change. What do you think has been most influential?

MT: There's no question about it, my most impactful, practical work has been the congruence model, first with David Nadler (e.g., Nadler & Tushman, 1988) and then with Charles O'Reilly (e.g., O'Reilly & Tushman, 2004, 2016; Tushman & O'Reilly, 1996). The congruence model has had a huge impact on how organization behavior is taught and how it is practiced. I am still always shocked when I see the congruence model used in teaching and with managers at work. So that is my practical thing, the congruence model, and ambidexterity is simply the congruence model on steroids. It is multiple congruence models simultaneously.

Theoretically I think my, my early work on information processing (Tushman, 1978; Tushman & Nadler, 1978), my work on social networks and gatekeeping (Tushman & Allen, 1979) and the impact of dominant designs on a product class (e.g., Tushman & Anderson,1986) had an impact. This notion of punctuated change that Elaine Romanelli and I did (Tushman & Romanelli, 1985,1994) also has had an impact.

…and addressing it by close engagement with practitioners
JA: In addition to your research work, you have been extensively involved in executive education and consulting. Can you just talk us through a little bit about how those things have influenced your understanding of organizations in general, and change in particular?

MT: Yes, great. When I was at Columbia, early in my career, I began this collaboration with Charles O'Reilly and Jeff Pfeffer. We did a public programme on innovation, leadership and change at Columbia. I thought that was a way for me to work with colleagues, and get my doctoral students in front of real managers, present what we thought was the state-of-the-art work on leadership, innovation and change, interact with the real world, and get the students a site for their research. The real world can then say, 'hey Mike and Charles and Jeff, this is a stupid idea and this is a great idea.' That has been so fundamental. I think every one of the ideas that my students have had, that I have had, has developed from interacting with managers who we have brought to campus. The beauty of executive education is you bring the real world to campus, you are presenting the research, and you are getting ideas, and it is a virtuous cycle. I discovered this at Columbia and I replicated it here at HBS.

I did some consulting, but more important are these custom executive education programmes, both at Columbia and now here at HBS. For example, we had this large project with IBM, a custom programme of executive education, so Mary Benner's work (e.g., Benner & Tushman, 2002, 2003), Adam Kleinbaum's work (e.g.,

Kleinbaum & Tushman, 2007) and Wendy Smith's work (e.g., Smith & Tushman, 2005), some of my doctoral students, have come from access into IBM that came from this relationship with HBS. This helped us to co-develop these ideas on ambidexterity, leadership of senior teams, and the 'explore and exploit' idea, in a really sophisticated organization. I cannot be more emphatic about how executive education programs can be leveraged by business schools as a research tool.

JA: It seems then that you see practitioners in this sense as co-creators?

MT: Yes. Fundamentally, you develop a relationship with the real world, they trust you, they get what research is, and they open their doors so that I can get access to data for a doctoral student working with me. Charles and I have also written with Bruce Harreld, who at the time was the Senior Vice President of Strategy at IBM (e.g., O'Reilly, Harreld & Tushman, 2009). We have done a bunch of writing with Bruce, but that is an exception. Usually, our work involves interacting with smart executives who are really frustrated about something. Usually it is something concerned with trying to be both efficient and innovative at the same time. We then take that as an opportunity to say, 'hey, let's explore that together.' Then we feed back the research. So we generally do not write with executives, but we take their pain, theoretically address it, and then try to get some research done with doctoral students.

Wendy Smith's dissertation on paradox is a good example, and from that she is now doing a lot of in that area. Now that came from our work with IBM, where this manager used the word contradiction. I said to Wendy, 'That is a real problem. This guy is not a dummy. This is a real organization dealing with what are seemingly incommensurable strategic demands. Go there.' That began her work on paradox. We shined a light on it because this particular leader, said 'hey how do you deal with these contradictory forces (e.g., Smith & Tushman, 2005)?'

JA: That is really interesting. Presumably you do not have the answer immediately, but you say to the executive, 'let's explore this'?

