Early and late adoption of knowledge products:
Strategic or institutional behaviour?

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Abstract

This chapter analyses the behaviour of early adopters of innovations and followers in the Dutch university sector in the period 1974 – 1993. The innovations we concentrate on are (comparable) new study programmes. We formulate contrasting expectations bearing on institutional and strategic choice theory concerning the consequences for early adopters versus followers. From an institutional perspective we predict that followers would be less successful measured in terms of the quality of the programme, the enrolments, and fundamental changes in the programme (including closing down the programme). Seven chains of innovations (in total 35 new programmes) are analysed. This analysis points out that the behaviour of the adopters can be seen as a combination of both strategic choice and institutional adjustment.

INTRODUCTION

In the last fifteen years, the Dutch higher education system underwent significant changes in terms of the supply of study programmes. An impressive growth of the total number of 'knowledge products' – both in the university and the non-university (*hogescholen*) sector – could be observed; the higher education institutions established many new programmes, and rearranged and integrated existing programmes. In the 1990s, the commanding growth led to a debate on the transparency of the supply. The government, but also employers' organisations complained about the lack of clearness in the nomenclature and the lack of connections between the contents of the new 'knowledge products' and job requirements at the labour market.

Assertions based on resource dependency and social exchange theory offered explanations for the growth of the number of programmes in the university sector (Huisman 1995). However, part of the developments was difficult to explain. Especially the suspicion that the universities have copied each other's initiatives is hardly elaborated upon. This chapter will try to account for some of the unexplained developments in the supply of programmes in the university sector. Institutional theory focusing on the diffusion of innovations and imitation processes (notably DiMaggio and Powell 1983; Tolbert and Zucker 1983) seems to provide a good starting-point for the analysis.

The structure of the chapter is as follows. First, we give some background information on the Dutch higher education system. Second, we put forward some results of previous studies on the change in the supply of programmes in the period between 1974 and now, focusing on the mechanisms of acquisition of new knowledge products. Third, we offer an explanation – based on institutional theory - for presumed copying behaviour of the universities. Fourth, we empirically investigate the viability of our explanation. Fifth, we reflect on the outcomes of our study.

THE DUTCH HIGHER EDUCATION SYSTEM

The Dutch public higher education system is a binary system, nowadays consisting of thirteen universities and sixty-four *hogescholen* (higher professional education institutions). In 1995, about 450,000 students were enrolled in the higher education system of which 40% in the university sector.

The first university, the University of Leiden, was founded in 1575. Three other universities were established in the beginning of the 17th century. The youngest

universities were – because of the growth of the student numbers – established in the 1960s and 1970s. The universities' function is to do basic and applied research and to teach students at an academic level (including the training of PhD students). Nine of the institutions are general universities, three are technical universities, one institution is an agricultural university. The four to six year academic programmes lead to the degree of *doctorandus* (drs), *ingenieur* (ir, engineering) or *meester* (mr, law). The pre-university education certificate (six-year VWO) is sufficient to enrol the university. Universities may require that students have taken up the secondary school examinations in two specific subjects to register for a particular university programme.

THE DYNAMICS OF THE SUPPLY OF STUDY PROGRAMMES

To give an idea of the change in the supply of programmes in the university sector over time, figure 1 evinces both the number of different programmes and the total number of programmes offered per academic year (1974 – 1999).

FIGURE 1 ABOUT HERE

As can be seen from this graphical representation, both the total number of programmes and the number of different programmes (i.e. defined on the basis of the nomenclature: programmes having different names are termed different) increased through time. The periods 1974 – 1982 and 1993 – present have been rather stable, but especially the 1980s and beginning of 1990s were turbulent periods. The following overview serves as an explanation of the developments.

