

# Professionalization, Configuration, and Effectiveness

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## Abstract

This study examined the relationship between professionalization, organizational configuration, and organizational effectiveness, using data from accounting firms in the U.S. and Japan and electronics companies in Japan. The results showed that professionalization is an effective work coordination mechanism in that it has a direct effect to enhance organizational commitment and also has an indirect effect to increase commitment by subduing centralization. Also, professionalization had the tendency to facilitate standardization of organizations, while the emphasis on efficiency (efficiency value) had an effect only on standardization but not on professionalization and centralization.

## Complexity and professionalization

Many organizations, especially those in developed economies, today need more sophisticated and complex knowledge and expertise to survive the competition. This technical complexity would give rise to complexity of organizational structure or complexity of performers (Scott, 1992). In that sense, it is worthwhile to deal with professionals in organizations along with structural design and control of the organization.

When discussing organizational control and professionals, it is useful and appropriate to distinguish three aspects of control (Harrison, 1994). One is "economic control," which relates to the ownership over the physical and

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technical facilities necessary for services an organization provides. Second is the "strategic control," which concerns the ability to set or influence the goals and policies of an organization. And the third is "operational control," which entails practical control of the work process. In this paper I call operational control as work coordination and regard professionalization as a form of work coordination.

### **Construct of professionalization**

Although there is no widely accepted definition on professionalization, previous studies have pointed out that such features as formation of a professional organization, expertise based on theoretical and abstract knowledge, formal training and education, code of ethics, autonomy, self-regulation are requirements for it (Hall, 1968).

Among the features shown above, self-regulation is the most eminent factor that characterizes professionalization or professions (Freidsoon, 1973). It means the exclusive knowledge and right to execute certain practices and to judge the content and result of work. Abbott calls this aspect of professional work as "jurisdiction" and describes the situations surrounding professionals as the struggle for establishing the jurisdiction (Abbott, 1988; 1991).

Autonomy is also a factor characterizing professionalization, which is the degree of decision makings without the consent of others. Autonomy is concerned with the discretion in decision makings within a work area, while self-regulation is more concerned with judging the boundary, content, and result of work. In other words, self-regulation means the right for "defining the work area" and for "self-appraisal of work." Autonomy is a trait seemingly similar to self-regulation and most researchers have regarded this as an attribute of professionalization. Nevertheless, it must be adequate to exclude this aspect from the definition of professionalization, because autonomy is also an organizational characteristic and its distinction with other constructs such as centralization is not clear.

## **Professionalization as a coordination mechanism**

When we examine the meaning of professionalization as a form of organizational coordination, Mintzberg's (1979) formulation about mechanisms for organizational coordination is a good point for beginning the discussion. He showed five organizational coordination mechanisms, which are mutual adjustment, direct supervision, standardization of work process, standardization of outputs, and standardization of skills. Although the effectiveness hypothesis of Mintzberg's organizational typology was not supported by an empirical study (Doty, Glick & Huber, 1993), that study did not address these coordination mechanisms and the validity of these mechanisms is still open for empirical studies.

According to Mintzberg's formulation, we can regard professionalization as standardization of skills. In his terms, skills (and knowledge) are standardized when the kind of training required to perform the work is specified, which achieves indirectly what standardization of work process does (Mintzberg, 1979: 6). Thus, the first hypothesis of this study is as follows.

*Hypothesis 1: As organizations are more professionalized, their work processes are more standardized.*

As the above description shows, however, professionalization does not directly achieve standardization of work process, rather indirectly achieves what standardization of work process does. Therefore, we cannot expect that professionalization will facilitate standardization of work process to a greater degree.

Although Mintzberg seems to emphasize only the formal training for professionals, the point is who controls the process of standardization (Mintzberg, 1979: 351). In bureaucratic form, standardization is carried out based on hierarchical authority of an organization. On the other hand, in professional form members performing the work will achieve it (self-regulation). At this point there is a discrepancy between professional and bu-

reaucratic form of work coordination.

Previous theories addressing the relationship between professionals and organizations have been preoccupied with the conflict between them. Although this conflictual view is not so prevailing as before (Barley & Tolbert, 1991), hierarchical control or centralization of organizations and self-regulative aspect of professional work is still the most critical point to be examined.

This issue must be related to the definition of the constructs. It means that if we define professionalization in the way described earlier, it is logical to assume that the organizational setting in which professionals work should be less centralized. Therefore, next hypothesis is as follows.

