



Do professional staff in universities really challenge academic norms? A perspective from the Netherlands

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Abstract

Traditionally, universities stand for independent, high-quality, and curiosity-driven research and education. Yet, since neoliberal reforms in the 1980s, they have been increasingly exposed to external pressures towards more efficiency and economic value orientation. To manage the tasks corresponding to these market-based values, a new and fast-growing group of professional staff has emerged. Some authors argue that they challenge academic norms, or academic professional logics, while importing market norms, or market logics, through previous employment in and current relationships with the private sector. We empirically test this assumption based on original survey data of three groups of professional staff of universities and associated medical centers in the Netherlands: business developers, grant advisers, and research policy officers. We asked them about their ideas about universities to capture their institutional logics. Respondents also indicated previous employment and the strength of their professional relationships. Using multiple linear regression models, we find that professional staff with private sector experience indeed have stronger market logics. We find the same for those with stronger relationships with private sector companies. Yet, on average, the academic professional logic of professional staff is considerably higher than their market logic. Additionally, the effect of private sector experience and stronger relationships with private sector companies on the market logic is moderate. Thus, our data suggests that professional staff do not challenge academic norms. Therefore, there seems to be little need for meeting them with skepticism regarding their role in unwanted organizational change.

Keywords Professional staff · Institutional logics · Higher education · Organizational change · New public management

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Introduction

As Robert K. Merton (1997) states in his seminal work on the ethos of science, the academic community ideally operates according to the norms of communism, universalism, disinterestedness, and organized skepticism. According to these Mertonian norms, the results of science are objectively produced and judged instead of based on personal interests and characteristics; subjected to peer review before being accepted; and once accepted, belonging to the community rather than the individual scientist. However, since the neoliberal reforms in the 1980s, universities have been increasingly exposed to external pressures towards more efficiency and economic value orientation (e.g., Bleikli, 2018; Deem & Brehony, 2005). Thus, market-based norms rooted in capitalism, like entrepreneurship, competition, and innovation, are at odds with the Mertonian norms (Slaughter & Leslie, 1997; Vincent-Lancrin, 2004). For example, commercializing technology through establishing spin-off companies (entrepreneurship) requires the protection of intellectual property by universities, meaning that the results no longer belong to the community (communism). Thus, academics now operate in a hybrid environment characterized by contradicting norms (Slaughter & Leslie, 1997).

To manage the tasks created in response to the market-based norms, a new and fast-growing group of staff, namely, professional staff (PS), has surfaced in recent decades in higher education systems across the globe (e.g., Baltaru & Soysal, 2018; Croucher & Woelert, 2021; Irijala, 2023; Stage & Aagaard, 2019). Acknowledging that there is no broadly agreed upon definition of PS, based on a recent review of the definition of PS and 18 alternative but related terms, in this study, we define them as “degree holding university employees who are primarily responsible for developing, maintaining and changing the social, physical and digital infrastructures that enable education, research and knowledge exchange” (De Jong, 2023). Examples are grant advisors, policy advisors, and business developers. As a result, we exclude those in clerical, practical, and technical positions that traditionally have co-existed with academic positions from our study (Shapin, 1989; Stage & Aagaard, 2019).

Whitchurch (2009) emphasizes that the activities of PS explicitly include integrating market-based principles into the academic domain. On one hand, this has led to the influx of PS with private sector experience supplanting PS with academic or public sector experience (Karlsson & Rytberg, 2016). On the other hand, it requires PS to develop relationships with private sector companies in their current positions, exposing them to market principles. Thus, the role of PS is often perceived as having a stronger market orientation than other roles in universities (Whitchurch, 2010). All in all, previous private sector experience and current relationships with private sector companies are expected to lead to foreign influences (Whitchurch & Gordon, 2009). Yet, this has not been empirically investigated.

This paper aims to understand whether PS indeed challenge academic norms. To this end, we investigate how the market logic of PS in the Netherlands is shaped—if present at all. The market logic is one of six classic institutional logics. Institutional logics can be understood as the underlying patterns and systems that shape values, norms, practices, and behaviors of individuals and organizations (Friedland & Alford, 1991; Thornton, 2004; Thornton & Ocasio, 1999).

We conceptualize PS as brokers that bridge the university to its external environment through mobility and relationships, thereby enabling changes in beliefs and behaviors (Burt, 2005) and potentially leading to more profound organizational change. More

specifically, we understand PS as gatekeepers that negotiate exchange with the outside world (c.f. Gould & Fernandez, 1989; Kirkland & Stackhouse, 2011). Using this perspective, we ask the following: (1) *To what extent is professional staff's market logic shaped by their previous work experience in the private sector?* (2) *To what extent is professional staff's market logic shaped by their relationships with private sector companies in their current roles?* (3) *To what extent are the relationships between (a) professional staff's previous work experience in the private sector and (b) their relationships with private sector companies and their market logic influenced by their relationships with academics and academic leadership?* The answers to these questions contribute empirical evidence to the theoretical discussion about organizational change in higher education in general (e.g., Bruckmann & Carvalho, 2018) and the role of professional staff, in particular (e.g., Stage & De Jong, 2023; Whitchurch & Gordon, 2009).

Understanding whether PS challenge academic norms is also of practical importance. Focusing on the Netherlands, some authors argue that academics today are “under surveillance” (Lorenz, 2012 p. 599) and universities are “occupied” (Halfman & Radder, 2015 p. 165) by PS that challenge the aforementioned academic norms and, instead, emphasize accountability, competition, efficiency, transparency, and quality control, which allow universities to operate in a market environment. In *The Fall of the Faculty*, Ginsberg (2013) observes similar developments in the USA. In other words, these authors observe a clash between employee groups of universities rooted in the contradicting norms that Slaughter and Leslie (1997) observed. Our study helps understanding of the organizational dynamics introduced by a relatively new group of staff and thus also sheds light on the supposed conflict between the market logic of PS and the traditional academic professional logic. These insights can inform interventions for improving intra-organizational collaboration and interaction between employee groups (Oliver & Sapir, 2017).

