

**THE INVISIBLE OTHER HAND: ENTREPRENEURSHIP AND INSTITUTIONS IN A
FIELD OF MULTIPLE LOGICS**

Wei Chen

Ronald K. Mitchell

J. Robert Mitchell

Rawls College of Business Administration

Texas Tech University

Lubbock, TX 79409

806-742-1516

wei.chen@ttu.edu

ACADEMIC ABSTRACT

Self-interest seeking behavior in human beings makes wealth-creation possible. Over two hundred years ago Adam Smith termed this self-interest seeking behavior “the invisible hand.” We propose herein that in the wealth-creation process there is another invisible hand: “framing”. When entrepreneurs face a field of multiple institutional logics, they frame the relationship among the logics to make the implementation of practices possible, and hence increase the chance of wealth-creation in the society. Drawing on neo-institutionalism, the concept of frame, and entrepreneurship theory, we present an account of how entrepreneurs manage their institutional environment through framing for the purpose of wealth creation.

EXECUTIVE SUMMARY

In past studies of practice implementation from a neo-institutionalism perspective, it is generally assumed that the relationship among multiple logics in a field is contradictory and competing. We propose in this paper that besides being contradictory and competing, the relationship among the multiple logics can also be interdependent and complementary. It is up to the party who needs to implement certain practices in a field to choose to present one or more aspect of the relationship. We term this process “framing”. We propose that self-interest seeking is the invisible hand behind markets that pushes individual wealth-creation forward, while framing is the “other” invisible hand behind a field that pushes collective wealth-creation forward. The party who initiates the framing is simultaneously entrepreneurs (for wealth-creation) and institutional entrepreneurs (for managing their institutional environment).

University technology transfer is a field where multiple logics exert their power. In order to promote wealth-creation in the market with the innovations created within the realm of knowledge creators, university technology managers need to take on the roles of entrepreneurs. In order to facilitate successful disclosure, patenting, and licensing, they frame the relationship among the multiple field logics of knowledge dissemination, bureaucracy, and commercialization. They hence present the relationship to their audience, i.e., scholars, university administrators, and the local businesses, so that the practices that they deem best can be smoothly implemented. We discuss this example in the end of the paper.

The research is important for its contribution to both entrepreneurship and institutional entrepreneurship study: (a) bringing a way of wealth-creation through entrepreneurs’ management of the institutional environment: framing, to light; and (b) pointing out two more relationships among institutional logics—interdependent and complementary, which makes framing possible. More importantly, this research connects entrepreneurship and institutional entrepreneurship which have been regarded as separate terrains in the past.

INTRODUCTION

Traditionally, the notion of “the invisible hand” has referred to the way in which the creation of wealth is shaped by self-interest (Smith, 1776). The underlying premise of this notion is that human agents acting in their own interests can also be seen to be acting in the interest of society. In this way an “invisible hand”—using the motivating power of self-interest—plays a critical

role in individual and societal wealth creation. But wealth creation cannot be so narrowly defined, because economic activity places self-interested actions within a social environment strongly shaped by collective interest. Accordingly, institutional elements of the social environment also affect the capability of a society to create wealth (Meyer and Rowan, 1991). We therefore wonder: Is there an also-invisible “other hand,” by which social actors motivate wealth creation by framing the collective interest? If so, then in the same sense that entrepreneurs shape individual-interest-driven wealth creation through creating new combinations of productive factors (Schumpeter, 1934), institutional entrepreneurs, as social actors, shape collective-interest-driven wealth creation processes (Fligstein & Mara-Drita, 1996; Greenwood & Suddaby, 2006) through enacting new combinations of framing and organizational practice. Institutional entrepreneurship therefore concerns the creation of norms, values, myth, ceremony and traditions (Greenwood & Suddaby, 2006; Koene, 2006; Myer and Rowan, 1991). We suggest, in particular, that institutional entrepreneurs use framing processes to create the collective-interest-driven arena of opportunity, within which new wealth can emerge in the form of entrepreneurial outcomes. We therefore investigate situations where institutional entrepreneurs invoke the “invisible other hand” to work with multiple logics simultaneously. The model presented in Figure 1 illustrates the relationships developed in the paper.