*Hypothesis 2: As organizations are more professionalized, they are less centralized.*

### **Professionalization and organizational configuration**

#### **Professionalization and archetypes**

Although it is not possible in this paper to deal with the holistic configuration of professional organizations, we can tap some aspects of it. In this case I utilize the construct of organizational "archetypes", which assumes that the pattern of a composition of structures is provided by the set of ideas and values, that is, "interpretive scheme" (Hinings & Greenwood, 1988). From this perspective, structures are not neutral instruments but embody intentions, aspirations and values.

Hinings, Greenwood, Brown, & Cooper (1995) point out the interpretive schemes that shape recent trends in professional service organizations; they are efficiency with emphasis on competition, client service, growth, and so on. Probably efficiency with emphasis on competition is the most prominent value that influences the attitude and behavior of professionals these days, because they have been and will be confronting the competition among occupational groups as well as among organizations (Abbott, 1991). And, as

the theory of bureaucracy assumes, the emphasis on efficiency will lead to greater standardization of work process and centralization, other things being equal.

Although it is not clear in the literature on professionals how to interpret the efficiency value, from the managerial point of view it may be reasonable to expect that this will inhibit professionalization in organizations.

The reasoning behind it is that organizations resort to other coordination mechanisms (in Mintzberg's terms, standardization of work process and outputs) before relying on professionalization. Therefore, next hypotheses are as follows.

*Hypothesis 3a: As the value of efficiency is emphasized in organizations, their work processes are more standardized.*

*Hypothesis 3b: As the value of efficiency is emphasized in organizations, they are more centralized.*

*Hypothesis 3c: As the value of efficiency is emphasized in organizations, they are less professionalized.*

If hypothesis 2, 3b, and 3c are the case and the efficiency value is so eminent, professional organizations should be more centralized in two ways. As we can see in Figure 1, organizations would try to directly centralize the work process as well as indirectly to do so by constraining the degree of professionalization. However, we have to pay attention to the fact that this model does not include complexity that must be the factor facilitating professionalization.

### **Professionalization, archetype and effectiveness**

Organizational theorists must agree that organizational effectiveness is multidimensional (Angle & Perry, 1981), and must admit that it is arbitrary what kind of variables to choose as the measures for effectiveness. In this paper I chose organizational commitment as an effectiveness measure. We have piled up data showing that organizational commitment has the effect

not only to lower such negative behaviors as turnover (Steers, 1977), but also to enhance the performance of organizational members (Meyer, Paunonen, Gellatly, Goffin, & Jackson, 1989). In that sense organizational commitment can be seen as an intervening variable that connects organizational and personal characteristics, and the effective behavior in organizations (Steers, 1977; Glisson & Durick, 1988).

Professionalization might have the effect to enhance organizational commitment. Morrow and Goetz (1988) described professionalism (professionalization) as a form of work commitment. In their model people could be loyal to a number of work-related entities; they are profession, organization, job, and so on. And in their empirical analysis professionalism and organizational commitment showed positive correlation. Thus, we can expect that professionalization would increase organizational commitment.

In considering the relationship between standardization and organizational commitment, previous studies on formalization and professionalization are helpful. They showed that formalization has the effect to increase commitment among professionals (Organ & Greene, 1981; Podsakoff, Williams, & Todor, 1986). "Institutional motivation" might be a construct explaining the relationship between them, which poses that formalization serve to articulate the congruence between organizational goals and professional goals (Organ, & Greene, 1981). In the similar vein, as formalization and standardization are positively related constructs (Mansfield, 1973), we can anticipate that standardization has the tendency to increase organizational commitment.

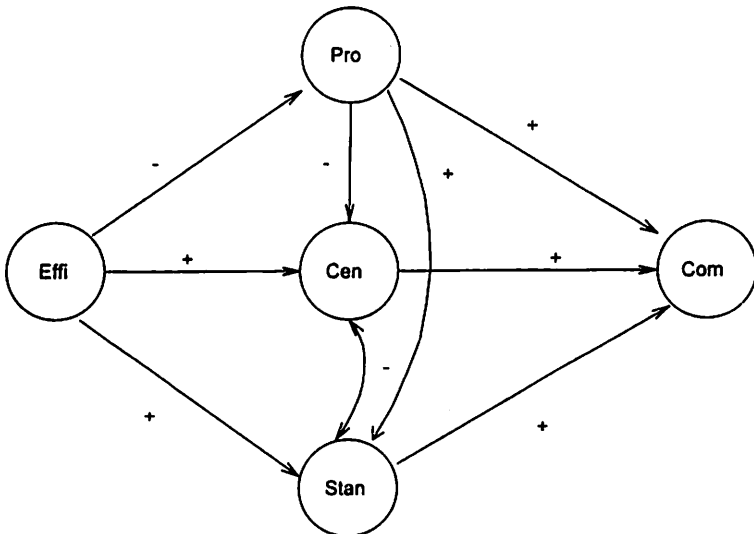
The relationship between organizational centralization and commitment seems not to have attracted much attention in organizational studies. However, the bureaucratic theory implicitly assumes that centralization is connected with higher loyalty (commitment) among members. Although this relationship may lead to the classical example of dysfunction of bureaucracy such as "overconformity" (Merton, 1968), it must be logical to suppose positive relationship between these two constructs. Summing up the above descriptions, the next hypothesis is as follows.

