Differences in influence: different types of university employees compared

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Abstract
Changes, improvements and innovations in university organisations regularly end up in sluggish processes and get stuck ‘somewhere’ in the organisation. It is argued that cooperation and mutual influencing of work processes between academic and professional employees of different departments can have a positive effect on these innovations. Because little is known about this mutual influence of work processes, research has been conducted on the extent of the experienced and desired influence on different types of university employees’ own work processes and the work processes of other departments. This article reports the results of a survey among different types of employees from universities from three different countries (the Netherlands, Flanders, Denmark), in which four groups of employees have been distinguished (academic staff, professional staff, academic middle managers and educational administrators). The results of the survey (N = 1397) show that the university may be seen as a patchwork in which departments and teams work independently of each other. A comparison between the groups shows that the academic middle managers and educational administrators do experience significant more influence on various processes. It is argued that these groups can play an important role during changes, improvements and innovation processes.

Keywords Academic middle manager · Educational administrator · Academic staff · Professional staff · Change · Innovation

Data available on request from the authors
The data that support the findings of this study are available from the corresponding author, a.j.kallenberg@hum.leidenuniv.nl, upon reasonable request.

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Introduction

Within universities, many initiatives are being taken to change, improve and innovate. These initiatives not only concern changes, improvements or innovations in the educational (learning) process (innovations in lectures, modules or curriculum) but also around the educational process (innovations in educational support or educational conditional processes). At the faculty level these initiatives are mostly undertaken from subject-specific and educational ambitions and considerations. At the central level, these initiatives also have a strategic character to distinguish the organization in a positive way from national and international competitors and/or to respond to the changing world of higher education (Kallenberg 2013). While improvements and innovations seem to be coordinated and structured, the reality is inflexible and they regularly end up in sluggish processes and get stuck ‘somewhere’ in the organization (Buller 2015; Kallenberg 2016a). There are several explanations for these processes and unsuspected endings.

First, there is a multitude of initiatives for change, improvement and innovation within organisations. They are different in size, speed and depth, and arise, grow and expire independently of one another. These innovations can stimulate and complement each other, but they can just as well – intentionally or unintentionally – work against each other or cancel each other out. This multitude of initiatives makes it impossible to base policies on these innovations. One explanation for this impossibility can be found, for example, in the complexity of the university administration and the myth of the university as a scarcely administrable entity (de Boer 2003).

A second explanation for the inflexible reality stems from the fact that employees, teams or departments are only involved in one part of a change or innovation process. Initiatives are undertaken and subsequently adopted or taken up by others, who in turn apply their own interpretation or direction to it, after which other employees become involved, who ... and so on. The result is that the original idea of an improvement or innovation shifts through interpretations, levelling forces and misconceptions. From the workplace, teachers accuse the management, the academic staff, and the policy departments of stealing their ideas (Hannah and Lester 2009). From the top-management too similar sentiments are heard, because they lose sight of (the development of) the change, improvement or innovation somewhere below them in the organisation (Kolsaker 2008; Hyde et al. 2013). Both groups of actors experience that the process comes to a halt ‘somewhere’ in the middle of the organisation.

A third explanation is that with any change, improvement or innovation different groups of employees are involved, who all have different stakes, interests, and goals for the accomplishment or failure of the process. These groups of employees refer to both academic staff and professional staff.1 They work in more or less separate domains and are independently focused on realising different goals. The relationship between the academic and professional staff is (already for a long time) described as conflicting, competitive, negative or tense (Birnbaum 1988; Conway 1998; Anderson 2008; Kallenberg 2016b). Some simply see this tension as an organisational feature of universities and not necessarily as something negative (Warner and

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1 Academic staff consists of all persons holding appointments at the university comprising of teachers, lecturers or professors (academic staff is also called: the faculty). Professional staff are the graduate and/or professional entry staff that have high levels of autonomy and responsibility for managing and leading business-related functions in the university.
Palfreyman 1996; Lauwerys 2002; Bacon 2009). Others suggest it is a dysfunctional separation, because both groups strive towards different values and goals, resulting in processes, projects or innovations not going well (Dearlove 1998; Tourish 2000; Wohlmuther 2008).

Changes, improvements and innovations benefit when people work together, cooperate, and influence each other (De Faria et al. 2010). When that cooperation is absent and mutual influencing of people, departments, and teams is lacking, this results – in my opinion – in the inflexibility of such processes. So far, little is known about the extent to which people within the levels of the university cooperate or influence each other. Knowledge about this extent of cooperation or influence can contribute to a better explanation for the fact that many changes and innovations develop slowly and with difficulties.

Thus it is interesting to examine to what extent employees of departments influence each other and to compare different groups of employees among them. It makes sense to use the academic staff and the professional staff as a starting point. After all, this distinction within the university organisations has been made for a long time (In ‘t Veld, 1995). Nonetheless, it is relevant to include two other groups of employees in this study, namely academic middle managers and educational administrators.

Academic middle managers are members of the academic staff who – in addition to their academic position – are charged with managerial and administrative tasks and roles and fulfil positions such as: Dean, Vice-dean, Programme Chair, Director of Studies, etc. (Kallenberg 2013; Davis et al. 2014; Floyd 2016). Whitchurch (2006; 2018) and Klumpp and Teichler (2008) speak in this regard of third space professionals, who has developed as a third domain of employees under the influence of an external focus on aspects such as cost cutting, transparency in resource allocation and performance management (Pollitt and Bouckaert 2011).

Educational administrators are members of the professional staff. They are highly qualified employees who play a key role in strategy and policy processes and educational development. They fulfil positions such as: Head of Educational and Student Affairs; Head Quality Control; Director of Operational Management, Director of Academic Affairs, etc. (Kallenberg 2016b).