Theoretical framework

An institutional logic perspective allows for a holistic analysis of the patterns that fundamentally influence individuals' and organizations' behaviors and values (Thornton & Ocasio, 2008). The concept of institutional logics attempts to explain underlying belief systems that shape values, norms, practices, and behaviors of individuals and organizations (Friedland & Alford, 1991; Thornton, 2004; Thornton & Ocasio, 1999). Examples are the ideal type institutions of the profession, the capitalist market, and the bureaucratic state, which act corresponding to their different underlying institutional logics, showing in material as well as symbolic manifestations (Friedland & Alford, 1991). For instance, whereas the basis of norms for the professional logic is membership of a professional organization or community, for the market and state logics, it is self-interest and citizen membership, respectively (Thornton et al., 2012). Conflicting logics within one system as well as individual action may lead to organizational change (Thornton, 2004).

The external pressures resulting from neoliberal reforms contributed to a shift in institutional logics in universities (Szekeres, 2011). Recently, Shields and Watermeyer (2020) identified three institutional logics that interact in universities: the autonomous, utilitarian, and managerial logic. Following Cai and Mountford's (2022) call to limit the introduction of new labels for institutional logics, we note that the autonomous logic that Shields and Watermeyer (2020) identified corresponds to universities' academic norms, thus resembling a traditional academic professional logic—hereafter referred to

as academic professional logics to distinguish these logics from the professional logics of PS. The utilitarian logic that Shields and Watermeyer (2022) identified covers the market logic, and the managerial logic aligns with principles of public management, thus a state logic. These different logics may compete. For example, protecting and commercializing knowledge, following a market logic, conflicts with making it publicly available to develop universal knowledge of excellent quality as dictated by the academic professional logic (Greenwood et al., 2011).

PS may contribute to the development and maintenance of multiple logics in universities in two ways. First, they may contribute by means of previous professional experience in the private sector. Glaser et al. (2016) explain that individuals enact institutional logics by developing ways of doing, or schemata, through repeated experiences in a particular cultural system, such as the market. Experience in multiple cultural systems may lead to multiple systems of meanings, or, in other words, individuals may adopt multiple institutional logics and switch between corresponding schemata (Hong, 2009; Thornton et al., 2012). Thus, individuals may adopt an institutional logic in one system and apply it in another system. PS have current employment in universities, which traditionally are associated with the academic professional logic, yet they increasingly have a background in the private sector, which is associated with the market logic (Karlsson & Rytberg, 2016; Krücken et al., 2013). Although a background in the private sector is dominant among those working in technology transfer (Rytberg & Geschwind, 2017), it is also common among research managers and administrators (Acker et al., 2019; Rytberg & Geschwind, 2017; Shelley, 2010). The same seems to hold true for PS in senior management positions at the faculty and central level (Krücken et al., 2013; Szekeres & Heywood, 2018). In short, PS with a private sector background can be assumed to have adopted market logics that inform their values, norms, practices, and behaviors in current roles. Thus, we hypothesize the following:

H1: Professional staff with experience in private sector companies have a stronger market logic than professional staff without this experience.

Second, the development and maintenance of multiple logics occurs through current relationships of PS with the private sector. Their relationships can be seen as conduits for transferring information, thereby enabling the exertion of both bilateral and unilateral influence between actors (Borgatti & Foster, 2003). DiMaggio and Powell (1983) introduced this perspective through the concept of institutional isomorphism: the convergence of different organizational systems through assimilation with organizations in the institutional environment, which is done through interaction, and the spread of ideas, values, norms, and practices among actors. PS's task of managing business-related functions requires external networking (Whitchurch, 2009). They engage with private sector companies, which operate according to market-based logics, to make academic knowledge available for a broader audience; connect students with potential future employers (Sapir, 2020; Whitchurch, 2010); and foster income-generating projects (Whitchurch, 2009), for instance. Hence, PS are influenced by representatives from private sector organizations in terms of their behaviors and identities (Whitchurch, 2010). Thus, the activities of PS introduce them to the market logic. However, the actual adoption of norms and practices through relationships depends on the number of actors in the individual's network operating according to those norms and practices (Borgatti & Foster, 2003). Further, the number and strength of interactions within a relationship allow for more influence on the norms and behaviors of the other (Granovetter, 1973).

Therefore, it is expected that PS additionally adopt their market logic through relationships with private sector companies. Hence, the following is hypothesized:

H2: The stronger professional staff's relationships with private sector companies, the stronger their market logic.

As mentioned above, relationships are the channels of transferring values, norms, and practices (DiMaggio & Powell, 1983). Like the expectation that relationships with private companies enable the adoption of market logics by PS, relationships with academic staff and academic leadership can be expected to expose them to academic professional values, norms, and practices, which may lead to the adoption of academic professional logics. Although some authors report tensions and difficulties in the relationships between PS and academic staff (e.g., Allen-Collinson, 2007; Szekeres, 2011) that may obstruct the transfer of norms, others have observed a "third space" in which PS and academics collaborate and the boundaries between them become opaque (Whitchurch, 2008; 2011). Gray (2015) finds that academics are more appreciative of PS in their close environment and more skeptical towards those on higher organizational levels. This appreciation can be seen as an affectionate emotion and thus can be a basis for a positive work relationship, allowing for cooperation and the development of shared norms between the interaction partners (Gibbons, 2004). Furthermore, strong relationships with academic leadership are crucial for PS to succeed in their jobs (Ryttberg & Geschwind, 2017). Altogether, it can be assumed that the transfer of academic professional logics is stronger for stronger internal relationships. Therefore, the strength of internal relationships might act as a buffering condition: strong internal relationships expose PS to the academic professional logic as a competing logic to their existing and/or developing market logic. Therefore, the following have been hypothesized:

H3: The relationship between professional staff's previous experience in private sector companies and their market logic is moderated by the strength of internal relationships with academics and academic leadership. As internal relationships strengthen, the effect of professional staff's previous experience in private sector companies on their market logic weakens.