FIGURE 1
Logic Framing, Organizational Practices, and Entrepreneurial Outcomes



We apply the theory developed in this paper to the field of university technology transfer. Since 1980 (the Bayh-Dole Act: 35 U.S.C. § 200-212), universities have, in priority above the US government, been allowed to pursue ownership of patents and inventions by members of their faculties. This change in law motivated many universities to become actively involved in the patenting and licensing of faculty inventions. However, different universities have taken different approaches to this activity. In our parlance: they have framed the relationships among institutional logics in the field differently and implemented different practices, and hence the outcomes of their patenting and licensing activities also differ. Thus, the technology transfer arena provides a likely vantage point from which to work, as we seek to understand more clearly the relationships among framing, practices, and impacts (Figure 1). We examine our model vis-à-vis technology transfer in its application to research and practice.

THEORY AND PROPOSITIONS

Institutional logics are both symbolic and materialized superorganizational patterns that “order reality and provide meaning to actions and structure conflicts” (Thornton & Ocasio, 1999, P. 803). Following Friedland and Alford (1991), Thornton and Ocasio defined institutional logics as “*the socially constructed, historical pattern of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality*” (1999, P. 803). These institutional logics identify varying sources of interest and identities and divergent bases of action. Institutional logics are “politically defended, and technically and materially constrained” (Friedland & Alford, 1991, P. 248-249).

Multiple logics are believed to exist in an organizational field simultaneously (Friedland & Alford, 1991). Friedland and Alford (1991) suggest that institutional logics contradict each other. Institutional logics also compete with each other for ascendancy within a field (DiMaggio, 1991; Friedland & Alford, 1991; Hoffman, 1999). In a field of competing institutions (DiMaggio, 1991), the technical, material, and political condition decides which logic becomes dominant through the support of interested parties. Parties with different interests support the dominant status of different logics. A review of the previous research on institutional logics leads us to believe that multiple logics exist in a field simultaneously and the relationships among these institutional logics have been viewed to be contradictory or competing.

Underconsidered has been the notion of an interdependent relationship among institutions. Friedland and Alford (1991) point out that institutions are “in contradiction *and* interdependency” (1991, P. 240-241, *emphasis added*). Indeed “institutions cannot be analyzed in isolation from each other, but must be understood in their mutual dependent, yet contradictory relationships” (Friedland & Alford, 1991: 241). Just as competing or contradictory institutions make it possible that institutional logics contradict or compete with each other, interdependent or even complementary institutions also make it possible that institutional logics are dependent upon or even complement each other. In this way, a duality exists among institutional logics: both *contradictory or competing* and *interdependent or complementary*.

Although contradictory, competing, interdependent, *and* complementary relationships are implicated among institutional logics, initiative is nevertheless required on the part of institutional entrepreneurs to highlight the relevant aspects of the relationships that best serve the collective interest to produce entrepreneurial outcomes. This process of highlighting relevant aspects of the relationships among logics is a type of framing (Snow, Rochford, Worden, & Benford, 1986).

We illustrate the theory developed so far with the case of university technology transfer. University technology transfer constitutes a field where multiple institutional logics exist simultaneously, and consequently can assist in illustrating the explanations offered by theory. Traditionally, a key logic in these educational institutions suggests that universities should facilitate knowledge creation and dissemination. Also, as big organizations, universities also require and utilize a bureaucratic logic where the reward system is stipulated by strict rules, and accordingly where legalistically-focused documentation logics also exist. Additionally, as a new

activity, the technology transfer from “within” to “outside” the university introduces yet another logic into universities—the market logic required for the commercialization of inventions. Thus, at least three different logics exist simultaneously in the field of university technology transfer.

Also of interest within the technology transfer setting is the set of circumstances that arise where the relationships among the three logics (knowledge creation and dissemination, bureaucracy, and commercialization) is simultaneously contradictory, competing, interdependent, and complementary. For example, the knowledge creation and dissemination logic contradicts the knowledge commercialization logic in that once an invention is patented (commercialization logic), it creates a protection against and obstacle for others using the patent freely and easily (knowledge dissemination logic). These two logics compete for dominant status in the field of university technology transfer through advocates and their publications on academic journals concerning which logic universities should adopt or retain. However, the two logics are also interdependent in that they both ultimately support knowledge dissemination, difference being that the knowledge creation and dissemination logic supports free dissemination while the knowledge commercialization logic supports dissemination at a market price. But the two logics also complement each other in that, paradoxically, the knowledge creation and dissemination logic by itself does not effectively fully enable knowledge dissemination—and without sufficient motivation, many researchers may stop creating new knowledge at a certain point of their academic career. Conversely, commercialization logic by itself is not guaranteed to produce commercializable research—the search for applied research results on the part of faculty not being sustainable without a search for fundamental knowledge. Yet an argument can be made that if the two logics can be put together, they can also complement each other. As noted, the knowledge creation and dissemination logic might complement the commercialization logic by providing a sustainable model of knowledge creation, and the commercialization logic might complement the knowledge creation and dissemination logics by providing additional monetary rewards to faculty research.