It is interesting to include these groups in this research, because they distinguish themselves from the academic and professional staff and, they are influential and crucial in fulfilling specialised functions in the centre of the organisation. Characteristic for these groups is that, hierarchically, they are positioned in the middle of the organization and from there they can use their influence on innovation processes both upward and downward in the organization. Recent research in this field (i.a. Floyd 2016; Harboe 2013; Kallenberg 2013, 2015, 2016; Preymann et al. 2015; Karlsson and Ryttberg 2016; Marini and Reale 2016) indicates that they possess a wealth of organizational knowledge and the ability to actually make their influence on the organizational processes count. And especially because there are many initiatives for change, improvement and innovation taking place at the same time, there is an asymmetrical difference in power and resources. That makes it easier (and more important) for them to make their own choices and, for instance, to translate and then integrate fragmented knowledge into innovation processes. That makes the academic middle managers as well as educational administrators key figures during such initiatives and they can therefore ‘make or break’ it. Nobody can really verify who set out a task or where it came from. That translation and interpretation of fragmented knowledge by academic middle managers is also called the “prism-effect” (Kallenberg 2013, 2015). The power of academic middle managers and educational administrators is mostly conceptualized as intervening and relational: building and maintaining relationships, establishing cooperation, influencing processes and searching for
compromises through negotiation. That should not only be seen as part of the job, but also as the essence of their role (Branson et al. 2016). This requires certain skills, because they must be able to quickly switch in terms of role (from manager to subordinate or colleague; from generalist to specialist); must be able to speak several languages (translate abstract and strategic language into concrete and operational language) and be able to act as a diplomat to influence the information flow between the academic and professional staff (Kallenberg 2013).

This perspective of the academic middle manager and the educational administrators makes it interesting to consider in this study four groups of employees, namely the 1) academic staff, 2) professional staff; 3) academic middle managers, and 4) educational administrators.

The research question in this article is how much influence these four groups of university employees experience to have and desire to have on their own work processes and those of others.

This is a relevant cause, because there are indications that - precisely in cooperation with each other and mutual influence - changes, improvements, and innovation on universities will proceed better (De Faria et al. 2010). For that reason, it is relevant to encourage employees to poke their noses in stuff that isn’t their immediate concern. With this, they stimulate each other’s ideas, come up with shared ideas, and experience more involvement in each other’s work and in the university.

**Research design**

To answer the research question an online survey was conducted (Surveymonkey) in three Western European countries (the Netherlands, Flanders, Denmark) with a relatively comparable higher education culture. These countries have similar system characteristics, and all have a binary system of higher education institutes (with colleges and universities). In the Global Competitiveness Report of the World Economic Forum, which ranks the countries with the most highly educated population, they are all high positioned respectively on the 3rd, 5th, and 6th position (Schwab 2016). And students and staff experience hardly any adjustment problems when they exchange in these countries (Brooks 2018; Teichler 2010).

**Random sample test**

To this end, the survey was spread among employees in faculties of six Dutch universities in the period May–June 2015, five Flemish universities in April–May 2016 and four Danish universities in June–July 2016. The selected universities in the three countries had a comparable nature: traditional research universities with a general and broad profile. For this reason, these differences have arisen in the number of universities selected per country. The target population consisted of members from the academic staff (teachers, University Lecturer, Senior University Lecturer and Professors) and members from the professional staff, from the different faculty departments, such as HR, education logistics, finance, etc. The e-mail addresses were taken from the university websites (before GDPR legislation started). Due to the differences in the accessibility of the relevant websites, this led to differences in the number of mail addresses per country. The survey was sent to 1632 Dutch, 2521 Flemish en 1580 Danish e-mail addresses, and resulted in respectively 548 (31.6%, Dutch), 768 (30.4%, Flemish) and 453 respondents (28.6%, Denmark). In addition to the invitations, two reminders were sent with an interval of eight days. A non-response research was not conducted.
The raw data set has been analysed and tested for aspects such as normality, missing values and outliers. As a result of that multiple respondents have been deleted from the data set for various reasons such as incompleteness or obstruction, respectively 69 (the Netherlands), 159 (Flanders) and 144 (Denmark). This resulted in a data set from each country of respectively 479 (the Netherlands), 609 (Flanders) and 309 (Denmark). The three data sets have been merged into one workable dataset of 1397 respondents. Of the respondents 47.2% are male and 52.8% are female. 56.9% of the respondents were members of the academic staff, of which 69.1% have a doctorate degree. Of the professional staff 13.1% has a doctorate degree and 44.7% has an academic degree (MA or MSc) (Table 1).

The survey asked, among other questions, to which function category people thought they belonged. The academic staff was also asked to indicate whether they fulfilled any extra roles, such as Director of Studies, Programme Chair, etc. This made it possible to consider this group as ‘academic middle manager’. Within the professional staff, the group educational administrators can be differentiated on the basis of the position they fulfil.

In this article, the results of the respondents are not presented separated by country. The main reason for this is that is not relevant to the research question in this article. However, an analysis of variation (ANOVA) of the respondents’ averages has been used to determine the extent to which the respondents from the countries differ. In addition, the respondents were found to differ significantly from country to country on a number of questions. However, because the pattern in the response to the distinguished processes (see below) is similar, the entire group has been included in this analysis.

**Measurements**

The survey included items where respondents were asked to use a Likert-scale to indicate the extent to which they experienced influence on the tasks in the various departments of the organisation and to what extent they wanted to have influence on the tasks in the various departments (1 = little, 2 = moderate, 3 = sufficient, 4 = considerable, 5 = significant). The following departments/processes were distinguished: (1) educational (learning) process: content, development, execution and assessment of education, (2) educational support processes: study guidance, education logistics, educational administration, education infrastructure, internal and external communication and (3) educational conditional processes: finance, human resources, governance, quality control, strategies (Kallenberg 2016c).

**Analysis**

The data of the survey have been processed with SPSS. The analysis in this article consists of a comparison of the average scores of respondents from the various departments in relation to

| Table 1 - Four Groups of Respondents |
|-------------------------------------|
| Academic staff | The Netherlands | Flanders | Denmark | N | %    |
| Academic staff | 245             | 290      | 160     | 695 | 49.7 |
| Professional staff | 161               | 246      | 84      | 491 | 35.1 |
| Academic Middle Manager | 54            | 43       | 46      | 143 | 10.2 |
| Educational Administrator | 19              | 30       | 19      | 68  | 4.9  |
| Total                | 479             | 609      | 309     | 1397|      |
one another and of a comparison of the four groups of employees in relation to one another, based on analyses using ANOVA and Post Hoc Tests (TukeyHSD).