MT: Yes, absolutely. Another good example is Hila Lifshitz-Assaf, one of my more recent students, who is now at New York University. She developed this great research project at NASA, which came from an executive program that I did with Charles O'Reilly. This executive, Jeff Davis, who ran life sciences at NASA was in the room and we were talking about open innovation, and he just did not believe it. He said, 'This will not work at NASA. It could work with software, but it is not going to work in my laboratory.' So, Karim Lakhani, a Professor at HBS, and I said, 'Okay Jeff, let's try it.' That led to a breakout dissertation with Hila on identity and identity shifts when scientists are no longer both posing research questions and solving it, they pose it and the world solves it (see also Tushman, Lakhani & Lifshitz-Assaf, 2012).

Writing partnerships
JA: You have discussed above a number of projects that have involved doctoral students and led to successful writing collaborations. You have also spoken several times about your work with Charles O'Reilly and David Nadler as well. The idea of collaborations and writing partnerships is obviously something that's very important

to you, and to many of us in the field of course. Can you give us some insight into those relationships, or other relationships that you have had, and what has made them successful?

MT: Yes, interesting question. Partly what has made them successful, with David and Charles, is that in each of those relationships, we came at problems from different levels of analysis: I was a macro person, Dave was micro; I was macro, Charles was interested in culture. But we were all interested in organizational change. And we are friends so we trust each other. We were also able to develop a working and writing relationship that allowed one thing to lead to another. With David, it was the congruence model, and then articulating the congruence model from different analytical levels; it is this question of design, from different levels, social design and organization design. With Charles, we were both interested in innovation and in particular the sociology and psychology of innovation; and, again, we have been good friends since graduate school.

In summary, I have found that the success of our partnerships has been our interest in different levels of analysis, and different points of view, but we are fundamentally interested in the same thing. And of course being good friends is important!

The future of research on organizational change and innovation
JA: Mike, you have mentioned your work on episodic change and punctuated equilibrium several times, and this has continued in your recent work on innovation as you have developed the idea of incremental and discontinuous innovation. Clearly there is some close continuity there with your thinking on change. How do you reconcile these ideas with those of others, such as Harry Tsoukas and Bobby Chia (2002), who have argued for continuous change? Do you see those as theoretically oppositional or can they be brought together in some mutually constitutive way?

MT: Well I think that organizational change is both incremental and continuous and punctuated. For me, the issue is under what conditions is change taking place? Under what conditions do you want to have rhythmic, incremental, orchestrated change, and under what conditions do you want to have punctuated change? Basically, I think that is the synthesis, theoretically, from a larger point of view, that embraces these multiple points of view on change. Sometimes organizations are best if they are incrementalist if you will, but when the world changes in a sharp way and a discontinuous way I think that that is when I would argue for the punctuation of the episodic shift. And the best organizations out there lead in strategic shifts, proactively through these punctuations.

JA: Right, so the idea of continuous change you see as analogous to your incremental change.

MT: Yes.

JA: Similarly, I imagine you will give a similar response to those who see change and stability as existing concomitantly, that they define each other and create a contradiction that needs to be embraced? Again, you would see that as being encompassed within this broader theoretical understanding of change?

MT: Yes, I think so. I think that one of the big openings for scholars and doctoral students is to be able to put this synthesised point of view on innovation or change together, because I do not think these are irreconcilable and inconsistent. I do think they are contradictory, they are seemingly inconsistent, but at a higher level they are actually not.

JA: Interesting. You also mentioned in your Distinguished Scholar address about your different line of thinking to the Clay Christianson idea of innovation that suggests that organizations should break with the old and spin-off new companies. You have said that if you do that, you lose something and thus have argued that this should be resisted. In keeping with the spirit of uncovering new lines of research, can you give us an insight there into how your thinking with Clay differs, and the opportunities that presents?