In the next step of theory development, we argue that this framing of the relationships among logics as contradictory, competing, interdependent, *or* complementary has different consequences for organizational practices. Namely, we suggest that institutional entrepreneurs that frame the relationships among logics as contradictory, competing, interdependent, *or* complementary tend to adopt different respective practices: domination, replacement, coexistence, or integration. Moreover, we propose that two additional factors also impact entrepreneurial outcomes: the overall fit of the logics and the cost of managing multiple logics. We illustrate these points with examples from university technology transfer management in the following part.

Domination. We define a domination practice to be *an organizational practice in which organizational rules, policies, and routines that are consistent with a prevailing institutional logic are used in different departments across the organization.* The benefit of using the domination practice is that organizations can resort to a consistent principle and hence able to at least function when they lack knowledge in a certain area.

A contradiction framing of the relationships among institutional logics enables the implementation of a domination practice. When an organization enters a field of multiple

institutional logics or when more logics start entering a field in which an organization has been operating in, the task of dealing with the multiple contingencies from the multiple logics may become intimidating. In this case, the institutional entrepreneur may choose to rely on one logic to simplify decision making. In order for the organization members to be able to ignore the distraction of multiple logics, the institutional entrepreneur may find it easier to frame new logics as contradictory to the old logic and hence ignore their organizational applicability.

Thus, a contradiction framing provides a rationale for picking one logic as dominant over others in a field where multiple operational logics exist. This framing gives the organization confidence to rely on one logic rather than on others. Hence, when the institutional actors frame the relationships among institutional logics as contradictory, the organizations are more likely to adopt a domination practice.

Proposition 1. A contradiction framing is associated with a higher likelihood of the adoption of a domination practice.

Let us take a look at the technology transfer process as an illustration of this proposition. Free knowledge dissemination logic has dominated the field of higher education since its transportation from Germany and Britain to the United States. Following from this logic is a series of practices in universities that facilitate free knowledge dissemination. Faculties have been encouraged to publish their research and discoveries in academic journals, and anyone reading the journals has free access to the intellectual results. Tenures in universities have also been awarded to faculties who are productive at disseminating free knowledge, as number of academic publications has been a very important criterion in tenure evaluation process.

University technology transfer has been in existence in the United States since the 1920s in a few universities. Even in these few universities, the technology transfer was viewed with suspicion by university faculties and administrations using the dominant logic at the time—free knowledge dissemination. Many faculty and administrators held that the commercialization of the university research was contradictory to the university's missions (Shane, 2004). When laws and regulations such as the Bayh-Dole Act in 1980 were introduced into the field of higher education, many schools were confused by the conflict between the free knowledge dissemination logic and the new commercialization logic. Sensing the opportunity for financial benefit to the university and forced by the institutional pressure that many schools established technology transfer offices to take advantage of the new regulations, some universities set up technology transfer offices. However, holding the view that the new logic contradicts the old logic, some technology transfer offices frame their mission as solely in support of the free knowledge dissemination, and the practice they implement is a domination practice (Colyvas, 2007). They do not actively solicit inventions from the faculty, and put in little effort to apply for patents or transfer faculty inventions into commercial uses. For these universities, the technology transfer office is nothing more than a ritualistic adoption for institutional conformity.

Replacement. We define a replacement practice to be one in which *rules, policies, and routines consistent with a new logic replaces those consistent with another logic that was in place across the organization.* The use of a replacement practice benefits the institutional entrepreneurs in that the practices that are consistent with the institutional logic that the institutional entrepreneurs support will be in place.

When an organization considers adopting a set of practices consistent with a logic different from the one currently in use, the institutional entrepreneur is required to frame the relationships among institutional logics in the field as competitive. A competition framing makes the logic in use seem vulnerable and outdated, so are the practices consistent with it. In contrast, the new logic and practices that are consistent with it may seem innovative and up-to-date. Thus, the use of a competitive framing makes it easier for organizational members to accept new practices that are consistent with a logic new to the organization. In other words, the use of a competitive framing makes it easier to adopt a replacement practice.

Proposition 2. A competition framing is associated with a higher likelihood of the adoption of a replacement practice.

