

Chinas Reform towards Practice-oriented Higher Education. Is the Transformation of Universities to Colleges a Success Story?

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Abstract

In a large-scale reform, 600 Chinese State Universities are being transformed to practice-oriented Universities of Applied Sciences. A change process of this size and scope is hardly implemented without any impediments. Resistance of teachers against the reform can be expected, since their traditional role is challenged. A purely top-down management approach to the reform thus seems to be not promising, hence the present study explores the determinants of teachers' motivation to support or oppose the reform. We perform partial least squares structural equation modelling to analyse the relationship between latent variables, representing both relevant aspects of teachers' motivation and of the management approaches to the reform. Personal interest, as an intrinsic motivation turns out to be the most powerful predictor of the development of a supportive attitude. Management activities do not exhibit strong direct effects, while the different dimensions of individual motivation function as mediators that reinforce the influence of management activities on teachers attitudes towards the reform.

Keywords: *change process; motivation; self-determination theory; structural equation modelling; practice-oriented universities.*

1. Introduction

Chinese labor market data reveal a mismatch of university graduates' qualification profiles and the requirements of the labor market (Lin, 2014). Graduates from research universities are outnumbering those from more practice-oriented academic programs while at the same time their unemployment rates are comparatively high (ibid.). Such data suggest a shortage of an academically trained, yet vocationally experienced workforce. In a response to this issue, the central government has initiated a change process within which 600 State universities are going to be transformed to practice-oriented universities of applied sciences, with a strong emphasis on teaching and in particular on labor market demands. A reform process of this scope is

unlikely to be implemented without any impediments (Liu & Gu, 2014; Zhang & Jiang, 2014; Tu, 2022). It can be assumed that academics offer resistance against the reform, e.g., in anticipation of a loss of reputation due to restrictions of the time budgets available for research activities (Wang & Wang, 2015). Since also new pedagogical approaches are requested from teachers, high demands are posed towards them with regard to their teaching professionalism (Tu, 2022).

Leaders in charge thus are in need to take appropriate action to secure a reform-friendly environment and a strong motivation of teachers to pursue the reform goals (Al-Mahdy et al., 2022; Cheng & Zhu, 2021). At present, both the government and the local university authorities and university leaderships have their own but relatively clear motivations: the government is striving for local universities to produce more of an application-oriented workforce and graduates that are serving the purpose of economic development, while university leaderships want to demonstrate the efficiency of their respective institution, also in competition with others (Zhang & Jiang, 2014). The motivation of teachers however, remains unclear and is thus subject to inquiry in the present study. We draw on the self-determination theory (Deci & Ryan, 1985; 2000), since it has successfully been applied to many work-related contexts (Donald et al., 2019; Hagger & Hamilton, 2020; Tang et al., 2020). Self-determination theory suggests that the individual's motivation for a task is depending on the fulfilment of three basic psychological needs, namely *autonomy* (engagement for a goal or activity with a sense of volition), *competence* (experience of mastery and efficacy during the task's implementation), and *relatedness* (desire to be connected with other people for the purpose of gaining reputation and feedback) (Deci & Ryan, 1985; 2000). At the same time, it is obvious that teachers' motivation to support or oppose to the reform goals can be positively or negatively influenced by managerial activities: Hierarchical decision making may lead to the feeling of being externally regulated which may have a demotivating impact on the individuals, according to the theory's assumptions (Deci & Ryan, 2000). On the contrary, a management that is perceived as being appreciative of teachers' engagement for the reform agenda may have a positive influence on their willingness to get actively involved in the implementation of the reform process. With regard to teachers' motivation, we thus distinguish between their personal interest, the desire to be socially related to a group, their intention to gain prestige, and their career orientation. With regard to the management approaches to the reform, we differentiate between (i) features that secure the transparency of the overall plan and of the single steps in the course of the reform's implementation, (ii) features that help building a sense of ownership of the reform in the teachers, e.g., by means of involving them in decision-making processes (Jiang & Xue, 2021), and (iii) features that indicate the leadership's investments in an infrastructure that helps achieving the reform goals (i.e., providing further education opportunities for teachers, securing the availability of the necessary equipment, appropriate evaluation tools) (Chandler 1962). For this study we have tested a model that involves the above theory-led constructs (fig. 1).