- In general, it was made credible that interest groups in universities supplying a study programme confronted with decreasing or strongly fluctuating first year enrolments, were more inclined to develop new study programmes and new specialisations than those confronted with increasing and/or stable enrolments. This expectation was drawn from resource dependency (Pfeffer and Salancik 1978) and social exchange theory (Emerson 1972ab) and tested – using loglinear regression analysis – by empirical materials of Dutch study programmes and specialisations offered and emerging in 1974 – 1993 (Huisman 1995). Since the amount of money supplied to the universities and departments was to a considerable extent defined by the number of enrolling first year students, the survival of the interest group involved in the curriculum was at stake. Decreasing student numbers were an indication of high levels of dependency. The

establishment of a new programme or specialisation was seen as a balancing operation intended to make up for the threatening development in the student enrolments and thereupon to secure the survival of the interest group involved.

- The research above could not demonstrate the impact of increasing levels of dependency on the emergence of study programmes and specialisations separately. However, a study on the effects of cutback operations in the university sector in the beginning of the 1980s and the midst of the 1980s demonstrated the mechanism of balancing operations for study programmes threatened with closure (Huisman 1996). According to the Ministry of Education and Science the cutback policies by means of closing down programmes were necessary to maintain an efficient system of degree programmes. A counterbalancing effect was that many of the interest groups involved in the abolished programmes took the opportunity to establish a new programme. This new programme was in many cases somewhat different from, but cognate to the abolished programme. As a consequence, the total number of programmes remained relatively stable, but the number of different programmes increased.

- A relatively sharp increase of the number of programmes took also place around 1990. The explanation for this development was that in 1992 new regulations were to be implemented that would be more severe – from the perspective of those involved in curriculum matters in higher education – than the existing regulations (Huisman 1996). The former regulations allowed the institutions to establish so-called 'free' study programmes, for this type of programmes only approval of internal decision making bodies was necessary. For 'experimental' programmes, the approval or advice of external agencies (including the Ministry, responsible for funding the programme) was necessary. Free and experimental programmes are – by definition – programmes that do not exist yet in the system. Universities or departments wanting to set up a programme already existing at another university, also needed approval of the Ministry and the advice from other agencies. The new regulations force the universities to submit a proposal for a new programme to an advisory committee (ACO). This committee, instituted by the Minister (its members appointed by the Minister), is to give a weighty advice to the Minister, based on a consideration of whether the new programme would threaten the overall efficiency of the supply of programmes. Recognised programmes are taken up in the CROHO, the Central Register of Higher Education Programmes. The universities and departments seized the opportunity to establish a substantial number of new 'free'

programmes just before the new regulations came into force. That the universities were right about the more 'severe' regulations is shown by the developments since 1993: from then on the supply of programmes is relatively stable, many proposals for new programmes were turned down.

- The fact that not only the total number of programmes increased but also the number of different programmes, can be explained by the large increase of free and experimental programmes. In the period until the middle of the 1980s, a large part of the new programmes were 'duplications' of existing programmes. From 1985 on, more and more unique programmes (free and experimental programmes) were implemented. This lead to a larger share of unique programmes of the total number of programmes (from 16% in 1974 to 38% in 1998).

In sum, the introduction of new study programmes in the Dutch university sector can be interpreted as either balancing operations to cope with the threatening situation of declining or irregular enrolments, as an answer to the closing down of existing programmes and as an anticipation of the new regulations. Note that the studies so far have not focused on the external 'need' for new programmes. The underlying mechanisms have been shown from the perspective of the interest groups within the universities and departments, without addressing the question whether the new programmes were the consequence of disciplinary developments, emerging professions needing preparation, labour market developments, or simply inspired by the desires of particular groups of students. These arguments could play - and probably have played - a role in the development of the supply, but have not been studied in detail (but see e.g. Moen 1989; Davids and van Herwaarden 1993 for some Dutch examples).