MT: Yes, in my work with Charles O'Reilly, we have this notion of an innovation stream, that dynamic capabilities are rooted in playing this Jim March (1991) explore-exploit game, at the same time. Not flipping back and forth between the two, but both exploiting and exploring at the same time. Clay's work suggests that, in contrast, exploration is so fundamentally different that you have got to spin this thing out. Our point of view is that if there is anything to leverage inside the incumbent organization, if there is anything to leverage between the exploit and the explore worlds, then you want the structural ambidexterity. You do not want to spin it out, you want to have the ambidextrous leader able to maintain an explore and exploit organization that allows common capabilities to be leveraged.

So, the key theoretical point of view that we have argued is to do with those contexts where you do not spin out the exploratory activities. Where we agree with Clay is the importance of being able to explore and exploit. I do not think there is anyone who disagrees with that. But our point of view is that you only spin out when there is nothing to leverage. If there is, if there are assets to leverage, then you play this ambidexterity game.

You may keep them separate initially, but when the explore part gets big enough and healthy enough, with a strategy that customers want, then you bring them back together. In this respect, there is a graduation if you will: build an integrated organization but only after you have hatched this exploratory thing, and it is big enough that it cannot get killed.

So, the short answer to your question is if there is stuff to leverage, do not spin it out. For example, and Clay and I have also debated this, as you know I am a faculty member at the Harvard Business School and we have old fashioned executive education programs - I run one of them. Well we are also trying to do digitized distribution of content through the web. There is a unit called HBX, and it is housed in a building off the main Harvard Business School campus, with different people, process, structure, and culture. It reports directly to the Dean. The last thing the Dean would want to do would be to spin that out, because he has got to leverage faculty research between HBX and HBS. So that is where Clay and I have differing views on our world, because he would say, 'spin that out' and I would say, 'no don't spin it out, build this ambidextrous organization because there is the intellectual property, the faculty research, that we can leverage, in addition to the HBS brand.'

JA: I would like to return to this point about embracing contradiction, which runs through much of your research, and is central to your work on ambidexterity, including your latest book with Charles O'Reilly, *Lead and Disrupt* (2016). Can you give us an insight into your latest thinking about this dilemma of accommodating exploration and exploitation? Where are we currently at with thinking in this area?

MT: Yes, let me tell you where I am at. In the example that I gave earlier with NASA, Jeff Davies, the leader of life sciences, had these laboratories all over the United States that were involved in research on human health in space. They know how to do research on low earth orbits and getting to the moon, they know how to do that. That is very exploitative, that is incremental. Things may be regularly changing, but they know how to do that. The work on deep space, it turns out, is completely different. You cannot go to Mars with the same kind of knowledge base that you use to go to the moon. It turns out that the human health dynamics of deep space flight are fundamentally different to those of low earth orbits. That raises, for this manager on Human Health, the notion of ambidexterity. He has to help build an organization that can both get astronauts to the moon and get them to deep space, so he has this paradoxical organization. Not only that, the nature of research is shifting with the internet, so now he can post these really technically sophisticated problems to the web. And what he has found is that strangers will solve these problems in record time, essentially for free. Thus, he has this dual challenge of low proximity to the earth space flight and deep space flight – the explore and exploit conundrum – and, fundamentally, how do we now carry out research? He has these two levels of contradiction.

This leads to my current work. I do believe that the work on structural ambidexterity is right, but the next stage is thinking about what helps leaders to deal with this paradox? I feel that it is a fundamental question of identity. In the case of NASA life sciences, it is not that we are here to do research, but rather we are here to keep astronauts safe in space. From this perspective, the extent to which openness is another tool to do better research is great. These scientists can then deal with their professional identity threat of having their research outsourced. That is where my thinking is now. The ideas of having this overarching identity, that permits low earth orbits and deep space travel to co-exist, to have old fashioned forms of research and open forms of research to co-exist, are held together by this overarching identity of we are here to keep astronauts safe no matter where they are going.

JA: The ways in which you have explained this is very much from developing a practical understanding of why this new way of thinking is important. Theoretically where do you see this taking us in terms of our current understandings about change and innovation?