2. Method

The study draws on survey data that have been obtained from teachers of two universities in the People's Republic of China. A total of 201 cases was included to the sample, equalling a response rate of 49 percent.

Table 1: Variables in the model

Questionnaire items (variable names)	latent construct	Mean/Std.-Dev.
I'm willing to invest time and energy in the reform (invest)*	<i>engagement</i>	3.97 / 1.00
Attitude towards the reform (attitude)**		3.95 / 0.67
I'm interested in didactical innovation (didact inno)*	<i>interest</i>	3.99 / 1.04
I'm interested in practice-oriented research (pract resea)*		3.86 / 1.07
I'm interested in practice-oriented teaching (pract teach)*		3.99 / 1.02
My colleagues participate which is why I also have to (colleagues)*	<i>interaction</i>	3.53 / 1.09
I participate in the experiences my colleagues gathered (participate)*		4.18 / 0.94
I'm actively looking for collegial exchange (exchange)*		4.15 / 0.93
I will not lose my current privileges due to the reform (privileges)*	<i>status</i>	3.35 / 1.07
The reform will not lead to a status decrease (stat decrease)*		3.73 / 0.98
My status is not lower than of a university teacher (not lower)*		3.84 / 0.98
Active participation can help me develop my career (active part)*	<i>career</i>	3.51 / 1.05
Active participation can help me access research funding (funding)*		3.23 / 1.11
I can adjust to the requirements of new pedagogies (new ped)*		3.67 / 1.02
Active participation can help my increase my salary (salary)*		3.33 / 1.08
Management has explained the reform to teachers (explain)*	<i>transparency</i>	3.14 / 1.03
Management has explained the steps of the reform (single steps)*		2.90 / 1.13
Management has informed the teachers about the reform (inform)*		3.36 / 0.99
Evaluation has been adjusted to the reform (evaluation)*	<i>infrastructure</i>	2.90 / 1.01
Management offers further education on the reform (further ed)*		2.95 / 1.08
Management has provided the necessary infrastructure (provide)*		2.93 / 1.12
Management appreciates the views of the teachers" (appreciate)*	<i>ownership</i>	2.97 / 1.07
Management has developed specific plans and assignments (spec plan)*		3.02 / 1.11
Teachers and management have developed plan jointly" (jointly)*		3.00 / 1.08

*(1) fully disagree – (5) fully agree; **(1) strongly oppose – (5) fully support

The latent constructs draw on the notions of self-determination theory. The assignment of indicator variables aims at exploring as to how well the latent constructs are reflected by the survey items and to validate the respective measurements. We performed partial least square structural equation (PLS-SEM) modelling with the smartPLS software (Ringle et al., 2024). This statistical procedure is appropriate for rather exploratory studies that involve not yet fully consolidated theoretical constructs. Moreover, it is less sensitive towards problems that might occur due to small sample sizes and violations of model assumptions, such as normally distributed data (Fauzi, 2022; Hair et al., 2014).

3. Results

The manifest measurement variables are represented by rectangles, while the latent variables are represented by elliptic shapes. In a first step of the analysis, we will assess the overall model quality (validity, reliability) and the effects (direct effects) of the exogenous latent variables on the endogenous latent variable *engagement*.