**Results**

In Table 2, an overview is presented of the extent to which the four groups of employees experience influence and desire influence on various processes in the organization. This is shown per group in respectively the first and second column. Average scores above 3.00 are marked in grey.

The academic staff experiences sufficient influence (> 3.00) on the four educational (learning) processes. They experience less influence on all other processes in the organization. While they desire more influence on multiple processes (such as the educational logistic processes, quality control and strategy), the average score of the academic staff as a whole remains below 3.00.

The professional staff experiences very little influence across the board. There is no score above 3.00 for experienced influence on any of the processes and the scores for desired influence also remain below 3.00. There are hardly even average scores above 2.00!

Academic middle managers experience a lot of influence (> 4.00) on the educational (learning) processes, as well as sufficient influence (> 3.00) on three educational conditional processes, namely, quality control (3.44), governance (3.19) and strategy (3.08). They experience less influence on the educational support processes. Academic middle managers do have the desire to have more influence on more processes. This is true for a few educational support processes, i.e. logistics (3.54), techniques (3.04) and communication (3.30) and for the educational conditional processes: finance (3.03) and HRM (3.34).

Educational Administrators also experience sufficient influence on many processes. This is true for the execution (3.02) and development (3.13) of education, planning (3.18), student

| I have/want to have influence on ... | AS | PS | AMMs | EAs |
|-----------------------------------|----|----|------|-----|
| ↓                                 |    |    |      |     |
| 1 = have / 2 = want to have       |    |    |      |     |
| I have/want to have influence on ... |    |    |      |     |
| Educational (Learning) processes |    |    |      |     |
| Content of Education              | 3.25| 3.71| 1.29 | 1.58| 4.36 | 4.48 | 2.59 | 3.50 |
| Execution of Education            | 3.80| 4.04| 1.43 | 1.56| 4.51 | 4.60 | 3.02 | 3.20 |
| Development of Education          | 3.13| 3.59| 1.41 | 1.67| 4.29 | 4.46 | 3.13 | 3.76 |
| Assessment of Education           | 3.42| 3.67| 1.34 | 1.46| 4.14 | 4.33 | 2.72 | 3.49 |
| Educational Support processes     |    |    |      |     |
| Education logistics & planning    | 2.04| 2.84| 1.66 | 1.80| 2.93 | 3.54 | 3.18 | 3.69 |
| Education techniques & Infrastructure | 1.48| 2.28| 1.69 | 1.91| 1.99 | 3.04 | 2.41 | 3.24 |
| Student & Exam administration     | 1.49| 1.89| 1.75 | 1.86| 2.31 | 2.68 | 3.15 | 3.40 |
| Internal & External Communication | 1.77| 2.15| 1.92 | 2.16| 2.87 | 3.30 | 2.93 | 3.47 |
| Study & Student guidance          | 1.81| 2.14| 1.72 | 1.88| 2.66 | 2.91 | 3.40 | 3.75 |
| Educational Conditional processes |    |    |      |     |
| Finance                           | 1.38| 1.97| 1.67 | 1.82| 2.31 | 3.03 | 2.21 | 3.24 |
| Human Resources                   | 1.52| 2.07| 1.65 | 1.94| 2.80 | 3.34 | 2.38 | 3.44 |
| Quality control                   | 1.88| 2.41| 1.76 | 1.95| 3.44 | 3.69 | 3.76 | 4.00 |
| Governance                        | 1.70| 2.17| 1.69 | 1.96| 3.19 | 3.51 | 2.93 | 3.58 |
| Strategy                          | 1.62| 2.41| 1.66 | 2.05| 3.08 | 3.75 | 3.04 | 4.07 |
administration (3.15), student guidance (3.40), quality control (3.76), and strategy (3.04). The desire of educational administrators is to have sufficient to a lot of influence on all processes.

**Experienced influence**

Figure 1 provides a presentation of the average scores of the experienced influence on the processes. In the figure, the individual scores are represented as lines to clearly illustrate the distinction between the groups (the corresponding data are represented in the appendix Table 6). The figure shows that academic middle managers and educational administrators experience more influence on the various processes than the academic staff and professional staff.

A comparison between the groups using ANOVA and Post Hoc Tests (Tukey HSD) show that the differences between the groups for the vast majority of the differentiated processes are significant \( p < .05 \), see Table 4 in the appendix.

On the educational learning processes the four groups differ significantly on all four processes (content, execution, development, review). The only exception is the “development of education” where academic staff and educational administrators do not differs significantly \( (MD = -.002; p = 1.000) \).

On the educational support processes there are still many significant differences between the groups, though a trend can be seen in which the differences are no longer significant between the academic staff and professional staff on the one hand and the academic middle managers and educational administrators on the other. The significant differences between the
four groups also occur for technique & infrastructure and the education administration. On the educational logistics (academic middle managers and educational administrators not significant) and the study advice and guidance (academic staff and professional staff) the differences are already less great, and on the internal/external communication there are no significant differences between the academic staff and professional staff on the one hand and academic middle managers and educational administrators on the other, though between these ‘clusters’ the difference is significant.

On the educational conditional processes this trend is even stronger. On finance there is a significant difference between the academic staff and the professional staff in relation to each other and in relation to academic middle managers and educational administrators; in HRM there is a significant difference between academic middle managers and educational administrators in relation to each other and in relation to academic staff and professional staff. The other three scores (quality control, governance and strategy) show significant differences between the (non-)academic staff and academic middle managers/educational administrators, but not between the academic staff and professional staff or between the academic middle managers and educational administrators. Of these last five scores the groups (non-)academic staff and academic middle managers/educational administrators do not show a significant difference on four scores between themselves, but do show a significant difference in relation to one another, which suggests there are two clusters.