H4: The relationship between professional staff's current relationships with private sector companies and their market logic is moderated by the strength of internal relationships with academics and academic leadership. As internal relationships strengthen, the effect of professional staff's current relationships with private sector companies on their market logic weakens.

See the resulting conceptual model in Fig. 1.

Methods

Data collection

The data for this study was collected by means of a survey. In March 2022, business developers, research policy advisors, and grant advisors at Dutch universities and associated medical centers were invited to participate. Professional staff from both kinds of

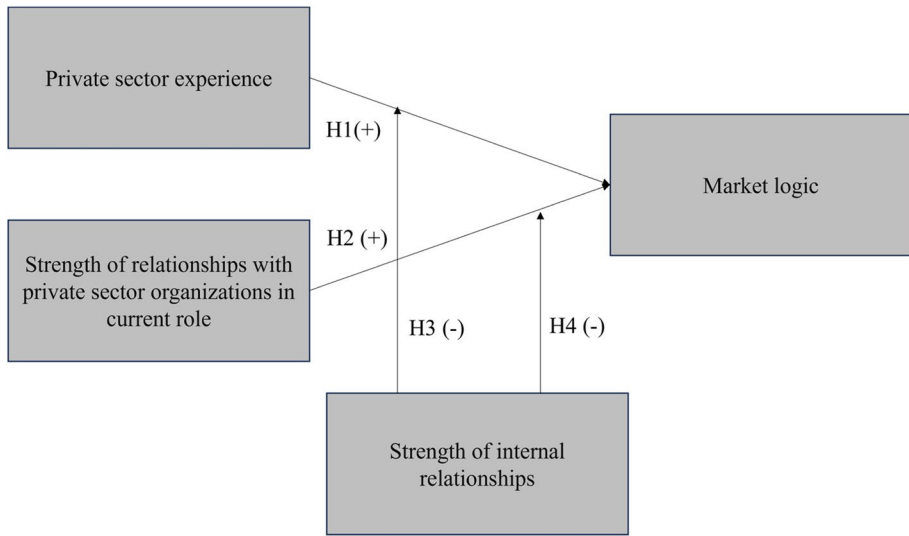


Fig. 1 Conceptual model

organizations, universities and university medical centers, were included due to the comparable nature of their tasks, namely, facilitating, managing, and translating research. The survey was tested by four representatives of the target group, resulting in several instances of rephrasing questions and answer categories to align the survey to the experience and vocabulary of the target group. Having the Netherlands as our research context increases the likelihood of observing the phenomenon that we are interested in, as Dutch universities are among the European forerunners in adopting practices inspired by the private sector (Seeber et al., 2015). We selected the three PS groups (i.e., business developers, research policy advisors, and grant advisors) because, due to the nature of their work, the following can be expected: (1) private sector experience and relationships to private sector companies among all the three and (2) differences between the groups in terms of percentages of individuals with private sector experience and strength of relationships to private sector companies, resulting in variation of the independent variables.

The survey was a self-administered web survey using Qualtrics. It included questions on respondents' demographic, educational, and professional details and their professional relationships and institutional logics. The questions used to construct the variables for this study are included in [Appendix](#). An a priori power analysis, targeting for 80% power at an alpha level of 1.25%, was conducted using G*Power (V3.1) (Faul et al., 2009). Assuming a practically relevant medium-sized effect size (R^2 -increase, $f=0.15$), this resulted in a required sample size of 117 respondents. The survey received 143 responses, resulting in a final sample of $N=124$.

The link to the survey was distributed mainly by email, for which the addresses 248 potential respondents were sourced from public university websites. As some universities included contact information of PS on intranet pages that were inaccessible to us as non-employees, the survey was simultaneously distributed via intermediary contact persons at universities who forwarded the survey link to the targeted PS at their organization, social media (LinkedIn and Twitter), and ARMA-NL, an association for research managers and administrators in the Netherlands. To comply with the European Commission's General

Data Protection Regulation, we created two separate surveys. Survey 1 obtained informed consent, after which participants received an individual code that only they had access to as well as a link to survey 2. Participation in survey 2 required entering the individual code, making participation fully anonymous. To ensure that only members of the target group participated, survey 2 asked participants to confirm relevant professional responsibilities. Reminders were sent one time via the collected email addresses and intermediaries and weekly via the social media channels. Data collection was closed after 1 month.

By aiming for the required sample size through a combination of personal invitations and a more broadly distributed anonymous link and ensuring anonymity through the two-step survey, a definite response rate for survey 2 cannot be calculated. However, 73 of the 244 respondents (4 email invitations were unsuccessful) who received the personal invitation completed the informed consent form. If all of them participated in survey 2, this would imply a response rate of 30% for those who received a personal invitation.

Eleven of the 143 records were deleted due to unit nonresponse and two more due to comments indicating that organizational affiliation fell outside the target population. Further, four respondents were deleted listwise due to missing items on the dependent variable. Finally, two respondents were deleted as they had missing values on one of the control variables (role and years of experience, respectively). Thus, the analyses were conducted based on a final sample of $N=124$.