MT: Well I think that openness, to frame it using institutional theory, is a completely different logic. I think that the logic of openness, in the sense of Yochai Benkler's (2006) marvellous book, is completely different from how I think about the Chandlerian logic, which is a closed logic. I think, theoretically, for scholars of innovation and change, the challenge is to be able to reconcile how organizations circa 2017 must combine aspects of the Chandlerian organization – the closed logic – with the open logic. As I said in my ODC Distinguished Scholar address, there is a

wonderful opportunity for doctoral students to think about the theoretical dynamics involved in the world of openness. We grew up in a world of satisfysing (Simon, 1947); well, now you can optimize! We grew up in a world governed by transaction costs; well, now those transaction costs are zero! We grew up in a world of hoarding intellectual property; well now it is open-source! I just think that the fundamental axioms of our world are up for grabs.

JA: This plays well into an emerging narrative about the changing nature of the economy as well. How we have moved from relying on large organizations that employ hundreds of thousands of people to a gig economy with temporary relationships that are formed on an as-needed basis.

MT: Absolutely. The whole nature of what the firm is, and what organizational behaviour is, circa 2017, I think is up for grabs. That to me is a really exciting theoretical opportunity for scholars.

If I were a doctoral student, I would be examining the leadership challenges associated with having to build an organization that can live with these different logics, and the change implications for reconciling multiple logics.

For example, if you are a media company or you are a news company, or you are a university, or really anything that has to do with the digitization of materials, what are the change issues associated with teams living in these paradoxical logics? I think there are a rich set of theoretical questions that are unanswered, and there are a rich set of practical questions that are unanswered. Take the work on paradox. What is different now versus what Wendy Smith was doing earlier on with me and then with Marianne Lewis, is that the web opens up a different form of logic that is based on a completely different set of assumptions, a different set of organizing rules. That leads to a very different set of questions, and I think our field has really been slow to observe that.

JA: Can you provide us with an example of how these different logics might play out?

MT: Yes. Think about when you are building an organization and defining your strategic assets. Karim Lakhani and I have just finished a case on a company called Tongal (Lakhani & Tushman, 2017). Here is an organization that has outsourced its core strategic assets to the crowd, the ideation, the creation of ideas and subsequent production have been given over to the crowd. Everything that is core to Tongal is in the crowd. The problem is the crowd does not work for Tongal, the crowd can come and go as they want. I do not get it. I totally do not get it. How can you build an organization when your critical assets are in a world over which you have no control?

Our field does not have an answer to that. You could study the economics literature, you could study the organization theory literature, you could study the organizational change literature, you could study the psychology literature, you would not find a theoretical frame that would allow you to understand it. But that is happening in the real world. This case of Tongal illustrates how the reality is way ahead of academics. They are actually doing this, and that is where I think field-based work, observing the phenomenon, is so important right now. Essentially, we have a situation with this

logic of no intellectual property, that I do not work for you, I will come and go as I please, I may work essentially for free because I am hanging out with interesting people, and I am developing a reputation. All of these intrinsic drivers. That to me is pretty shocking from all that our theories of organization would suggest.

JA: In addition to understanding these new forms of organizing, and the theoretical implications of operating in such a world, to what other areas do you feel we should be directing more attention?

MT: New forms of organizing and the associated impact of identity: professional identity, organizational identity, and how we go about building firms with multiple identities that are held together by this overarching sense of who we are and what we do. I am pretty excited about that.

JA: This is developing identity in the sense of Dennis Gioia and his colleagues (e.g., Gioia, Patvardhan, Hamilton & Corley, 2013)?

MT: Yes. It builds on Dennis' work on identity and before that Dave Whetten's work (e.g., Albert & Whetten, 1985). How is it that these organizations with multiple sub-identities are held together by this overarching purpose?

In studying these things, the main thing that I would say is find a phenomenon that you feel really passionate about, and that the real world cares about, and then go after it. Do not get siloed, use whatever the right theoretical machinery you can get to understand that phenomena.

I think that the underlying nature of organizations and therefore the nature of change is shifting, so I think it is an exciting time to be a scholar of innovation slash change. Get out into the field. It's a great time to be interested in change.

JA: Mike, thank you very much for this.

MT: You are very welcome John. Thank you.

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