**Desired influence**

The desired influence is illustrated in Fig. 2. This figure shows a lot of similarities with Fig. 1. Here too the scores of the academic staff and the professional staff are not significantly different from each other on most of the educational support processes and educational conditional processes. The same can also be said of the scores of the academic middle managers and educational administrators, while the cluster academic staff/professional staff does differ significantly from the cluster academic middle managers/educational administrators. This is evident from the comparison between the groups using ANOVA and Post Hoc Tests (Tukey HSD). Many differences between the groups of the differentiated processes are significant (where $p < .05$), see Table 5 in the appendix.

For the educational learning processes, the four groups differ significantly on many processes. The exception is the academic staff and the educational administrators who do not show significant differences on three of the four processes (content, development, review).

As for the experienced influence, a clear trend can be seen for the desired influence on the educational support processes in which some differences are no longer significant between the academic staff and the professional staff on the one hand and the academic middle managers and educational administrators on the other. Between the academic staff and professional staff there are no significant differences on the student administration and the internal/external communication and between the academic middle managers and educational administrators there are no significant differences on the logistics, technologies and internal/external communication.

For the educational conditional processes this trend is also stronger for the desired influence. The academic staff and the professional staff do not differ significantly on three of the five processes (finance, HRM, governance); while academic middle managers and educational administrators do not differ significantly on any of the processes. Academic
middle managers and educational administrators do differ significantly from academic staff and professional staff on all these processes.

**Conclusion and discussion**

The purpose of this research was to clarify the differences of the experienced (and wanted) influence on their own work processes and those of others between four groups of employees at universities. The results show that most of the significant differences occur between the academic staff and professional staff on one hand and the academic middle managers and educational administrators on the other. However, we can’t interpret the academic staff and professional staff as a group and the academic middle managers and educational administrators as a group.

For the academic staff and professional staff the results show clear differences between the experienced and the desired influence on the educational learning processes. The academic staff experiences and desires much more influence than the professional staff. This difference between these groups was to be expected, because educational learning processes are part of the core activities of the academic staff. Striking however is that between academic staff and professional staff there are few significant differences on the experienced (and desired) influence on the educational support processes and educational conditional processes. It is striking because it was expected that the professional staff would experience (and desire) more influence than the academic staff on these particular processes. The explanation for this is that the professional staff is not easily represented as one group. It becomes evident when the
scores of the various departments are shown separately (see Table 6 in the appendix). The employees of the independent departments experience (and desire) sufficient influence on their ‘own’ work processes but none or hardly any on that of their colleagues. When the scores are combined the average score of the experienced and desired influence of the professional staff is low across the board and the professional staff scores comparable to the academic staff on the educational support processes and the educational conditional processes. The professional staff can therefore be interpreted as a heterogeneous group. And while this is not evident from the results, something similar is true for the academic staff. The academic staff too has a heterogeneous character due to the differences in fields and disciplines (lawyers, sociologists, mathematicians, biologists, historians, etc.) and educational programmes, which makes it difficult to interpret the academic staff as a homogeneous group (Moen 1989).

The results of this study contribute to the debate of the declining role of the academic staff in the governance and management of HEIs (Deem et al. 2007; Enders et al. 2013). Because of the New Public Management (NPM) based higher education reforms, universities have fostered to become more corporate and managerial organizations (Leisyte and Dee 2012). And in order to increase efficiency and meet goals, the roles of professional administrators without academic experience, has increased significantly. These university managers feel themselves more accountable to their administrative superiors and less accountable to faculty, students and others within the institution (Waugh 2003). At the same time, the academic staff has lost their status as key actors in collegial university governance, and from that perspective - it is also logical that they do not feel themselves involved in innovations in which they are not directly involved.

For the academic middle managers and educational administrators there are also significant differences between both groups on the educational learning processes. These differences become less great for the educational support processes and educational conditional processes which again shows the same trend as for the academic staff and professional staff. In comparison with the academic staff and professional staff, the academic middle managers and educational administrators experience (and desire) significantly more influence on many processes. For the educational administrators, it is striking to conclude that they are ambitious in terms of the educational learning processes, and score comparable to the academic staff on the content, development and review of education. In my opinion, it is possible that this ‘empowerment’ of the educational administrators can be attributed to the emergence of the so-called New Public Management, which focuses on cost cutting, performance management and transparency in resource allocation (Pollitt and Bouckaert 2011). Thus, while there are differences between academic middle managers and educational administrators, they nevertheless can almost be considered as one group of actors. The reason for this is that they have comparable motives in the improvement, changes and innovations and these similarities are less self-evident between the academic staff and the professional staff.

The many significant differences in experienced (and desired) influence between the groups on the educational learning processes, the educational support processes and the educational conditional processes, leads to the conclusion that the university can be seen as a ‘patchwork’ in which cooperation and mutual influencing is not self-evident.

This conclusion brings us back to the beginning of the article. There, it was argued that universities take many initiatives to change, improvement and innovation, that regularly get stuck ‘somewhere’ in the organization and are not completed (Buller 2015). Several
explanations were provided for this, such as that initiatives intentionally or unintentionally cancel each other out; that the low level of employee involvement in the course of a (part of the) innovation leads to the idea of the innovation not being sufficiently adopted; and that the different interests and goals of academic and professional staff hinder the implementation of the innovation.

We cannot adjust the first explanation. Universities simply take a lot of innovation initiatives in multiple places and on multiple subjects in the organization. But the second and third explanations for the failure of innovations, namely the low level of involvement in the progress of the innovations and the different stakes and interests that block the implementation, do, in light of this article, provide material for discussion.

Indeed, as was posited in the introduction, the changes, improvements and innovations benefit when people work together, cooperate, and influence each other (De Faria et al. 2010). The results show that (especially) the academic and professional staff experiences little or hardly any influence on the work processes of other departments. The absence of mutual influence, it can be presumed that there is perhaps also very little cooperation and mutual involvement. Indeed there is a patchwork of variable interests, stakes and motives. Which in turn leads to an environment that is conducive to the failure of initiatives for changes, improvements, and innovations.