In the case of university technology transfer, with the new market logic coming into the field, some universities may consider the new logic preferable to the old logic of free knowledge dissemination. These universities tend to frame a competing relationship between the knowledge dissemination logic and the market logic, and advocate in their mission that knowledge needs to serve the society in applications. This framing enables the technology transfer office to adopt practices that support the commercialization side of the technology transfer process, while ignoring the support for fundamental research in universities.

Coexistence. When different functions in the organization use rules, policies, and routines that are consistent with different logics, we call this practice a coexistence practice. The adoption of a coexistence practice enables organizations to manage practices that are consistent with different logics in the field simultaneously, which consequently enables different functions in the organization to be efficient in their own rights. Institutional entrepreneurs may find it beneficial to use practices that are consistent with one logic in one functional department and those consistent with another logic in another functional department.

In order for organizational members to agree with the adoption of a coexistence practice, institutional entrepreneurs need to frame the multiple institutional logics in the field in an interdependent relationship. When multiple institutional logics in the field are framed as interdependent, it becomes natural for organizational members to acknowledge the coexistence of multiple practices across departments in their organization. Thus, framing the relationship among institutional logics as interdependent increases the likelihood of the adoption of coexistence practice due to the reduced internal friction inside an organization.

Proposition 3. An interdependence framing is associated with a higher likelihood of the adoption of a coexistence practice.

For example, by framing the logics in the field as interdependent instead of contradicting or competing with each other, the technology transfer office can manage the technology transfer process by having each function—research, legal and documentation, and commercialization—operating on their own existing logics, which are knowledge dissemination, bureaucracy, and market logics respectively. Thus the technology transfer process can be managed in such a way that the faculty can keep doing research for publication, the documenting and legal department

can solicit and keep track of faculty inventions and apply for patents through legal procedures, and the technology transfer office can use the reported inventions and patents in the university and seek commercialization. The problem with this practice is that the inventions and patents reported to the technology transfer office may not have commercial potential to draw interest from entrepreneurs and firms, which eventually harms the entrepreneurial outcomes of the technology transfer office.

Integration. An integration practice is defined here as a practice that combines rules, policies, and routines that are consistent with different logics and makes them enhance the operating of one function. Using these rules, policies, and routines simultaneously may create synergy and improve the overall performance of the organization.

To implement an integration practice, the institutional entrepreneurs need to frame the relationship among institutional logics as complementary to each other. Once the organizational members see the complementary nature of the logics, it is easier for them to accept the adoption of practices that are consistent with different logics in their departments. Thus, the framing of the relationship among institutional logics as complementary makes the adoption of integration practice more likely.

Proposition 4. A complementarity framing is associated with a higher likelihood of the adoption of an integration practice.

This point is again illustrated by the management of the technology transfer process. The technology transfer office can state that the relationship between the knowledge dissemination logic, the bureaucracy logic, and the market logic are not only simultaneously necessary for the technology transfer process, but also the existence of one makes the others more effective. This framing enables the universities to implement practices that each function of the process must have the operating and success of other functions in mind. When faculties are aware of the complementarity of the three logics, they tend to produce fundamental research, patentable research, and commercializable research, instead of research that are either fundamental or commercializable. When documentation and legal department are aware of the complementarity of the three logics, they tend to solicit research for commercialization, instead of for the sole purpose of documentation. When the commercialization department is aware of the complementarity of the three logics, they tend to be more helpful in advising the faculty and documentation department on what inventions are worth more effort in patent application, and what is worth drawing more funding to further the fundamental development in the discipline instead. Money and efforts are used more efficiently and effectively in this way for all departments involved.

Thus far, we have discussed the relationship between logics framing by institutional entrepreneurs and organizational practices. The question remains as to what effects these practices will have on entrepreneurial outcome. We discuss the entrepreneurial outcome of the practice adoption next.

Among the four practices, the integration practice incurs the least cost in organizational response to multiple field logics. In a field where multiple logics coexist, an integration practice benefits the organization by drawing on different logics (Haveman & Rao, 1997; Meyer &

Hammerschmid, 2006) that help the organization function as an integrated whole. When all parts of the organization all draw on multiple logics simultaneously, conflict among departments will be low and functional integration among departments is easier to achieve. Thus, the cost of coordinating the multiple logics among functions is reduced. Hence, integration is the strategy that brings the most benefit and is least costly to the organization when responding to multiple logics in the field.

