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## Towards Gaining Support for Federal Spectrum Reform

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### Abstract

Gaining support for federal spectrum reform requires not only the right incentives but also a high quality process for bringing about change. Drawing on the organizational change literature, I describe the driving and restraining forces that comprise a high quality process. The driving forces entail surfacing dissatisfaction with the current state, providing a vision of the future state, and putting plans and resources in place to transition from the dissatisfying current state to the better future state. The restraining forces form the bases of people's resistance to change; they are the perceived costs of change. Support for federal spectrum reform is more likely to occur when the driving forces outweigh the restraining forces.

## I. Introduction

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The research literature on organizational change has direct implications for the President's initiative to incentivize federal agencies to share or relinquish radio spectrum to make it more available to burgeoning commercial uses. Essentially, the policy problem is one of changing the behavior of federal spectrum-using agencies. This involves creating incentives, to be sure, but research suggests that the underlying challenge is likely to be more complex than that.

In this paper, I look at two ways the literature frames stakeholders' perceptions of change, and I review the implications of these frameworks for federal spectrum policy. The first framework, reported in Section II, draws on literature reviewed by Brockner (2010) that shows that two broad categories of factors influence people's tendencies to support change initiatives: the perceived outcome of the change itself and the process used to get there.<sup>1</sup> Outcomes and processes interact to influence both stakeholders' reactions to the prospect of change and the cost effectiveness of success, with clear lessons for spectrum policymakers.

Section III introduces the second framework for organizational change and describes how a set of motivating forces that drive change must dominate the forces that impede

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<sup>1</sup> Brockner, J. (2010), *A contemporary look at organizational justice: Multiplying insult times injury*, New York: Routledge Press.

change.<sup>2</sup> Section IV explains how to structure a transition process successfully. Section V describes ways to reduce the perceived costs of change, and Section VI concludes.

## II. Outcomes and Process

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When confronted with a potential major change, people quickly size up whether the change will make them better off or worse off. For example, does the change affect their financial well-being? Will their work become easier or more difficult or more or less interesting? All else equal (and not surprisingly), people are more likely to embrace change if they think the outcomes of the change will be favorable.

In the spectrum policy context, this observation explains the strong emphasis on creating "incentives." For instance, Section 6 of the President's 2013 spectrum policy memorandum asks the Spectrum Policy Team to recommend "market-based or other approaches that could give agencies greater incentive to share or relinquish spectrum, while protecting the mission capabilities of existing and future systems that rely on spectrum use."<sup>3</sup> The myriad proposals to create these incentives, surveyed in IDA (2014), include ways to provide bigger carrots and larger sticks, such as through

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<sup>2</sup> Jick, T. (2002). Managing change. In A. R. Cohen (Ed.), *The portable MBA in management* (2nd ed.). New York: Wiley.

<sup>3</sup> Presidential Memorandum, *Expanding America's Leadership in Wireless Innovation*, 78 Fed. Reg. 37431, 37434 § 6 (June 20, 2013). <http://www.whitehouse.gov/the-press-office/2013/06/14/presidential-memorandum-expanding-americas-leadership-wireless-innovation>

greater agency compensation or spectrum fees.<sup>4</sup> They also include technological approaches that could facilitate sharing.

Certainly, financial incentives matter, and enabling technology is useful. But the focus on these outcomes suggests that a neglected dimension of the challenge is the *process*. We know from the research that over and above outcomes (and also in interaction with them), people are more likely to embrace change if they approve of the process. For example, support for a change initiative tends to be higher if the reasons for the change are clear and opinion leaders agree that the change is necessary. A good process also means including people and giving them advance notice, appropriate training, and validation that the change isn't an implied criticism of them. I return to these important process elements in Section 4.

In fact, research shows that, at least to some extent, what a proposed change lacks in benefits can be made up with a better process. The nature of this "process/outcome" interaction appears in Figure 1. One can think of the rows of figure one as the means to the end, and the columns as the end itself.

Figure 1. Employees' Reactions to Organizational Change

		Outcome Favorability		
		Low	Moderate	High
Process Quality	Low	1	4	7
	High	5	7	8

Scale Range: 1-10

Higher numbers reflect greater support for a change initiative (e.g., reflected in productivity and morale)

The values in the table suggest that if people are happy with the outcomes associated with the change, then the quality of the process doesn't matter as much. In other words, the incremental effect of a good process relative to a poor process is small if people are already happy with where they end up (e.g., comparing the 7 and 8 in the last column of Figure 1); "the ends justify the means."

In contrast, the benefit of a good process is much higher when outcomes are perceived to be unfavorable. In fact, even for undesirable outcomes, leaders can gain support for the change by handling the process well (i.e., instigating a move from 1 to 5 down the first column of Figure 1). Relatedly, if people are already happy with the process and the outcome is moderately favorable, the incremental effect of a better outcome is fairly low (for example, a move right from the 7 to the 8 in the bottom row of Figure 1).

<sup>4</sup> IDA Science & Technology Policy Institute, *A Review of Approaches to Sharing or Relinquishing Agency-Assigned Spectrum*, IDA Paper P-5102 (Jan. 2014), available at <https://www.ida.org/upload/stpi/pdfs/p5102final.pdf>.