A positive contribution for more successful initiatives perhaps can be found in the role and position of the academic middle managers and the educational administrators. Because the results of this study show that they do in fact experience influence on multiple processes. From that position they can stimulate (but also limit) cooperation within the innovation processes; they can spread (but also halt) the innovation idea within the organization and they can provide an important contribution to the coordination of interests and goals in the change, improvement or innovation to be realized.

Because the academic middle managers and the educational administrators do have the necessary influence on the different processes within the university, they are the employees who - when they possess the aforementioned cocktail of skills - could have an important positive influence on the success of changes, improvements and innovations.

In this research the differences of the experienced (and wanted) influence on their own work processes and those of others between four groups of employees at universities are clarified. The dataset were perceptual data, because of the focus on the respondents’ assessments of their experiences and desired influence over various aspect of academic work. This factor, of course is a restriction of this research. Further research could be focused on an in-depth understanding of the real influences on the work processes of these groups. A second restriction of this research is, that I am aware that I have left an important perspective undiscovered. This perspective is the contemporary businesslike approach in HE reform. Because of this reform in HE the academic staff as well as the professional staff feel that there is an increasing control over their work (Carvalho and Videira 2017) and they are constrained by administrative and cultural-cognitive pressures associated with a new managerial and performative organizational environment (Ball 2015). This governmental influence on the way the staff act is a relevant subject for further research, because it can contribute to a more complete interpretation of the processes during change and innovation in HE.
Appendix: Results ANOVA and Post hoc Tukey test between the groups

Table 3
ANOVA

|                          | Experienced influence (F (df)) | Desired influence (F (df)) |
|--------------------------|-------------------------------|---------------------------|
| Content of Education     | 393,758 (3)                  | 458,303 (3)               |
| Execution of Education   | 490,890 (3)                  | 576,227 (3)               |
| Development of Education | 315,597 (3)                  | 369,605 (3)               |
| Assessment of Education  | 371,883 (3)                  | 463,084 (3)               |
| Educational logistics and planning | 67,738 (3) | 120,685 (3)               |
| Education techniques & Infrastructure | 25,605 (3) | 45,743 (3)               |
| Student & Exam Administration | 63,727 (3) | 47,311 (3)               |
| Internal & External Communication | 54,267 (3) | 55,760 (3)               |
| Study & Student guidance | 61,481 (3)                   | 58,633 (3)                |
| Finances                 | 43,496 (3)                   | 58,518 (3)                |
| HRM                      | 67,671 (3)                   | 69,372 (3)                |
| Quality control          | 137,049 (3)                  | 108,914 (3)               |
| Governance               | 104,027 (3)                  | 86,811 (3)                |
| Strategy                 | 112,843 (3)                  | 106,114 (3)               |

For each value: $p = 0.00$.

Table 4
Tukey HSD of the EXPERIENCED INFLUENCE

|                          | Academic Staff | Professional Staff | AMM | EA |
|--------------------------|----------------|-------------------|-----|----|
| content of the education |                |                   |     |    |
| AS                       | $MD=1962, p=.000$ | $MD=-1107, p=.000$ | $MD=664, p=.000$ | $MD=1771, p=.000$ |
| PS                       | $MD=-1962, p=.000$ | $MD=-3069, p=.000$ | $MD=-1298, p=.000$ | $MD=3069, p=.000$ |
| AMM                      | $MD=1107, p=.000$ | $MD=3069, p=.000$ | $MD=1771, p=.000$ | $MD=-1298, p=.000$ |
| EA                       | $MD=-664, p=.000$ | $MD=1298, p=.000$ | $MD=-1771, p=.000$ | $MD=-1771, p=.000$ |
| execution of the education |               |                   |     |    |
| AS                       | $MD=2369, p=.000$ | $MD=-711, p=.000$ | $MD=723, p=.000$ | $MD=-1434, p=.000$ |
| PS                       | $MD=-2369, p=0.00$ | $MD=-3080, p=.000$ | $MD=-1646, p=.000$ | $MD=-1646, p=.000$ |
| AMM                      | $MD=-711, p=0.00$ | $MD=3080, p=.000$ | $MD=-1434, p=.000$ | $MD=-1434, p=.000$ |
| EA                       | $MD=-723, p=0.00$ | $MD=1646, p=.000$ | $MD=-1434, p=.000$ | $MD=-1434, p=.000$ |
| development of the education |            |                   |     |    |
| AS                       | $MD=1720, p=.000$ | $MD=-1164, p=.000$ | $MD=-.002, p=1.00$ | $MD=-1723, p=.000$ |
| PS                       | $MD=-1720, p=0.00$ | $MD=-2884, p=.000$ | $MD=-1723, p=.000$ | $MD=-1723, p=.000$ |
| AMM                      | $MD=1164, p=.000$ | $MD=2884, p=.000$ | $MD=-1161, p=.000$ | $MD=-1161, p=.000$ |
| EA                       | $MD=.002, p=1.00$ | $MD=1723, p=.000$ | $MD=-.002, p=1.00$ | $MD=-.002, p=1.00$ |
| Review of education      |                |                   |     |    |
| AS                       | $MD=2083, p=.000$ | $MD=-719, p=.000$ | $MD=598, p=.000$ | $MD=-1485, p=.000$ |
| PS                       | $MD=-2083, p=.000$ | $MD=-2802, p=.000$ | $MD=-1485, p=.000$ | $MD=-1485, p=.000$ |
| AMM                      | $MD=719, p=.000$ | $MD=2802, p=.000$ | $MD=1317, p=.000$ | $MD=1317, p=.000$ |
| EA                       | $MD=-.598, p=.000$ | $MD=1485, p=.000$ | $MD=-1317, p=.000$ | $MD=-1317, p=.000$ |
| educational logistics and planning |         |                   |     |    |
| AS                       | $MD=-.388, p=.000$ | $MD=-887, p=.000$ | $MD=-1133, p=.000$ | $MD=-1133, p=.000$ |
| PS                       | $MD=-.388, p=.000$ | $MD=-1275, p=.000$ | $MD=1521, p=.000$ | $MD=-1521, p=.000$ |
| AMM                      | $MD=887, p=.000$ | $MD=1275, p=.000$ | $MD=-.246, p=.473$ | $MD=-.246, p=.473$ |
| EA                       | $MD=1133, p=.000$ | $MD=1521, p=.000$ | $MD=-.246, p=.473$ | $MD=-.246, p=.473$ |
Table 4 (continued)