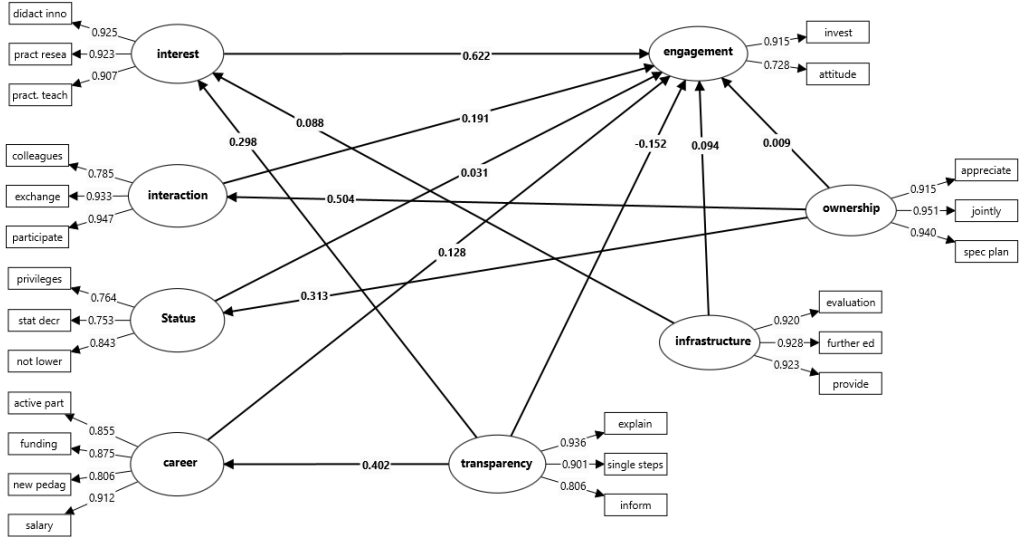


Figure 1: Path diagram of the estimated model (standardised coefficients)

The model performs quite well with regard to the quality criteria suggested by the literature (Hair et al., 2022). The indicators for the model's reliability and construct validity meet the requirements with the exception of a small value of Cronbach's α in the latent variable engagement. The heterotrait-monotrait (HTMT) ratio as a measure of the discriminant validity of the constructs reveals some specification problems, particularly in the case of the three latent variables describing the management aspects (transparency, infrastructure, ownership). Apparently, the measurements of these three constructs do not fully reflect the interpretation of the dimensions of management activities, indicating that there is room for further improvement of the model. The adjusted R^2 value of the endogenous variable *engagement* (.718) indicates that more than two thirds of the variation in teachers' engagement for the reform are explained by the influence of the other latent constructs, related to their motivation and the employed management approaches. The explanatory power of management related latent variables towards individual traits is small to moderate which is suggested by the respective R^2 values and the effect sizes (f^2) (table 2).

Table 2: Explained variance of endogenous variables (adjusted R2) and effect sizes (f2)

	R^2		f^2
status	0.093	status > engagement	0.002
career	0.158	career > engagement	0.030
engagement	0.718	infrastructure > engagement	0.007
interaction	0.251	infrastructure > interest	0.002
interest	0.133	interaction > engagement	0.048
		interest > engagement	0.602
		ownership > status	0.109
		ownership > engagement	0.000
		ownership > interaction	0.341
		transparency > career	0.193
		transparency > engagement	0.015
		transparency > interest	0.026

The path coefficients indicate the relative influence of the exogenous on the assigned endogenous latent constructs, ranging from a medium to strong relationship between *personal interest* and *engagement* (.622) to small and even negative relationships between the three management aspects (*transparency*, *infrastructure*, *ownership*) and *engagement* (fig. 1). The measurement model ('outer model') performs well, too. The loadings of the latent constructs' indicator variables are all above the threshold value of 0.708 (Hair et al., 2022) and range between .728 and .951.

Most interesting are the contributions of the exogenous latent constructs to the explanation of variation in the ultimate endogenous latent variable *engagement*. Overall, the constructs in the model accounted for more than 70 per cent of the variance. The largest share of the explanation of variance in *engagement* can be attributed to the individual motivations of teachers, while the different management activities only have a little influence or even exhibit negative correlations with *engagement*, as is the case for *transparency* (as indicated by the path coefficient of -.152 between *transparency* and *engagement*). This means that the more the university leadership takes action in order to keep teacher informed and updated on the overall reform agenda and the single steps of the process, the less teachers are willing to invest their time and energy in the process and the less do they develop a positive attitude towards it. The individual motivations exhibit comparatively strong correlations with the teachers' *engagement*, particularly in the case of their *personal interest* (.622). The teachers' *personal interest* can be seen as the only purely intrinsic motivation in the model, and apparently, being intrinsically motivated, is the strongest driver for the development of the willingness to support the reform and related activities. The second largest, but much smaller influence is exerted by *social relatedness* (.191). Obviously,

the participation in a joint activity and the feeling of being embedded in the collective attempt to transform the university is a factor that cannot be discounted as a motivational driver. The same is true for teachers' *career orientation* (.128). As stated above, the expectation that the participation in the reform process helps develop the career and gain access to resources (increased salary, research funds) could be interpreted as an extrinsic motivation. However, at the same time the desire to develop the career could also be motivated by the anticipation of professionalisation opportunities as a reward for the support of the reform.