Whereas doing the process well reduces the influence of the outcome (and a favorable outcome reduces the influence of the process), process and outcome are not interchangeable in one important respect. Providing greater benefits to those affected by change can be substantially more financially costly than offering a high quality process. In the spectrum policy context, this could mean that agencies and their spectrum managers may be more willing to relinquish or share spectrum if the process needed to “go there” was handled well, e.g., if the affected parties have more technical support, more time, more flexibility, and more input into how the reforms will be instituted.

### III. Driving and Restraining Forces

Research identifies three driving forces that bring about support for change initiatives: (1) dissatisfaction with the current state; (2) a belief in an attractive alternative state; and (3) a workable process in moving from the dissatisfying current state to the better future state. Jointly these driving forces must exceed the costs of change (or restraining forces). In summary, one can think of a successful change effort meeting the following condition:

$$(D \times V \times P) > C$$

where  $D$  is dissatisfaction with the current state,  $V$  is a superior vision of the future,  $P$  is an effective transition process, and  $C$  is the perceived costs of change (or bases of resistance). This framework also suggests that the driving forces of  $D$ ,  $V$ , and  $P$  must all contribute positively; 100 times 100

times zero is still zero. Let us look more closely at each of  $D$ ,  $V$ ,  $P$ , and  $C$ .

#### *Dissatisfaction*

The first driving force, dissatisfaction, is the perception that the current situation is not acceptable or sustainable. Crystallizing dissatisfaction with the current state requires two things from leaders. First, they must fully understand and communicate the external and internal factors that make change necessary, or at least desirable. Second, they must create a sense of urgency. This is particularly important when the current state is not particularly dissatisfying.

Currently, one challenge to spectrum reform is that most federal agencies have radio systems and other spectrum-using equipment in place that work reliably. Advances in technology generally allow them to replace aging systems and increase performance without occupying additional bandwidth. However, agencies have similar growing demands for wireless applications that private sector actors do, and they are naturally reluctant to relinquish their resources. Even when they can economize on spectrum for one system, they may understandably want to reserve the surplus for another future need.

So what could motivate a sense of dissatisfaction and promote buy-in to a different approach? Federal agencies may be more receptive to a new spectrum management approach if leaders point out that the current pattern of ad hoc mandates to clear bands is unproductive, that it undermines planning for future mission effectiveness, and that it is likely to

worsen as pressure from the commercial sector mounts. In that light, agencies may find it preferable to take the initiative to reduce spectrum use on their own terms than face disruptive dictates from Congress.

### *Vision*

A singular focus on current and prospective problems is ineffectively negative. Leaders must also offer a better way forward (i.e., a vision). A convincing picture of a better future also can create a sense of urgency by demonstrating that although the current state is not particularly troubling, things could be so much better.

The research identifies three key challenges associated with the vision aspect of the overall framework. First, the vision should be clear, compelling, and attainable. Second, it should be widely understood by employees at all levels. Third, employees should embrace the vision. Effective leaders will show staff how they stand to benefit if the organization realizes its vision and explain the role each person plays in helping to realize the vision.

In the spectrum context, then, a successful reform will clarify how agencies stand to gain by more efficient spectrum use, in budget terms or otherwise. For example, Congress could grant federal agencies broad authority to raise and spend revenues from spectrum transactions, giving federal spectrum users more control of the process and the outcome and providing resources agencies can apply towards a range of priorities. At the same time, Congress could pledge to refrain from new relocation mandates

for a set period of time pending review of how agencies use their new authority. The vision here would be that agencies receive both respite from ad hoc reforms and new authorities and resources to accomplish their mission. The more flexibility agencies have in how they can use spectrum revenue, the more they are likely to value those revenues and the more compelling the vision will be.

## IV. Improving the Process (P)

Research suggests a clear set of measures to improve a reform process:

### *Respect the past.*

One impediment to change is the experience by some that the change invalidates or implicitly criticizes past practices (and sometimes, by extension, the people themselves). Leaders should reassure stakeholders that previous approaches may have made sense in the realities of the environment at that time, but that the environment has changed and therefore change is necessary. One way to respect the past is the use of ceremony, which facilitates transition by acknowledging transition.

### *Walk the talk.*

Whatever the changes in policy, it is essential that political appointees and senior executives show they intend to achieve them. That means that the White House must give agency administrators clear guidance on their expectations and follow proclamations with concrete deliverables and clear accountability for them.

### *Work with opinion leaders.*

Successful reformers of federal spectrum management will identify key opinion leaders and spend extra effort to ensure that they are on board. These influential individuals could derive their status from seniority, expertise, forceful personality, or internal connections. With their support, the change process is likely to proceed smoothly. Furthermore, their resistance can scuttle what would otherwise be a sound process.

### *Develop an implementation plan.*

A successful change plan requires “who, what, where, when, and how” details. Status quo management structures and resources will not typically be sufficient to implement the change, no matter how well-reasoned and necessary it is. This suggests that federal agencies should not be short changed on the budget, staff, expertise, equipment, and time they need to make a spectrum deal work. In other words, given the potential net social benefits of a more efficient spectrum allocation, skimping on the process may be a false economy. At the same time, agencies should develop a clear articulation of what resources they need and why to assure policymakers that the resources they are given will be well spent.