From the studies, we conclude that the introduction of new programmes can be explained by explanations rooted in rationally-oriented organisation theories, that stress the adaptive capabilities of organisations. In this perspective, organisations alter or adapt their structure and practices as a reaction to changing environments. Organisations - or parts of these organisations - continually monitor environmental developments which 'force' them to adapt to changes. Organisations should, however, not only be seen as passive adapters to their environments. At the same time, organisations try to influence this environment, either by overt or strategic responses. Adjusting programmes to labour market requirements or students' wishes are typically adaptive strategies. The strategic behaviour aimed at actively influencing or adapting

the environment is especially visible in the period just before the introduction of the new regulations in 1992.

Despite the positive and non-contradictory results of the study, several questions remained unanswered. Whereas the explanation proved to have significant power, the amount of variance explained was relatively small, pointing at the existence of other factors of influence. Close inspection of the data seems to reveal some other patterns of programme acquisition. One of the patterns points in the direction of programme imitation: once a certain university has acquired a specific (new) programme, other universities take over the innovation and also implement a programme similar in name and/or content to the early adopter. Whereas such a pattern could be explained by rational theory arguments, institutional theory (DiMaggio and Powell 1983; Tolbert and Zucker 1983) may add to our understanding of the why and how of programme acquisition. This challenge will be taken up in this paper.

INNOVATION AND IMITATION

The point of departure for the analysis is that the emergence of a new study programme is considered as an innovation for those implementing the programme. According to Rogers (1983: 11) " … an innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption". This definition implies that all new programmes at the Dutch universities are innovations from the perspective of the department or university involved. To connect the concept of innovation with imitation, a level of analysis is necessary that surpasses this level of the unit of adoption. After all, it takes at least two to address imitation (the imitator and the imitated). We observe imitation when a university takes over a programme offered at another university. It is difficult to distinguish exact copying and imitation from borrowing an idea and adjusting it to the specific situation of the adopter. We therefore adhere to Sevón's (1996: 51) definition of imitation as "a process in which something is created and transformed by chains of translators". Organisations pick up ideas, translate it into something that fits its context, and materialise it into action: "The result of this action may or may not be similar to the idea that was originally conceptualized by the imitating organization. In other words, whatever is spread is not immutable; it may change in an ongoing process of borrowing ideas or practices in a chain of actors." (ibid: 51). Imitation is therefore "a process of identity transformation that is neither solely a copy nor a totally new invention, but something between these ideal

types." (ibid: 52). This conceptualisation allows for a broader view on imitation (not solely straightforward copying) as well as it permits a distinction between early and late adopters of the innovation or idea.

THEORETICAL EXPECTATIONS

A number of assertions rooted in organisational sociology could explain the occurrence of imitation processes. We put forward two rivalling explanations of such processes. One strand of organisational sociology would stress the rational, adaptive, strategic behaviour of higher education institutions. Organisations have the capability and opportunity to exercise discretion over the design and change of their structure in response to environmental contingencies (Oliver 1988). Traditional adaptation theories (e.g. strategic choice and resource dependency) would assume that – once a specific innovation has been implemented – other actors in the organisational field deliberating a similar innovation would analyse this innovation. Two broad categories of considerations can be distinguished in this analysis: those relating to the adopting organisation and those relating to the initial innovator. Both categories relate to questions of efficiency, effectiveness and profit or utility maximisation. The first category includes, for instance, a cost-benefit analysis for the own organisation, implying answering questions of whether such an innovation would fit the characteristics of the adopting organisation, how much time and energy should and can be invested, and which obstacles can be foreseen in the adoption phase. The second category may include an assessment of the successfulness of the initial innovation and an attempt to estimate the costs involved for the innovator to bring about the innovation. Of course, the ultimate choices of the actors are to some extent limited by bounded rationality and the lack of complete information. On purpose we pictured an 'extreme' version of theories stressing adaptive behaviour to sharpen the contrast with institutional theory.