|                          | Academic Staff | Professional Staff | AMM   | EA       |
|--------------------------|----------------|-------------------|-------|----------|
| **Educational technique & infrastructure** |                |                   |       |          |
| AS                       | –              | MD = -.208, p=.002 | MD = -.512, p=.000 | MD = -.930, p=.000 |
| PS                       | MD = -.208, p=.002 | –                   | MD = -.304, p=.008 | MD = -.723, p=.000 |
| AMM                      | MD=.512, p=.000 | MD=.304, p=.008    | –     | MD = -.419, p=.023 |
| EA                       | MD=.930, p=.000 | MD=.723, p=.000    | MD=.419, p=.023 | –          |
| **Student & Exam Administration** |                |                   |       |          |
| AS                       | –              | MD = -.258, p=.000 | MD = -.822, p=.000 | MD = -.1657, p=.000 |
| PS                       | MD=.258, p=.000 | –                   | MD = -.564, p=.008 | MD = -.1399, p=.000 |
| AMM                      | MD=.822, p=.000 | MD=.564, p=.008    | –     | MD = -.835, p=.000 |
| EA                       | MD = 1657, p=.000 | MD = 1399, p=.000 | MD = 1399, p=.000 | –          |
| **Internal & External Communication** |                |                   |       |          |
| AS                       | –              | MD = -.147, p=.118 | MD = -1095, p=.000 | MD = -1155, p=.000 |
| PS                       | MD=.147, p=.118 | –                   | MD = -.948, p=.008 | MD = -.1008, p=.000 |
| AMM                      | MD = 1095, p=.000 | MD = 948, p=.000  | –     | MD = -.060, p=.983 |
| EA                       | MD = 1155, p=.000 | MD = 1008, p=.000 | MD = 1008, p=.000 | –          |
| **Study and Student Guidance** |                |                   |       |          |
| AS                       | –              | MD = -.090, p=.567 | MD = -.854, p=.000 | MD = -.1589, p=.000 |
| PS                       | MD=.090, p=.567 | –                   | MD = -.944, p=.008 | MD = -.1679, p=.000 |
| AMM                      | MD=.854, p=.000 | MD=.944, p=.008    | –     | MD = -.735, p=.000 |
| EA                       | MD = 1589, p=.000 | MD = 1679, p=.000 | MD = 1679, p=.000 | –          |
| **Finances**             |                |                   |       |          |
| AS                       | –              | MD = -.285, p=.000 | MD = -.928, p=.000 | MD = -.826, p=.000 |
| PS                       | MD=.285, p=.000 | –                   | MD = -.642, p=.000 | MD = -.541, p=.000 |
| AMM                      | MD=.928, p=.000 | MD=.642, p=.000    | –     | MD = 102, p=.902 |
| EA                       | MD = 826, p=.000 | MD=.541, p=.000   | MD = .902, p=.000 | –          |
| **Human Resource Management** |                |                   |       |          |
| AS                       | –              | MD = -.138, p=.123 | MD = -1289, p=.000 | MD = -.867, p=.000 |
| PS                       | MD=.138, p=.123 | –                   | MD = -1151, p=.000 | MD = -1229, p=.000 |
| AMM                      | MD = 1289, p=.000 | MD = 1151, p=.000 | –     | MD = .422, p=.036 |
| EA                       | MD = 867, p=.000 | MD=.729, p=.000   | MD = .902, p=.000 | –          |
| **Quality Control**      |                |                   |       |          |
| AS                       | –              | MD = -.123, p=.256 | MD = -1552, p=.000 | MD = -1876, p=.000 |
| PS                       | MD=.123, p=.256 | –                   | MD = -1675, p=.000 | MD = -1999, p=.000 |
| AMM                      | MD = 1552, p=.000 | MD = 1675, p=.000 | –     | MD = -.325, p=.214 |
| EA                       | MD = 1876, p=.000 | MD = 1999, p=.000 | MD = 1999, p=.000 | –          |
| **Governance**           |                |                   |       |          |
| AS                       | –              | MD=.006, p = 1,000 | MD = -1489, p=.000 | MD = -.1225, p=.000 |
| PS                       | MD=.006, p = 1,000 | –                   | MD = -1494, p=.000 | MD = -.1231, p=.000 |
| AMM                      | MD = 1489, p=.000 | MD = 1494, p=.000 | –     | MD = .263, p=.342 |
| EA                       | MD = 1225, p=.000 | MD = 1331, p=.000 | MD = .342, p=.342 | –          |
| **Strategy**             |                |                   |       |          |
| AS                       | –              | MD = -.043, p=.899 | MD = -1465, p=.000 | MD = -1425, p=.000 |
| PS                       | MD=.043, p=.899 | –                   | MD = -.1422, p=.000 | MD = -.1382, p=.000 |
| AMM                      | MD = 1465, p=.000 | MD = 1422, p=.000 | –     | MD = .040, p=.994 |
| EA                       | MD = 1425, p=.000 | MD = 1382, p=.000 | MD = .994, p=.994 | –          |
### Table 5 Tukey HSD of the DESIRED INFLUENCE