The coexistence practice also incurs less cost in organizational response to multiple field logics. Because each department operates solely on its own logic, the communication and cooperation among departments inside the organization can be difficult. The coordination cost of the organization is increased correspondingly. However, by allowing different logics to operate behind the organizational practices in different departments, the coordination cost within a department is reduced.

The domination practice can be costly to the organization. This practice will facilitate the functioning of the organization temporarily by reducing the cost of management decision making under uncertainty. However, once the domination practice becomes routines and it dominates organizational life through the mechanism of organizational inertia, it will not benefit the organization because they neglect to take care of aspects of organizational functions that should have worked better on another logic. Thus, in a field where multiple logics coexist, a domination practice will not work as well as integration and coexistence strategies because it limits the functioning of the organization by preventing other logics from coming into the organization.

In the same vein, replacement practice should also produce unfavorable entrepreneurial outcomes because, just like a domination practice, it completely abandoned practices that are consistent with another logic, thus preventing useful practices from entering the organization.

Proposition 5. Integration practice is associated with higher entrepreneurial outcomes than domination, replacement, and coexistence practices.

This point again applies to the management of technology transfer process. The cost of the integration practice is the least among the four practices. The cost of the domination practice is commercialization happens rarely for universities adopting this practice. The cost of the replacement practice is commercialization may happen at the cost of fundamental research at the early stage, but the commercialization will diminish because as necessary fundamental research is cut off, the applicable research cannot be sustained. The cost of the coexistence practice is that although each function is making its best effort to produce results, documents, or finding commercialization partners, there is no synergy among the functions in the university, and the consequently the input results in sub-optimal entrepreneurial output. Only the integration practice creates synergy among the functions and results in better outcomes for the increased fundamental and applicable research, effective patent application, and productive licensing in the technology transfer process.

DISCUSSION AND IMPLICATIONS FOR RESEARCH AND PRACTICE

Our paper contributes to research on the development of institutional logics and institutional entrepreneurship in the following ways. First, through our analysis we are able to acknowledge and highlight the *interdependent* relationship among institutional logics. While Friedland and Alford (1991) have mentioned the interdependent relationship among institutions, neither they nor scholars who study institutional logics after them have prominently features this facet of the relationships among institutional logics.

Second, we add a fourth dimension to the relationships among institutional logics through our suggestion that institutional logics in a field are potentially complementary to each other. This dimension explains why hybrid form of organization (e.g., Haveman & Rao, 1997) is possible.

Third, we also add a third dimension to the conceptualization of institutional entrepreneurship itself. DiMaggio (1988) suggests two dimensions of institutional entrepreneurship: either (1) altering or (2) replacing institutional logics. Herein, building on the idea that logics are interdependent and complementary to each other, we suggest that a third dimension is the coordinating of these logics.

Fourth, we introduce framing as a mechanism that enables institutional entrepreneurs to influence the adoption of organizational practices. While the concept of framing has been used in psychology, discourse and media studies, political science, and sociology, we note that its usefulness as a coherence-creating construct has not been fully employed in institutional entrepreneurship research. Accordingly, we introduce this concept into the study of organizational adoption of practices, which contributes a new perspective to institutional entrepreneurship research.

Lastly, through the model we present, we are able to connect framing with collective wealth creation. And for reasons we have earlier explained, we refer to the collective wealth creation through framing by institutional entrepreneurs as “the other invisible hand.”

CONCLUSION

So what? Because institutional elements of the social environment also affect the capability of a society to create wealth (Meyer and Rowan, 1991) we have been led to wonder: Is there—parallel to Adam Smith’s “invisible hand” which emphasizes self-interest—an also-invisible “other hand,” by which social actors motivate wealth creation in practice by framing the collective interest? We think that this is a useful and practical concept, because the either/or approach (e.g., to replace capitalism with totalitarian collectivism that suppresses self-interest-driven market forces), has been shown to be problematic as state-sponsored socialism wanes in Russia and Eastern Europe, and China continues Chairman Deng Xiaoping’s initiative to adopt a market system with Chinese characteristics. A concept of “both invisible hands working together” is suggested.

Accordingly, as we have explored the relationships among framing, practices, and impacts such as opportunity creation, our analysis suggests that it really does take two invisible hands to do the work of value creation. We have therefore offered an explanation that creates an additional means whereby the compatibilities between organizational work and institutional work can be investigated and implemented in practice. We invite like-minded colleagues to continue, with us, to consider this interface for the betterment of entrepreneurship practice.

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