New institutional theory would stress the 'taken-for-grantedness' of organisational change or emphasise the impact of the structuration and collective rationality of the institutional environment, forcing organisations in an organisational field to adopt uniform structures and to conform to the institutional environment. With respect to institutional explanations of adopting innovations, particularly those put forward by DiMaggio and Powell (1983), Tolbert and Zucker (1983), and Fligstein (1985) are of interest. Their views will be discussed below, but first it must be stressed that most

institutionalists do not deviate from rational theorists in trying to explain the initial innovation or early adoption of innovations. Both strands of perspectives acknowledge – in general terms – that the decision to carry out the innovation (and the further process of implementation) depends on the degree to which the change improves or at least is expected to improve internal processes (Tolbert and Zucker 1983: 26). The theories deviate when it comes to explain the diffusion process (or the travel of ideas, as Czarniawski and Joerges 1996 put it) and the effects of innovations implemented by early and late adopters.

DiMaggio and Powell (1983) presume that homogeneity of organisations and organisational behaviour is a matter of course. Three mechanisms of isomorphism contribute to developments towards homogenisation: coercive, mimetic, and normative processes. Coercive isomorphism stems in particular from political influence (e.g. regulations, technological requirements), mimetic isomorphism results from standard responses to uncertainty (e.g. poorly understood technologies) and normative isomorphism is associated with professionalisation (formal education and the growth of professional networks lead to the definition and continuation of normative rules about professional behaviour). The theoretically oriented article has procured a number of empirical studies that focused on processes of isomorphism. Haveman (1993), for instance, studied the entry into new markets of organisations in the savings and loans industry (1977 – 1987). Her research pointed out that organisations imitate the actions of successful organisations in the same organisational field. Although she showed the effect of institutional mechanisms, adaptation or strategic choice approaches could as well have explained the mimetic behaviour of successful organisations. The institutional argument would have been more pervasive, when it could have been demonstrated that organisations *perceived* to be successful were imitated or even less successful organisations were taken as role model.

Whereas Haveman concentrated on mimetic isomorphism, Mezias (1990) focused on normative and coercive mechanisms. Mezias studied financial reporting practices by for-profit organisations in the period between 1962 and 1984. He investigated whether institutional arguments (regulatory and professional pressures) better than applied economic arguments (selecting a practice based on expected increased earnings, i.e. maximising reported net income on financial statements) would explain the adoption of a certain accounting practice (the flow-through method). The empirical data indicated that the majority of the variance explained by the model is added by variables inspired by institutional theory.

Some evidence to the contrary is provided by a study of Kraatz and Zajac (1996) on changes in the population of American liberal arts colleges in the period 1971 – 1986. Their research pointed out that technical environmental conditions – instead of institutional conditions – were strong predictors of the changes observed. Furthermore, the research suggested that the colleges became less homogeneous over time and that the colleges in general did not imitate the most prestigious organisations in their field.

The studies so far have concentrated mostly on mechanisms of isomorphism. The second set of studies to be discussed here focuses on the diffusion of an innovation (which in fact follows a similar pattern as the mechanisms of isomorphism). Tolbert and Zucker (1983) maintain – based on institutional theory – that early adoption of innovations (in this particular case: civil service by cities in the period 1880 to 1935) is related to internal organisational requirements. This implies that city characteristics could predict adoption. Late adoptions are related to institutional considerations (such as legitimation), implying city characteristics to be of less predictive power. Indeed, the empirical research indicated that the extent of institutionalisation (by law or gradual legitimation) was a good predictor of adoption of civil services. Whereas in the initial phase, city characteristics were good predictors of implementing civil services, in the late adoption phase city characteristics were less meaningful.