*Hypothesis 4: Professionalization, standardization, and centralization will increase organizational commitment.*

Finally, we need to examine the relationship between standardization and centralization. Intuitively we posit that these two organizational characteristics must move to the same direction. Nevertheless, previous studies showed the opposite results. Based on these results, researchers came to think that standardization and centralization are alternative coordination mechanisms (Scott, 1992: 261 – 262). Also, in Mintzberg's terms, centralization is tight coordination through direct supervision and standardization of work process is necessary where direct supervision is impossible or inefficient (Mintzberg, 1979: 182). Therefore, the last hypothesis is as follows.

*Hypothesis 5: Standardization of work processes and centralization in organizations are negatively correlated*

**FIGURE 1: Proposed model**



**Effi: Efficiency value, Pro: Professionalization, Cen: Centralization  
Stan: Standardization, Com: Commitment**

## Methods

### Sample

This study used two groups of samples. One consists of 308 respondents from accounting firms in the U.S. and Japan, of which two firms were among the "Big Six" and the others were independent firms. The other group consists of 199 respondents from two electronics companies in Japan. I treated these two groups separately, because we can see the accounting firms as "autonomous professional organizations" and see the electronics firms as "heteronomous professional organizations" (Scott, 1992: 254). Although they have much in common, the fundamental control orientation for the former is professionalization and that for latter is bureaucratization as ideal types.

### Measures

Professionalization was measured by the scale developed by Hall (1968). His original measure consisted of ten items for five professionalization attributes, but following Snizek's suggestion (1972), I used the abbreviated version consisting five items for each attribute. And in this study only the self-regulation measure was used as the measure for professionalization.

Standardization and centralization measures were adopted from the literature by Price (1972), whose origin was the study by Hage and Aiken (1969). They have three and two items, respectively. Emphasis on efficiency in organizations was measured using the scale developed by Victor & Cullen (1988). Their scale intended to tap the ethical value prevailing in organizations (ethical climate), which had the dimension concerning efficiency. In this study four items were used for the accounting firms survey and three items were used for the electronics companies study.

Organizational commitment was measured by the scale developed by Porter and his colleagues (Mowday, Steers, & Porter, 1979). They distinguish three dimensions of commitment; they are acceptance of



organizational goals and values, desire to remain an organization, and willingness to work. Because the last dimension is confused with the construct of "motivation" and the second one is not closely related to performance (Meyer et al, 1989), only the items addressing the first dimension (acceptance of goals and values) were used in the study. This measure has three items. Measures for the accounting firms study were six point Likert-type scales and those for the electronics samples were seven point scales.

### **Analytical model**

The proposed hypotheses are summarized in the Figure 1. In this figure plus signs assume that constructs positioning at the bottom of arrows should have effects to enhance constructs at the top of arrows and minus signs assume the opposite directions. Although the measures used in analyses were eliminated from the figure, each construct had multiple measures.

The analytical procedure for this study was the structural equation model. Although LISREL must be the most well known software for this analysis, there is no theoretical and logical reason for using this package, so I used the "CALIS" procedure in SAS software.

## **Results**

### **Overall fit of the model**

Descriptive statistics and correlations among variables used in analyses are reported in Table 1. Looking at figures in this table, centralization and standardization showed no significant relationships in both samples. Thus, the correlation path between these two variables was eliminated from analyses.

There are many indices for the structural equation model and no single index assures the fit of the model to data. Thus, researchers report some fit indices, among which are chi square ( $\chi^2$ ), the ratio of chi square to the model's degree of freedom ( $\chi^2/df$ ), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), and Bentler's Comparative Fit Index (CFI). Conventionally, the value more than .90 for GFI, AGFI, and CFI is supposed to

mean good fit of the model to data. As for  $\chi^2/df$ , the value of 5 is supposed to be the upper bound (Medsker, Williams, & Holahan, 1994).