### *Communicate early and often.*

Successful change, particularly if it’s disruptive to current practices, requires regular communication with stakeholders. Change can confuse and distract people and provoke a state of denial about the change. Regular ongoing communication, including by opinion leaders and those in authority,

will reinforce the message that change is really happening and all need to get on board. This includes following up with people after communicating with them to learn whether they’ve interpreted the change in the same way that the change agents had in mind.

### *Involve people in decisions.*

In planning and implementing complex technical changes, it is particularly important to involve the people who will be affected by them. First, they likely have an informed and valuable view, if not on where to go, then perhaps on how to get there. Second, even if the affected parties don’t provide new ideas, the fact that they were involved in decisions is likely to help motivate them to follow through. This suggests providing an authentic role for the Interdepartment Radio Advisory Committee and spectrum teams within agencies.

## V. Reducing Costs of Change (C)

The organizational change literature describes a wide variety of costs of change that can provoke resistance. Stakeholders may believe that change could bring a loss of power, prestige, control, or job security. Change also involves uncertainty and risk, both financial and to mission effectiveness, and it likely requires attention diverted from other responsibilities. Addressing managers’ concerns about making their mission more complicated or demanding is a critical element of successful reform.

For example, shifts in spectrum use may require new equipment, new systems, and new competencies. The

change itself requires effective management and the capabilities to analyze the technical and economic implications of different options and make responsible decisions across important tradeoffs. These analyses are not necessarily natural strengths of many federal spectrum users, and these new responsibilities could provoke discomfort and resistance, especially given the other growing demands on managers' time and resources. One way to reduce such costs of change and thereby lower resistance would be to make these tasks easier for agencies.

Astute change agents diagnose the root causes of resistance to change and tailor measures to those causes. One source of resistance to sharing or relinquishing spectrum could derive from burdensome requirements to adopt and learn new technologies or procurement rules. In that case, leaders could establish appropriate training programs and allocate time and resources for them. Agencies may be more likely to embrace new requirements by the Office of Management and Budget (OMB) to compare the spectrum needs of potential future systems if they receive training and analytical tools.<sup>5</sup> Likewise, OMB and the National Telecommunications and Information Administration (NTIA) may do a better job enforcing those procurement requirements if they have the staff to assist agencies and review their analyses.

Alternatively, if resistance arises

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<sup>5</sup> OMB Circular No. A-11 (2014), Section 31.12. [http://www.whitehouse.gov/sites/default/files/omb/assets/a11\\_current\\_year/s31.pdf](http://www.whitehouse.gov/sites/default/files/omb/assets/a11_current_year/s31.pdf).

because agencies are unsure whether they will later need the spectrum they could relinquish now, then policymakers can encourage approaches that allow temporary (but potentially long term) leasing or sharing with commercial users, seeking a balance between agencies' concerns and market demands. Agencies could also write contingent contracts, which allow spectrum sharing only under certain circumstances. Further, the federal government could support the development of technologies, such as interruptible devices, that give agencies assurance that the spectrum they share will become available under the conditions in which agencies need it.

A successful reform process will encourage agencies to determine and articulate clearly ways risks can be acceptably mitigated and allow innovative contracts and technologies to meet those needs. The market can price whatever risk is off-loaded to commercial users with discounts for contingent spectrum access or technological constraints.

Finally, agencies may resist change because any change is one more demand in an already demanding job. Increasing demands with fewer resources are already an issue for federal managers in this contentious budget environment. In a review of the federal career executive corps the Senior Executive Association wrote earlier this year:

"With increasing frequency many career senior executives are avoiding risk and are becoming inclined to make 'safe decisions' as opposed to the 'right decisions' - or decisions (in their minds) that could potentially be career

damaging in the current climate. Unfortunately, avoiding the more difficult and critical issues (and the tough decisions associated with them) diminishes opportunities for breakthroughs in technological innovation and productivity, increased cost savings, process and program enhancements, and improved resources utilization.”<sup>6</sup>

Any approach that reduces agencies' perception that spectrum reforms are yet one more unfair unfunded mandate could promote success.

## VI. Conclusion

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This paper reviews lessons from the organizational change literature as they pertain to the reform of federal spectrum use. It argues that incentives matter, as is widely recognized, but the process matters as well. Indeed, the outcome and process are likely to interact to influence commitment to spectrum reform. Not only might a good process help compensate for a less beneficial outcome, but a good process can also be more cost effective.

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<sup>6</sup> “A Review of the State of the Federal Career Executive Corps,” Senior Executive Association, Washington, DC, January 2014. . [https://seniorexecs.org/images/documents/A\\_Review\\_of\\_the\\_State\\_of\\_the\\_Federal\\_Career\\_Executive\\_Corps.pdf](https://seniorexecs.org/images/documents/A_Review_of_the_State_of_the_Federal_Career_Executive_Corps.pdf)