Fligstein (1985) points at mimetic pressures as an important factor explaining the adoption of organisational structures. In a longitudinal study of the spread of the multidivisional firm (1919 – 1979), the behaviour of leaders of organisations – watching each other and adopting what they perceive as successful strategies for growth and structure – was in line with institutional expectations. Next to such an institutional explanation, some support could be found for other theories, such as power-control theory (e.g. Pfeffer 1981). As in the research of Haveman (1993), a rather coarse measure of mimetic isomorphism has been applied: the percentage of organisations that have made the transition to the multidivisional form at the beginning of each decade. Mimetic behaviour may be demonstrated by such a measure, but the outcome may also be explained by other theories. This is in contrast to the design of, for instance, Mezias' and Tolbert and Zucker's studies, that clearly distinguish rational and institutional explanations.

In sum, most institutional theories focusing on adoption of innovations presume that first adopters rationally decide on innovations and adaptations, whereas later adopters do so because of widespread and powerful norms (coercive, normative or mimetic).

Most studies concentrated on the concept of isomorphism, but similar arguments for institutional behaviour can be found in the work of other institutionalists. March (1981: 221-226) speaks of obligatory action: once a certain number of actors do things in a particular way, others will take that way as taken for granted and will undertake similar actions without thinking (see also Stinchcombe [1965] on the impact of organisational founding on structure). Meyer and Rowan (1991) use the concept of taken-for-grantedness to express processes and mechanisms similar to institutional isomorphism.

DIFFERENCES BETWEEN LEADERS AND FOLLOWERS

Laying out differences between leaders and followers in a similar vein as Tolbert and Zucker (1983) and Mezias (1990) seems promising to disentangle strategic (adaptive) choice and institutional behaviour. Although the institutional argumentation varies to some extent from author to author, most institutionalists agree that organisational behaviour is driven by legitimacy (and to a certain degree by effectiveness) instead of (rational) efficiency. To be able to confront institutional theory with strategic choice theory we emphasise the differences between the theoretical frameworks.[1] The application of institutional argumentation in the context of Dutch university education, would imply that followers imitate without (much) reflection on the consequences of their behaviour (in terms of costs and benefits). Such (parts of) organisations will be confronted with what Meyer and Rowan (1991: 55-56) call structural inconsistency between the ceremonial, institutional rules and efficiency: "Organizations often face the dilemma that activities celebrating institutionalized rules, although they count as virtuous ceremonial expenditures, are pure costs from the point of view of efficiency." It can therefore in general be hypothesised from an institutional perspective that late adopters – imitating the first adopter – are less successful and even threatened in their survival. In operational terms, given the context of programme innovation in the Dutch university sector, this would imply:

- *The programmes of late adopters are worse off than early adopters in terms of student enrolments*

In contrast to the initial innovator, followers will be less concerned about enrolments, for their (imitative) behaviour is not suggested by an analysis of the market for the new programme. A consequence is that the followers will be less successful in attracting

students. It could even be the case that the enrolments in the new programme are at the expense of the other programmes of the department or university.

- *The programmes of late adopters are more often than early adopters of (relatively) poor quality*

According to the same principles as above, the contents and structure of the new programme have not been thought-out, which affects the quality of the programme. The quality assurance system (peer visitors 'judge' the quality of the programmes, see e.g. Westerheijden 1997 for a description) as well as the judgements of students will uncover the 'recklessness' of establishing the new programme. The expectation concerning the quality can be broken down in specific prospects concerning students' success rates, the cohesion of the programme, etc.

- *Late adopters are more often than early adopters confronted with the closing down of programmes, or a profound change in the programme.*

An ultimate consequence of institutional behaviour could be that the new programme is not viable at all. Whereas voluntary programme close down hardly occurs in the Dutch university sector, this could be the consequence. Less dramatic versions of this mechanism would imply a drastic change in the programme, to be observed by a change in name or structure of the programme.