The lowest ranking motivational aspect with regard to its impact on *engagement* is *status* (0.031). As stated earlier, this particular dimension represents the meaningfulness of an activity for the individual and its self-efficacy with regard to the respective requirements. With regard to the reform process of Chinese universities we related this dimension to the teachers' concerns with a 'downgrading' of the respective university. This means that the more the teachers would be concerned with losing their reputation as university teachers, the less they would be developing a positive attitude towards the process and the willingness to actively support it. The low value of the respective path coefficient suggests that this motivational dimension does not have much impact on how the teachers' feelings towards the transformation are developing. The absence of a direct effect of management activities on teachers' attitudes towards the reform does not necessarily have to mean that the mode in which the university leadership pursues its reform goals is of no meaning for the implementation of the reform. On the contrary, it can be assumed that the different dimensions of individual motivations can be reinforced or mitigated by the way in which the leadership chooses to implement the reform. An appreciative approach may strengthen an individual's motivation to engage with the reform, while a hierarchical one may be hampering respectively. In a second step of the analysis, we will thus evaluate as to how far the indirect effects of the management aspects on *engagement* through the individual motivations account for a significant influence of management activities on the willingness of teachers to support the reform. For this purpose, we analyse the mediating effects in the model. We found statistically significant indirect effects from *ownership* through *social relatedness* on *engagement* and from *transparency* through *personal interest* as well as from *transparency* through *career orientation* on *engagement*. With statistically non-significant direct effects of *ownership* and *transparency* on *engagement* and statistically significant indirect effects respectively, one can state that there is a full mediation effect of *social relatedness*, *personal interest* and *career orientation*. In other words, the positive influence of the feeling to be socially related can be reinforced by a process design that promotes a sense of ownership of the course which the reform takes. In the context of the Chinese university reform, the notion of a sense of ownership apparently does not relate so much to the individual's perception of being in control of the process, but rather to the opportunities of the collegial team to exercise influence on the course of the reform process.

4. Discussion

According to the results, it is not sufficient to provide infrastructure, nor is it sufficient to secure transparency regarding the goals and the course of the intended reform process when transparency is limited to making relevant information available. At least, the provision of infrastructure does not seem to have a positive influence on the way teachers look at the reform. Making the reform policy transparent by informing on how it is going to be implemented - without granting opportunities to participate in the design of the process - is even contributing to a negative attitude towards the reform. Likewise, the attempts to create a sense of ownership among teaching staff as such fail to influence teachers' attitude positively. The integration of teachers' individual motivations to support the reform into the management concept seems to be more promising. Securing transparency by providing relevant information helps increasing those teachers' willingness to engage with the reform, who are intrinsically motivated to further develop their teaching professionalism, e.g., by introducing didactical innovations to their teaching practice. This means that the role of the management is not only to make the planned approach to the reform transparent, but also to make transparent, what in detail the pursued goal to shift to a more practice-oriented teaching approach means for the individual teaching performance and how respective professionalisation activities can be and will be supported. Also creating a sense of ownership is not a panacea. At least it does not have an immediate effect on the teachers' attitudes towards the reform which also requires looking closer at what exactly are the opportunities to get involved in the decision-making process regarding the reform. The study exhibits considerable limitations. There were only two out of 600 participating universities in the sample which is thus far from being representative. This was due to a complex accessibility of the Chinese universities. However, given the exploratory character of the study, its purpose was to build a heuristic model in order to inspire further research, also involving qualitative approaches to the different constructs under examination. The model reveals specification issues. The test statistics are not fully in line with the suggested reference values. In the sense that *engagement* is functioning as the 'ultimate' endogenous variable in the model, such specification issues need to be addressed in further research.

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