Variables

Based on the data, variables were constructed for the analysis. The market logic of PS is the dependent variable in our analysis. To measure this variable, the survey data includes 28 statements concerning what universities ought to be, as adapted from Shields and Watermeyer (2020) (see Table 1 for statements relevant to the construction of variables). Respondents rated their agreement with a slider including values from 0 (no agreement) to 100 (full agreement). To construct the individual dimensions, namely, the academic professional, market, and state logics that Shields and Watermeyer (2020) identified in their study population, principal axis factoring with oblique rotation was conducted because a correlation between the dimensions was expected. After removing ten items that had less than three correlations higher than 0.3 with other items (Field, 2018), we opted for an analysis with pairwise deletion for missing values: the initial solution indicated five factors, three of them having an eigenvalue greater than one ($KMO=0.749$; Bartlett's test of sphericity indicated that the correlation matrix underlying the factor analysis is significantly different from zero ($\chi^2(153)=735.75, p<0.001$)). After rotation, a simple structure based on those three factors was obtained. Even though the items within the scales differed from those identified by Shields and Watermeyer (2020), two of the scales clearly indicated an academic professional and a market logic. The third scale, matching with the theoretical construct of the state logic, was identified but contained only two items, thus not suited for measuring the construct (MacCallum et al., 1999).

The scales for the variables *academic professional logic* and *market logic* were constructed based on the four highest-scoring items per scale (see Table 1 and 2). The reliability analysis revealed a good reliability for the market logic with a Cronbach's alpha of 0.75 and a weaker, but still moderate and thereby acceptable, reliability of 0.62 for the academic professional logic (Hair et al., 2016). Like Shields and Watermeyer (2020), factor scores were calculated using the weighted sum method based on item loadings to construct the institutional logics variables.

Table 1 Pattern matrix institutional logics¹

Universities ought to...	Factor				
	1	2	3	4	5
Encourage entrepreneurialism	0.66				
Be competitive environments	0.69				
Develop knowledge for economic growth	0.44				0.4
Develop intellectual property	0.38			-0.33	
Encourage innovation	0.47	0.4			
Encourage critical thinking		0.52			
Provide a forum for debate		0.64			
Develop students' intellectual abilities		0.5			
Promote international cooperation		0.57			
Exist to benefit society as a whole		0.34			
Be hierarchical			0.85		
Be bureaucratic			0.73		
Develop knowledge that improves people's lives				-1.06	
Develop knowledge that improves society				-0.63	
Exist to benefit the economy					0.55
Be similar to businesses					0.41
Exist to benefit students					0.58
Encourage conformity					

¹Only loadings less than -0.3 and greater than 0.3 are displayed

Table 2 Items indicating institutional logics

Academic professional logic	Market logic
<i>Universities ought to</i>	<i>Universities ought to</i>
Encourage critical thinking	Encourage entrepreneurialism
Provide a forum for debate	Be competitive environments
Develop students' intellectual abilities	Develop knowledge for economic growth
Promote international cooperation	Encourage innovation

To construct the independent variable *private sector experience*, respondents were asked, "In which sectors have you worked between obtaining your highest educational degree and taking up your current role?" Respondents could select multiple from the following categories: "public sector: government"; "public sector: higher education"; "public sector: other"; "private sector"; and "other." The variable was constructed on a binary scale. Those that selected "private sector" were labeled as having private sector experience whereas those that did not select it but did select at least one of the other categories were labeled as having no private sector experience.

Further, two variables indicating strength of relationships are included in the conceptual model. Survey respondents were asked "How strong would you say that your professional relationships with individuals from the following 11 categories are?" The answer categories included "private sector companies," "academics within home organization," and "academic leadership within home organization." Respondents rated the strength of

relationships with these groups on a scale from zero to one hundred, with higher values indicating stronger relationships, for the variable *strength relationships with private sector companies*. For the variable *strength of internal relationships*, an average was calculated for the values for relationships with academics and academic leadership.

For measuring the effect of the independent variables *private sector experience* and *strength of relationships with private sector companies* on *market logic*, control variables were added to exclude potential alternative explanations for the dependent variable. We included *academic professional logics*, *years of experience in current role*, *strength of relationships with government*, *gender*, *professional role*, and *management position*.

Analysis

Multiple linear regression was conducted using ordinary least squares estimation. Missing data was deleted listwise, which affected one out of 124 cases on the independent variable *private sector experience* when testing hypotheses 1 and 3. Scatterplots were investigated to evaluate the assumption of linearity. Residuals were analyzed to assess homoscedasticity, independence of errors, collinearity, and the assumption of approximately zero error on average. We analyzed the potential for multicollinearity and verified that all variance inflation factors are below the value of ten (Neter et al., 1996). No violations were found. Local, rather than global, effect sizes are calculated because of the variation in Cohen's f^2 (Selya et al., 2012). To account for the inflated risk of type I errors when testing multiple times, a Bonferroni correction to adapt the 5% significance level is applied for testing the four hypotheses, resulting in an adjusted alpha of 1.25%.

Model 1 covers the effect of the control variables on the dependent variable *market logic*. First, the models for the first and third hypotheses were tested. In model 2, *private sector experience* was added to model 1 as the independent variable. In model 3, *strength of internal relationships* was added as an independent variable. Subsequently, model 4 includes the interaction term *private sector experience*strength of internal relationships*. Second, the models for the second and fourth hypotheses were tested. In model 5, *strength of relationships with private sector companies* was added as the independent variable to the model 1. In model 6, *strength of internal relationships* was added as an independent variable. Finally, model 7 introduces the interaction term *strength of relationships with private sector companies*strength of internal relationships*.