At initial analyses containing all measures, the overall fits of the model to the data were acceptable. The values of  $\chi^2$ ,  $\chi^2/df$ , GFI, AGFI, and CFI for the accounting data were 306.52, 2.76, .89, .85, and .89, respectively. Those for the electronics data were 171.44, 1.79, .90, .87, and .91. However, examining the loadings of latent variables (constructs) on measurement items, the loading on a professionalization's measure was as low as .40 for the accounting data. After taking away this measure from analyses, the fit indices improved ( $\chi^2=230.14$ ,  $\chi^2/df=2.40$ , GFI=.91, AGFI=.88, CFI=.92 for accounting data;  $\chi^2=129.31$ ,  $\chi^2/df=1.58$ , GFI=.92, AGFI=.88, CFI=.93 for the electronics data). Also, examining the loadings for the electronics data, the loadings for an item of standardization and an item for commitment were low (.29 and .35). Eliminating these items from the analysis, the fit indices further improved ( $\chi^2=83.47$ ,  $\chi^2/df=1.46$ , GFI=.94, AGFI=.90, CFI=.96). Although other model modifications were possible, the aim of analyses was to examine the fit of the proposed theoretical model to data and further model modifications were not done.

**TABLE 1**  
Descriptive statistics and correlations among variables (N=308, 199)

Variables	Means (s. d.)	1.	2.	3.	4.	5.	6.
1. Age	32.73 (7.66) 29.06 (4.23)						
2. Tenure	7.02 (6.48) 6.63 (3.79)	.79** .90**					
3. Efficient value	2.85 (.89) 3.49 (1.02)	-.05 -.07	-.10 -.08				
4. Professionalization	3.13 (.80) 3.06 (.90)	.25** .24**	.32** .24**	-.00 -.04			
5. Centralization	2.57 (1.10) 3.40 (1.06)	-.51** -.18*	-.46** -.17*	.02 .09	-.28** -.29**		
6. Standardization	2.65 (1.09) 3.20 (1.08)	-.01 -.04	.05 -.01	.22** .22**	.20** .14	.02 -.04	
7. Organizational Commitment	3.55 (.98) 3.48 (.96)	.27** .13	.32** .08	.05 .01	.45** .27**	-.35** -.11	.21** .10

1: Upper rows show values for the accounting firms samples and lower rows show values for the electronics companies samples.

2: \*\*p < .01, \*p < .05

**TABLE 2**  
Loadings of the measurement model

	Loadings for accounting firms samples	Loadings for electronics companies samples
EV to X1	.62*	.69*
EV to X2	.64*	.85*
EV to X3	.80*	.69*
EV to X4	.63*	
PR to Y1	.69*	.63*
PR to Y2	.65*	.71*
PR to Y3	.57*	.59*
PR to Y4	.84*	.57*
CN to Y5	1.04*	.83*
CN to Y6	.56*	.76*
SD to Y7	.62*	.64*
SD to Y8	.78*	.99*
SD to Y9	.57*	
OC to Y10	.74*	.84*
OC to Y11	.89*	.76*
OC to Y12	.80*	

1. EV: Efficiency Value, PR: Professionalization, CN: Centralization, SD: Standardization, OC: Organizational Commitment
2. X1 to X4 and Y1 to Y12 mean measurement items.
3. X4, Y9, and Y12 were eliminated as a result of the initial analysis for the electronics samples.
4. \*p < .05

**TABLE 3**  
Overall fit indices for the model

	GFI	AGFI	$\chi^2$	$\chi^2/df$	CFI
Accounting samples	.91	.88	230.14**	2.40	.92
Electronics companies samples	.94	.90	83.47*	1.46	.96

1. GFI: Goodness of Fit Index, AGFI: GFI adjusted for degree of freedom, CFI: Comparative Fit Index
2. \*\*p < .01, \*p < .05

## Results about hypotheses

### Professionalization, standardization, and centralization

We expected that professionalization will have the tendencies to enhance standardization and subdue centralization (hypothesis 1 and 2). Those hypotheses were mostly supported in this study. As are shown in Figure 2, the paths from professionalization to standardization and centralization were all significant and showed expected directions, although the path

from professionalization to standardization in the electronics samples was in the expected direction but not significant.