| Content of the education | AS     | PS     | AMM    | EA     |
|--------------------------|--------|--------|--------|--------|
| AS                       | MD = 2131, p = .000 | MD = -772, p = .000 | MD = 210, p = .434 |
| PS                       | MD = -2452, p = .000 | MD = -2903, p = .000 | MD = -1921, p = .000 |
| AMM                      | MD = 3017, p = .000 | MD = 1921, p = .000 | MD = -1071, p = .000 |
| EA                       | MD = -506, p = .001 | MD = 1946, p = .000 | MD = -176, p = .617 |

| Execution of the education | AS     | PS     | AMM    | EA     |
|-----------------------------|--------|--------|--------|--------|
| AS                          | MD = 2452, p = .000 | MD = -565, p = .000 | MD = -3017, p = .000 | MD = -1946, p = .000 |
| PS                          | MD = 3017, p = .000 | MD = 1921, p = .000 | MD = 1071, p = .000 |
| AMM                         | MD = -506, p = .001 | MD = 1946, p = .000 | MD = -176, p = .617 |
| EA                          | MD = -506, p = .001 | MD = 1946, p = .000 | MD = -176, p = .617 |

| Development of the education | AS     | PS     | AMM    | EA     |
|-----------------------------|--------|--------|--------|--------|
| AS                          | MD = 2213, p = .000 | MD = -653, p = .000 | MD = -1134, p = .000 | MD = -1327, p = .000 |
| PS                          | MD = 2866, p = .000 | MD = -1327, p = .000 | MD = -1327, p = .000 |
| AMM                         | MD = -188, p = .546 | MD = 2025, p = .000 | MD = -188, p = .546 |
| EA                          | MD = -188, p = .546 | MD = 2025, p = .000 | MD = -188, p = .546 |

| Review of education | AS     | PS     | AMM    | EA     |
|--------------------|--------|--------|--------|--------|
| AS                 | MD = 1034, p = .000 | MD = -706, p = .000 | MD = -144, p = .861 |
| PS                 | MD = 1741, p = .000 | MD = -706, p = .000 | MD = -144, p = .861 |
| AMM                | MD = 1885, p = .000 | MD = -706, p = .000 | MD = -144, p = .861 |
| EA                 | MD = 1885, p = .000 | MD = -706, p = .000 | MD = -144, p = .861 |

| Education Logistics and Planning | AS     | PS     | AMM    | EA     |
|----------------------------------|--------|--------|--------|--------|
| AS                               | MD = -368, p = .000 | MD = -766, p = .000 | MD = -1508, p = .000 |
| PS                               | MD = -1134, p = .000 | MD = -1134, p = .000 | MD = -1508, p = .000 |
| AMM                              | MD = 1322, p = .000 | MD = -1134, p = .000 | MD = -1508, p = .000 |
| EA                               | MD = 1322, p = .000 | MD = -1134, p = .000 | MD = -1508, p = .000 |

| Education Techniques & Infrastructure | AS     | PS     | AMM    | EA     |
|---------------------------------------|--------|--------|--------|--------|
| AS                                    | MD = 027, p = .983 | MD = -787, p = .000 | MD = -1508, p = .000 |
| PS                                    | MD = 814, p = .000 | MD = -787, p = .000 | MD = -1508, p = .000 |
| AMM                                   | MD = 1508, p = .000 | MD = -787, p = .000 | MD = -1508, p = .000 |
| EA                                    | MD = 1508, p = .000 | MD = -787, p = .000 | MD = -1508, p = .000 |

| Student & Exam Administration | AS     | PS     | AMM    | EA     |
|-------------------------------|--------|--------|--------|--------|
| AS                            | MD = -009, p = .999 | MD = -1150, p = .000 | MD = -1322, p = .000 |
| PS                            | MD = -1140, p = .000 | MD = -1150, p = .000 | MD = -1322, p = .000 |
| AMM                           | MD = 1313, p = .000 | MD = -1150, p = .000 | MD = -1322, p = .000 |
| EA                            | MD = 1313, p = .000 | MD = -1150, p = .000 | MD = -1322, p = .000 |

| Internal & External Communication | AS     | PS     | AMM    | EA     |
|-----------------------------------|--------|--------|--------|--------|
| AS                                | MD = 256, p = .004 | MD = -775, p = .000 | MD = -1610, p = .000 |
| PS                                | MD = 1031, p = .000 | MD = -775, p = .000 | MD = -1610, p = .000 |
| AMM                               | MD = 1610, p = .000 | MD = -775, p = .000 | MD = -1610, p = .000 |
| EA                                | MD = 1610, p = .000 | MD = -775, p = .000 | MD = -1610, p = .000 |

| Study & Student Guidance | AS     | PS     | AMM    | EA     |
|--------------------------|--------|--------|--------|--------|
| AS                        | MD = 149, p = .163 | MD = -1056, p = .000 | MD = -1263, p = .000 |
| PS                        | MD = -1205, p = .000 | MD = -1205, p = .000 | MD = -1263, p = .000 |
| AMM                       | MD = 1412, p = .000 | MD = -1205, p = .000 | MD = -1263, p = .000 |
| EA                        | MD = 1412, p = .000 | MD = -1205, p = .000 | MD = -1263, p = .000 |

| Finances                  | AS     | PS     | AMM    | EA     |
|---------------------------|--------|--------|--------|--------|
| AS                        | MD = 134, p = .282 | MD = -1268, p = .000 | MD = -1371, p = .000 |
| PS                        | MD = -1402, p = .000 | MD = -1268, p = .000 | MD = -1371, p = .000 |
| AMM                       | MD = 1505, p = .000 | MD = -1268, p = .000 | MD = -1371, p = .000 |
| EA                        | MD = 1505, p = .000 | MD = -1268, p = .000 | MD = -1371, p = .000 |

| Human Resources Management | AS     | PS     | AMM    | EA     |
|----------------------------|--------|--------|--------|--------|
| AS                         | MD = 134, p = .282 | MD = -1268, p = .000 | MD = -1371, p = .000 |
| PS                         | MD = -1402, p = .000 | MD = -1268, p = .000 | MD = -1371, p = .000 |
| AMM                        | MD = 1505, p = .000 | MD = -1268, p = .000 | MD = -1371, p = .000 |
| EA                         | MD = 1505, p = .000 | MD = -1268, p = .000 | MD = -1371, p = .000 |