As a robustness check, hypotheses 3 and 4 were also tested, including relationships with academics and relationships with academic leadership as separate moderating variables instead of the construct variable strength of internal relationships, which did not reveal different results (available on request).

Results

On average, Dutch PS have a middle-ranged market logic with considerable variation between respondents ($m=55$, $SD=20.4$). Their academic professional logic is high, on average, and the variation between respondents is smaller ($m=85.6$, $SD=11.4$). Business developers have a significantly higher mean on the market logic than the other PS roles (ANOVA, $h^2=0.12$, $F(3,121)=4.6$, $p=0.004$). Regarding the academic professional logic, there is no difference between the PS roles. Descriptive statistics of the variables can be found in Table 3.

Looking at the correlations between the included variables (Table 3), we, as expected, find positive but weak to moderate correlations between the two independent variables *private sector experience* ($\rho=0.44$, $p<0.01$) and *relationships with private companies* ($r=0.37$, $p<0.01$) and the dependent variable *market logics*. There is also a weak positive relationship between the two independent variables ($\rho=0.33$, $p<0.01$). Furthermore, it is remarkable that there is no correlation between the moderating variable *strength of internal relationships* and the dependent variable nor between *academic professional logics* and the independent variable. Finally, there are four weak correlations between control variables and the dependent variable (see Table 3 for further information on the correlations and descriptive statistics).

The results of the regression models are included in Table 4. To increase the accessibility of the interpretation, unstandardized coefficients are reported.

The first hypothesis stated that there is a positive linear relationship between private sector experience and PS's market logic. The first model, including only the dependent variable and control variables, explains 22% of variance in the dependent variable, which is significantly different from a model with zero predictors ($R^2=0.22$, $F(12,111)=2.61$, $p=0.004$). Except for the management position, no control variables show a significant effect on the market logic of PS. Holding a management position has a significant positive effect on the dependent variable ($b=5.20$, $t=2.59$, $p=0.011$, $CI98.8=(0.10, 10.29)$). Adding the independent variable *private sector experience* does significantly improve the model (R^2 -change=0.07, F -change(1,109)=9.88, $p=0.002$). There is a medium positive effect of private sector experience ($f^2=0.30$) indicating that PS with private sector experience score higher on market logic. This effect is significant at the corrected alpha level of 1.25% ($b=6.09$, $t=3.14$, $p=0.002$, $CI98.8=(1.17, 11.01)$). Thus, hypothesis 1 is supported. In the second model, no control variables have a significant effect on the dependent variable at the pre-defined 1.25% level.

The second hypothesis stated that there is a positive linear relationship between PS's external relationships with private companies and PS's market logic. Adding the independent variable *strength of relationships with private sector companies* to the first model in model 5 significantly improves it (R^2 -change=0.05, F -change(1,110)=7.53, $p=0.007$). There is a medium positive ($f^2=0.26$) effect on the dependent variable, indicating that the stronger PS's relationships with private companies is, the higher their market logic. This effect is significant at the corrected alpha level of 1.25% ($b=7.12$, $t=2.74$, $p=0.007$, $CI98.8=(0.53, 13.70)$). Hence, hypothesis 2 is also supported. In the third model, no control variables have a significant effect on the dependent variable at the pre-defined 1.25% level.

The independent variable *strength of internal relationships* was introduced in the third model to measure its direct effect. This did not result in a significant increase in the explained variance in the dependent variable (R^2 -change=0.008, F -change(1,108)=1.22, $p=0.272$). In the fourth model, an interaction term *private sector experience*strength of internal relationships* was added to model 3 to test hypothesis 3 that stated that the effect of private sector experience on market logic depends on the strength of internal relationships of PS. The interaction term did not increase the explained variance in the dependent variable (R^2 -change=0.000, F -change(1,107)=0.07, $p=0.794$). Based on this negligible ($f^2=0.00$) and not significant negative effect of the interaction term ($b=-0.48$, $t=-0.262$, $p=0.794$, $CI98.8=(-4.89, 3.80)$), the null hypothesis cannot be rejected. Therefore, the third hypothesis is not accepted.

Model 6 introduced the independent variable *strength of internal relationships* to model 5 to measure its direct effect on the dependent variable, which did not result in a

Table 3 Descriptive statistics, frequencies, and correlations¹

Covariates	N	Mean	SD	Min	Max	1	2	3	4	5	6	7
1: Market logic	126	54.97	20.35	10.07	100							
2: Academic professional logic	129	85.6	11.41	47.84	100	0.01						
3: Internal relationships	130	69.35	18.41	15.5	100	0.13	0.16					
4: Years of experience	129	5.91	6.7	0	45	-0.10	0.03	0.20*				
5: External relations: private companies	130	30.81	31.09	0	100	0.44**	0.00	0.25**	-0.18*			
6: External relations: government	130	26.41	27.79	0	100	0.25**	0.07	0.14	-0.05	0.42**		
Factors	N	%										
7: Private sector experience: yes	62	47.7				0.37**	-0.05	-0.07	-0.22	0.33**	0.04	
Gender: men	53	40.8				0.20*	-0.30**	0.15	0.04	0.31**	0.11	0.11
Gender: other ²	3	2.3				-0.04	0.08	-0.07	-0.08	-0.15	0.02	-0.05
Role: policy advisor	36	24.6				-0.21*	0.18	0.04	0.21*	-0.38**	-0.00	-0.19*
Role: business developer	32	27.7				0.32**	-0.19*	0.02	-0.20*	0.59**	0.14	0.31**
Role: other	9	6.9				0.00	-0.04	0.10	0.10	-0.02	0.11	-0.18*
Organizational level: faculty	48	36.9				-0.1	-0.06	0.31**	0.05	0.08	0.13	-0.25**
Organizational level: department	21	16.2				0.04	-0.06	-0.07	-0.06	0.09	-0.04	0.19*
Organizational level: other	3	2.3				-0.02	0.05	-0.03	0.06	0.07	-0.03	0.16
Management position: yes	33	25.4				0.21*	0.16	0.30**	0.21**	0.16	0.35**	-0.05