Efficient value and professionalization, centralization, and standardization

Hypothesis 3a to 3c expected that efficient value will inhibit professionalization, while it will facilitate centralization and standardization. Among them, only hypothesis 3a posing that efficient value will facilitate standardization was supported for both samples and other hypotheses were not supported in either case. Considering these results, we should suppose that efficiency is mainly concerned with the technological aspect of work coordination (standardization), while professionalization and centralization are related to other factors. Professionalization must be more closely related to complexity of the environment, while centralization may be more affected by other traits such as managers' desires for power and time pressures and so on.

Professionalization, standardization, centralization, and organizational commitment

Hypothesis 4 proposed that professionalization, standardization, and centralization will enhance organizational commitment, which is partly supported. As expected, professionalization had the effects to increase commitment for both samples and standardization had an effect to increase it in accounting samples. Also, though the coefficient was not significant, in electronic samples the path from standardization to commitment showed expected direction. However, contrary to the hypothesis, in accounting samples centralization had the significantly negative effect on commitment and in electronics samples it had no effect on commitment. From these results, professionalization and centralization might have an interaction between them, so in the accounting data centralization had negative effect on commitment and in the electronics data it had no effect on commitment. However, whether that is the case or not, it is safe to infer that centralization does not have an effect to enhance organizational commitment among organizational members.

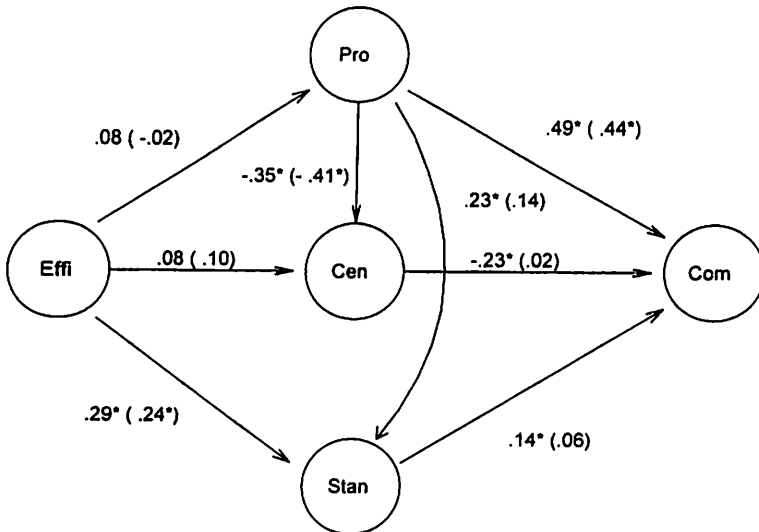
Standardization and centralization

The final hypothesis 5 proposed that standardization and centralization will show the inverse relationship. The result about the accounting data did not support this hypothesis, while the result about the electronics data showed the weak but expected sign, although it was not significant. Therefore, we can posit that standardization and centralization are independent work coordination mechanisms.

Comparison of the results from two samples

Comparing the results from two samples, almost all paths from professionalization to other constructs in the model showed significant and expected values, although the path to standardization in electronics samples was not significant. This result implies that professionalization could have the same effects on structure and individual attitude in the organization regardless of its degree of professionalization.

FIGURE 2: Revised model



1. Figures are estimated path coefficients for the accounting samples.
  2. Figures in parentheses are coefficients for the electronics samples.
- \*  $p < .05$

Nevertheless, as the relationship between centralization and commitment indicated, professionalization might have interaction effects with other organizational factors; in this study that was centralization. This proposition might be justified by the results that in the accounting data centralization and standardization had significant effects on commitment, while in the electronics data they were not significant.

### Conclusion

From the results in this study, we can contend that professionalization is an effective work coordination mechanism in that it has a direct effect to enhance organizational commitment and has indirect effects to increase commitment through standardization and through decentralization. In Figure 2, the path from professionalization to commitment via centralization means that professionalization has an effect to increase commitment by subduing centralization. As far as we count commitment into a variable of organizational effectiveness, this proposition could be justified.

Intuitively, professional organizations emphasizing efficiency should reduce self-regulative coordination of work process. However, from the results in this study it is more precise to suppose that professionalization and efficiency are independent factors in the configuration of organizations. Also, it must be harmful for professional organizations to resort to centralized work coordination without standardizing the work process. That might reduce commitment of professional members, which would lead to low performance. This study implied that it is not constraining professionalization but standardizing the work process that makes professional organizations efficient. Further, effectiveness and sustaining expertise and knowledge must be more vital issue for professional organizations than "reengineering" the work process.

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