| Quality Control | AS     | PS     | AMM    | EA     |
|-----------------|--------|--------|--------|--------|
| AS              | MD = 134, p = .282 | MD = -1268, p = .000 | MD = -1371, p = .000 |
| PS              | MD = -1402, p = .000 | MD = -1268, p = .000 | MD = -1371, p = .000 |
| AMM             | MD = 1505, p = .000 | MD = -1268, p = .000 | MD = -1371, p = .000 |
| EA              | MD = 1505, p = .000 | MD = -1268, p = .000 | MD = -1371, p = .000 |
|       | AS          | PS          | AMM         | EA          |
|-------|-------------|-------------|-------------|-------------|
| **AS** | –           | MD = -1281, \( p = 0.000 \) | MD = -1593, \( p = 0.000 \) | –           |
| **PS** | MD = -0.453, \( p = 0.000 \) | –           | MD = -1733, \( p = 0.000 \) | MD = -2045, \( p = 0.000 \) |
| **AMM** | MD = 1281, \( p = 0.000 \) | MD = 1733, \( p = 0.000 \) | –           | MD = -0.312, \( p = 0.321 \) |
| **EA**  | MD = 1593, \( p = 0.000 \) | MD = 2045, \( p = 0.000 \) | MD = -0.312, \( p = 0.321 \) | –           |
| **Governance** | | | | |
| **AS** | –           | MD = -1334, \( p = 0.000 \) | MD = -1619, \( p = 0.000 \) | –           |
| **PS** | MD = -0.211, \( p = 0.019 \) | –           | MD = -1544, \( p = 0.000 \) | MD = -0.075, \( p = 0.975 \) |
| **AMM** | MD = 1334, \( p = 0.000 \) | MD = 1544, \( p = 0.000 \) | –           | –           |
| **EA**  | MD = 1409, \( p = 0.000 \) | MD = 1619, \( p = 0.000 \) | MD = -0.075, \( p = 0.975 \) | –           |
| **Strategy** | | | | |
| **AS** | –           | MD = -1343, \( p = 0.000 \) | MD = -1663, \( p = 0.000 \) | –           |
| **PS** | MD = -0.362, \( p = 0.000 \) | –           | MD = -1704, \( p = 0.000 \) | MD = -0.320, \( p = 0.304 \) |
| **AMM** | MD = 1343, \( p = 0.000 \) | MD = 1704, \( p = 0.000 \) | –           | –           |
| **EA**  | MD = 1663, \( p = 0.000 \) | MD = 2024, \( p = 0.000 \) | MD = -0.320, \( p = 0.304 \) | –           |
| Educational (learning) processes | Professor (Senior) Lecturer | Teacher/tutor/ Researcher | Study- advisor | Educational coordinator | Administration | Facilitating Affairs | Communication | Financial Dep. | Human Resource | Governance / Policy |
|---------------------------------|-----------------------------|---------------------------|---------------|-------------------------|---------------|---------------------|--------------|----------------|----------------|-------------------|
| Content of Education            | 4.06                        | 3.80                      | 2.42          | 1.63                    | 1.59          | 1.18                | 1.13         | 1.12          | 1.07          | 1.02              | 2.07              |
| Execution of Education          | 4.25                        | 4.18                      | 3.28          | 2.04                    | 1.59          | 1.38                | 1.36         | 1.10          | 1.14          | 1.02              | 2.37              |
| Development of Education        | 3.82                        | 3.68                      | 2.43          | 1.82                    | 1.83          | 1.24                | 1.29         | 1.20          | 1.09          | 1.02              | 2.61              |
| Assessment of Education         | 4.01                        | 3.81                      | 2.80          | 1.46                    | 1.80          | 1.31                | 1.21         | 1.10          | 1.16          | 1.00              | 2.38              |
| Educational support processes   | 2.51                        | 2.34                      | 1.72          | 2.04                    | 3.67          | 1.69                | 1.29         | 1.12          | 1.20          | 1.07              | 2.46              |
| Education logistics & planning  | 1.79                        | 1.60                      | 1.36          | 1.51                    | 1.96          | 1.35                | 3.23         | 1.20          | 1.30          | 1.26              | 1.89              |
| Education techniques & infrastructure | 1.91                     | 1.64                      | 1.38          | 2.23                    | 2.69          | 2.73                | 1.25         | 1.24          | 1.22          | 1.10              | 2.53              |
| Student & Exam Administration   | 2.33                        | 1.98                      | 1.62          | 2.35                    | 2.41          | 1.96                | 1.42         | 3.75          | 1.36          | 1.12              | 2.36              |
| Internal & External Communication | 2.34                      | 2.02                      | 1.53          | 4.00                    | 2.56          | 1.61                | 1.23         | 1.41          | 1.09          | 1.05              | 2.53              |
| Study & Student Guidance        | 2.25                        | 1.39                      | 1.16          | 1.25                    | 1.46          | 1.59                | 1.68         | 1.37          | 3.78          | 1.49              | 1.94              |
| Financial business              | 2.66                        | 1.61                      | 1.18          | 1.28                    | 1.43          | 1.55                | 1.48         | 1.29          | 1.87          | 3.70              | 2.00              |
| Human Resources                 | 2.93                        | 2.12                      | 1.57          | 2.04                    | 2.02          | 1.48                | 1.57         | 1.35          | 1.57          | 1.33              | 3.57              |
| Quality Control                 | 3.03                        | 1.83                      | 1.29          | 1.63                    | 1.78          | 1.49                | 1.51         | 1.73          | 1.71          | 1.60              | 2.82              |
| Governance                      | 2.90                        | 1.68                      | 1.34          | 1.73                    | 1.55          | 1.43                | 1.42         | 1.90          | 1.56          | 1.42              | 3.00              |
| Strategy                        |                            |                           |               |                        |               |                     |              |               |               |                   |                   |
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