* $p < 0.05$; ** $p < 0.01$

¹The first vertical section presents the included variables, first the continuous variables (covariates) and second the categorical variables (factors); the second presents the descriptive statistics per variable; and the third presents the correlations between the variables, where the upper part presents correlations between continuous variables and the lower part correlations between the continuous variables and dichotomous variable private sector experience and the remaining dichotomous variables. The numeration indicates the respective variable

²Including one respondent who did not disclose their gender

Table 4 Results of the regression analysis

	Model 1 <i>b</i> (SE)	Model 2 <i>b</i> (SE)	Model 3 <i>b</i> (SE)	Model 4 <i>b</i> (SE)	Model 5 <i>b</i> (SE)	Model 6 <i>b</i> (SE)	Model 7 <i>b</i> (SE)
<i>Control variables</i>							
Academic professional logic	1.76 (1.83)	2.16 (1.79)	1.67 (1.84)	1.71 (1.85)	0.62 (1.82)	0.43 (1.86)	0.66 (1.89)
Years of experience	-1.99 (1.94)	-2.16 (1.90)	-1.63 (1.92)	-1.66 (1.93)	-1.40 (1.89)	-1.66 (1.95)	-1.77 (1.96)
Relationships with government	2.20 (1.93)	2.30 (1.87)	2.17 (1.87)	2.16 (1.88)	0.11 (2.02)	0.16 (2.03)	0.09 (2.04)
Gender (male)	1.96 (1.96)	1.92 (1.91)	1.57 (1.93)	1.58 (1.94)	1.05 (1.94)	0.89 (1.96)	0.93 (1.97)
Gender (other) ¹	-0.78 (2.08)	-0.10 (2.02)	-0.23 (2.02)	-0.24 (2.03)	-0.76 (2.02)	-0.83 (2.03)	-0.88 (2.04)
Policy advisor ²	-3.34 (2.06)	-2.74 (2.02)	-2.57 (2.02)	-2.51 (2.04)	-2.00 (2.06)	-1.99 (2.07)	-1.95 (2.08)
Business developer ²	4.07 (2.07)	2.85 (2.04)	2.89 (2.04)	2.94 (2.05)	0.56 (2.38)	0.77 (2.41)	0.72 (2.42)
Other roles ²	0.27 (1.95)	1.38 (1.92)	1.38 (1.92)	1.41 (1.93)	0.04 (1.90)	0.07 (1.90)	0.11 (1.91)
Organizational level (faculty) ³	-3.17* (1.84)	-2.01 (1.82)	-2.54 (1.88)	-2.50* (1.90)	-3.42* (1.79)	-3.70** (1.86)	-3.61* (1.87)
Organizational level (department) ³	0.46 (1.80)	-0.39 (1.76)	-0.52 (1.76)	-0.62 (1.81)	-0.41 (1.78)	-0.45 (1.78)	-0.70 (1.82)
Organizational level (other) ³	-0.78 (1.72)	-1.73 (1.69)	-1.79 (1.69)	-1.80 (1.69)	-1.11 (1.67)	-1.14 (1.68)	-1.33 (1.71)
Management position	5.20** (2.01)	4.68** (1.96)	4.33** (1.98)	4.34** (1.99)	4.34** (1.98)	4.17** (2.00)	4.00* (2.02)
<i>Independent variables</i>							
Private sector experience		6.09*** (1.94)	6.01*** (1.94)	6.03*** (1.95)			
Strength external relationships: private companies					7.12*** (2.59)	6.74** (2.68)	7.23** (2.78)
Strength internal relationships			2.06 (1.86)	2.07 (1.87)		1.13 (1.93)	0.85 (1.97)
<i>Interaction terms</i>							
Private sector experience*strength internal relations				-0.48 (1.75)			-1.36 (1.96)
Strength external relations: private companies*strength internal relations	54.58*** (1.71)	56.64*** (1.66)	54.64*** (1.66)	54.61*** (1.67)		54.42*** (1.67)	54.73*** (1.73)
Constant	0.22	0.29	0.29	0.29	0.27	0.27	0.28
R ²							

Table 4 (continued)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	<i>b</i> (SE)	<i>b</i> (SE)	<i>b</i> (SE)	<i>b</i> (SE)	<i>b</i> (SE)	<i>b</i> (SE)	<i>b</i> (SE)
Adjusted R^2	0.14	0.20	0.20	0.19	0.18	0.18	0.18
R^2 -change	0.22***	0.07***	0.00	0.00	0.05***	0.00	0.00
<i>N</i>	124	123	123	123	124	124	124

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$ ¹Reference category: female²Reference category: grant advisor³Reference category: central level

significant increase in the explained variance in the dependent variable (R^2 -change = 0.002, F -change(1,109) = 0.34, p = 0.560). Lastly, the interaction term *strength of relationships with private sector companies*strength of internal relations* in model 7 was added to model 6 to test whether the effect of relationships with private sector companies on market logic is dependent on the strength of internal relationships of PS as hypothesis 4 stated. In the resulting seventh model, the interaction term did not significantly increase the explained variance in the dependent variable (R^2 -change = 0.003, F -change(1,108) = 0.48, p = 0.488). Based on this medium (f^2 = 0.06) positive, but not significant effect of the interaction term (b = -1.36, t = -0.70, p = 0.488, CI98.3 = (-6.34, 3.61)), the null hypothesis cannot be rejected. Thus, the fourth hypothesis is also not accepted.

Conclusion

Interpretation of results

This study investigated how market logics of PS in the Netherlands are shaped based on a survey among three PS groups in the Netherlands. Regarding H1, the results indicate that, as expected, prior experience in the private sector positively affects the market logic of PS. This suggests that PS with previous experience in the private sector have a higher market logic than PS without. This is in line with the expectation that PS with experience in the private sector introduce influences from the private sector to universities (Karlsson & Rytberg, 2016) and thus may tap into the schemes associated with this logic in their current roles (c.f. Hong, 2009). Considering H2, the results suggest that external relationships with private sector companies do, indeed, positively affect the market logic of PS. This indicates that with stronger relationships to private sector companies, the strength of the market logic of PS also increases. This confirms the expectation that PS are influenced by their interactions with market-oriented organizations (Whitchurch, 2010) and thus may act as gatekeepers that affect norm exchanges between the external environment and the university (Gould & Fernandez, 1989). No supporting evidence for H3 and H4 was found, indicating that stronger relationships with academics and academic leadership, against our expectation, do not act as a buffering condition for the preservation and development of PS's market logic.

Further, it is remarkable that, on average, the market logic is less pronounced in PS than the academic professional logic. As the effect size for the influence of relationships with private sector companies is small, a low value on the market logic cannot fully be explained by a lack of prior experience in the private sector or weak relationships with private companies, especially as PS supposedly frequently interact with these companies (Whitchurch, 2009). Another explanation could be that behaviors based on market norms and values are indeed introduced by PS with private sector experience and transferred via contacts to private sector companies, but the norms and values typically associated with such behaviors are excluded.

This suggests a view of market-oriented behaviors as a means to achieve organizational goals and limit pressures imposed by the external environment; however, the findings suggest that there is not full adoption of the market logic. It resonates with the notion of "boundary work," which includes "the protection of the autonomy of scientific research from political interference" (Gieryn, 1983, p. 781). This separation of the market logic into the adoption of practices on one side and the adoption of norms and values on the other

side also corresponds with Rytberg's (2020) idea that PS work by gaining moral legitimacy. Moral legitimacy is a positive normative judgment of an actor and their actions by an audience; the audience bases this judgment on whether the actor's behaviors are in their interest (Suchman, 1995). Based on that, PS's legitimacy is judged by the benefit that they bring to the university and the extent to which they fulfill their tasks (Rytberg, 2020). As such, this judgment vis-à-vis moral legitimacy refers to the market logic actions and practices conducted by PS, which does not necessarily include the agreement and adoption of underlying market logic norms and values.

Alternatively, PS may engage in "co-optation," which is the retention or adoption of certain elements of another logic (Najam, 2000). This response has been shown in healthcare settings where actors were dependent on being perceived as legitimate by actors associated with other logics to reach their goal (Andersson & Liff, 2018; Ehlen et al., 2022). A similar response could be at play among PS: to achieve their goals and enhance legitimacy, PS potentially integrate the behaviors, norms, and values of academics and private companies into their work. The adoption of elements of multiple logics in one's work is also referred to as using the notion of "hybridity" (Noordegraaf, 2015). However, with hypotheses 3 and 4, it was expected that the relationship between private sector experience and relationships with private companies, respectively, and market logics depends on the strength of the PS's internal relationships with academics and academic leadership. The results do not support this expectation, which leaves the question of how PS with private sector experience and/or relationships with companies adopt professional logics unanswered as relationships with academics seem to not have a significant effect on the logics of PS.

Limitations and future research

This study does not come without limitations of which we discuss the two main ones. First, by including business developers, grant advisers, and policy officers in our study, we excluded PS categories with other types of responsibilities, for example, related to education, such as curriculum developers and education innovators. However, our study provides the first statistical evidence to the debate about "influences from elsewhere ... permeat[ing]" (Whitchurch & Gordon, 2009; p.133) universities due to their exchange of staff and the relationships of PS with private sector organizations. Second, we have not distinguished between PS with so-called "blended" or "third space" professional identities that combine elements of PS and academic staff identities (Whitchurch, 2008). Future research could investigate whether there are differences in institutional logics between those with blended or third space identities and those without. Third, universities in the Netherlands are among the most managerialized in Europe, suggesting that effect sizes may be weaker or even absent in countries with less managerialized universities, such as Italy (Seeber et al., 2015). Additionally, Dutch universities may already have adopted market logics to such an extent that PS may also adopt their market logics within the university. After all, in the UK, another European frontrunner in terms of universities adopting market logics, Shields and Watermeyer (2020) found this logic to be present among academics as well. Third, although our sample size was sufficient, it is relatively modest, even within the Netherlands, considering the number of 21 universities and associated medical centers.

This leads to the recommendations for future research. First, we recommend a larger sample size that allows for a more powerful analysis that is sensitive to both national and organizational conditions and differences across a larger variety of PS roles, including those with responsibilities in education and responsibilities further removed from primary

processes, such as financial controllers and human resource managers. We anticipate that differences in governance processes between different types of universities may result in differences in the strength of different types of institutional logics among PS (c.f. Paradeise & Thoenig, 2015). We expect that different approaches to strategy development and implementation require PS with different backgrounds while simultaneously exposing PS to different environments in terms of the relative strength of institutional logics. For instance, in a university in which governance is a collegial affair, we expect PS to be exposed relatively more to the academic professional logic than the market logic compared to a university in which governance is a managerial affair. Second, we suggest investigating whether the influx of market-based values, norms, and perspectives on the level of individual PS also leads to stronger market logics and practices on the organizational level as this remains an open question (Oliver & Sapir, 2017). This could be analyzed by asking PS not only about norms and values but also about concrete practices, which would allow comparison of the adoption of market-based practices and market-based norms and values, and by investigating strategic documents of universities, for instance. Both of these approaches would help shed light on the ongoing institutional change in universities and allow for a more fine-grained view on the broad concept of the market logic. To further understand the interplay of different institutional logics and thus also the perceived conflict between academic professional and market logics, future research should focus on the interplay between them and the role of institutional logics at the individual level of PS in stimulating or mitigating this conflict. For investigating this, we recommend including different groups of staff at universities, such as academics, management, and administrative staff. This can offer important insights into whether the influx of new norms and values also leads to new practices, providing further insight into whether PS contribute to transformations in universities (De Jong & Del Junco, 2023; Stage & De Jong, 2023).

Practical implications

Despite the limitations of this study and the need for additional research, its findings have important practical implications. Prior private sector experience and relationships with private sector companies of PS in the Netherlands do shape their market logic and thus introduce a conflicting logic to the traditional academic professional logic of universities, creating ground for organizational change. However, the effects are medium-sized, and the academic professional logic of PS is, on average, substantially higher than the market logic. Thus, this study suggests that, at least currently in one of the most managerialized higher education systems in Europe, there is little need for viewing PS with skepticism as challengers of academic norms and major drivers behind the increased market orientation of universities. Instead, PS may act as boundary workers that balance external demands from an ever-changing environment with internal interests (cf. Sapir, 2021). Without aiming to trivialize studies that critique the managerialization of universities (e.g., Ginsberg, 2013; Halfman & Radder, 2015; Lorenz, 2012), our study suggests that the role of PS in this trend may be more nuanced: rather than driving managerialization, there may be an effect of this process (c.f. Stage & De Jong, 2023). For universities, it can be beneficial to foster dialogues between academics, academic leadership, and PS regarding their views on universities, so that internal friction can be reduced as our study suggests that everyday interactions do not affect the academic professional logic of PS. Symposia or workshops can offer opportunity to talk about different practices, tasks, and expectations between internal stakeholders from different domains and how to deal with these differences or even make

strategic use of them. These group interventions can help shift the focus from skepticism, caused by differences in role, values, norms, and practices, to shared goals and a better basis for collaboration (Yang & Mossholder, 2004).

Appendix. Survey questions

a) What is your gender?

1. Male
2. Female
3. Other
 - a. namely... [optional]
4. Prefer not to say

b) What job title would you say best represents your current role?

1. Grant adviser (includes grant writer and funding adviser)
2. Knowledge exchange officer (includes technology transfer officer, knowledge transfer officer and business developer)
3. Policy officer research (includes policy adviser research)
4. Other, namely...

c) Do you hold a managerial position? For example, as head of department or team leader.

1. Yes
2. No
3. Prefer not to say

d) At what organizational level(s) are you formally employed?

You can select multiple answers.

1. Central level
2. Faculty, school, division or equivalent level
3. Department, institute, center or equivalent level
4. Other, namely...

e) How many years of experience do you have in your role at your current organization?

1. ... (Please fill in number in years)
2. Prefer not to say

f) In which sectors have you worked between obtaining your highest educational degree and taking up your current role? This includes similar roles at other organizational levels and at other universities and/or university medical centers.

You can select multiple answers.

1. Public sector: Government
2. Public sector: Higher Education
3. Public sector: Other, namely...
4. Private sector
5. Research funder
6. Other, namely...

g) How strong would you say that your professional relationships with individuals from the following 11 categories are?

The closer you position the slider to 100, the stronger your professional relationships with individuals from this category on average are. To record your response, click the slider even if you want to leave it at zero.

1. Academic leadership within your home organization.
2. Academics within your home organization.
3. Professional staff (OBP) within your home organization.
4. Students within your home organization.
5. Government.
6. Private sector companies.
7. Research funders.
8. Academic leadership outside your home organization.
9. Academics outside your home organization.
10. Professional staff (OBP) outside your home organization.
11. Students outside your home organization.

h) Finally, we are interested in your ideas about what universities and university medical centers ought to be. Please, note that this might differ from what you believe they currently are. To what extent do you agree with the following 28 characterizations of universities and university medical centers?

The closer you position the slider to 100, the more you agree with the characterization. To record your response, click the slider even if you want to leave it at zero.

Universities and university medical centers ought to...

1. Provide social critique.
2. Encourage critical thinking.
3. Provide employable skills for students.
4. Be hierarchical.
5. Encourage entrepreneurialism.
6. Be competitive environments.
7. Develop knowledge for economic growth.
8. Be bureaucratic.
9. Provide a forum for debate.
10. Be similar to businesses.
11. Provide knowledge for students.
12. Develop knowledge that improves society.
13. Promote international cooperation.
14. Encourage innovation.
15. Encourage conformity.
16. Provide autonomous working.

17. Develop students' intellectual abilities.
18. Provide academic freedom.
19. Develop intellectual property.
20. Exist to benefit students.
21. Exist to benefit the economy.
22. Promote social justice and equality.
23. Exist to benefit the academic community.
24. Be egalitarian.
25. Develop knowledge that improves people's lives.
26. Develop knowledge regardless of its practical applications.
27. Exist to benefit society as a whole.
28. Be similar to public sector organizations.

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WK: conceptualization, methodology, formal analysis investigation, writing—original draft, and writing—reviewing and editing.

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Data Availability The data that support the findings of this study are available on request from the corresponding author, SdJ.

Declarations

Ethics approval and consent to participate Approval for the involvement of human participants in this study was obtained by the Ethics Review Board of the Tilburg School of Social and Behavioral Sciences of Tilburg University (reference RP248). All participants provided their informed consent.

Conflict of interest The authors declare no competing interests.

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