METHODOLOGY

We have selected seven cases of presumed programme imitation in the Dutch university sector. These cases are in fact chains of innovations (travels of ideas) in this sector. It is assumed that an initial innovation has catalysed the innovations of followers. We acknowledge that innovators in the Netherlands may be adopters from an international perspective and that imitators might copy foreign examples (instead of the early adopter in the home country). However, the first option does not affect our expectations and methodology. The second option is – given the specific context of our research – realistic in only a very few cases. The cases (clusters of programmes) are the following: (1) Non-traditional religion studies; (2) Educational studies; (3) Public administration; (4) Communication studies; (5) Theatre studies; (6) Computer engineering; (7) Business informatics. Since the average number of universities at which an adoption could be implemented – given the structure of the university system and the different missions of the universities –, is maximally seven, the length of the chains is relatively low. We selected chains of at least three adopters.

As an operationalisation of the success of the programmes in terms of enrolments, we analysed the (change in) market shares of the different programmes. For some cases, the analysis became less meaningful, for the short period for which data were available and the incomparability of the departments in which the innovation took place. Furthermore, many cases endured competing or multiple explanations. For example, some new programmes indeed had high enrolments, but at the same time other programmes at the same department suffered from decreasing enrolments. In such cases, the success of the innovation could be explained as a failure at the department level. We could find only one case – non-traditional religion studies – with time series of enrolments of considerable length in which competing explanations could be ruled out.

The judgements of the visitation committee were used to calculate an average score for the quality of the programme. In a few of the – more recent – evaluations, committees used a list of indicators (about 70-90 items) that were scored, ranging from -- (very unsatisfactory) to ++ (good to excellent). The items on the list represented dimensions such as the structure of the programme, the objectives of the programme, the facilities available to students, and the final thesis. It must be stressed that the qualifications of the visitation committee were not meant to rank the programmes, but to substantiate their general findings. However, for our purpose, we took the scores as rank scores. Because the procedure of including the lists of indicators is only recently introduced, a total average rank score could only be calculated for the programmes within three of our clusters. For four cases, reliable quality measures based on large-scale student evaluations were available.

A final set of indicators was chosen to measure profound changes in the programme. Three categories of indicators were used: the number of changes in the specialisations offered within the programme, a change in the name of the programme and the ultimate change: the closing-down of the programme. All cases could be used to test the expectations regarding this final set of indicators.

A COMPREHENSIVE DESCRIPTION OF THE CLUSTERS

In the cluster of non-traditional religion studies, the University of Leiden (UL) was the first to introduce such a programme in 1985: Religious and non-religious world views. The *Vrije Universiteit* (VU) followed two years later with the General programme Theology. In 1989 to 1991, subsequently the University of Groningen (RUG) and the Catholic University of Nijmegen (KUN) introduced the programme Religious studies and

the University of Amsterdam (UVA) started the Social science of religion programme. The *Vrije Universiteit* established a second non-traditional programme: Religions and world views in 1993. The programme of the University of Groningen was the only experimental programme, all others were free programmes. All programmes were established in the departments of Theology.

After the Catholic University of Nijmegen established a free programme Educational studies in 1979, the programme was 'legitimised' and taken up in the Academic Statute in 1983. The Academic Statute was the pre-1992 register of recognised – by government, the universities and the disciplines – study programmes. In that year, the universities of Utrecht (UU), Groningen, Amsterdam (both UVA and VU) started such a programme. The one at the Vrije Universiteit only existed for four years. All these programmes were established in the department of Social Sciences, closely linked to the programme of Pedagogy. In-between, the University of Twente (UT) established the experimental programme Educational science and technology in 1981. The free programme Educational sciences of the Catholic University Brabant (KUB), established in 1985 in the department of Socio-Cultural Sciences, existed only for three years.

The University of Twente has established the first programme in Public administration in 1976. It was implemented on an experimental basis. In the period of cut-back operations in the 1980s, the universities of Leiden and Rotterdam (EUR) were granted the opportunity to establish – in close co-operation – another programme in Public administration. Shortly after, the universities of Brabant and Nijmegen introduced variations to the idea of a programme in Public administration: Public administration and policy sciences. After a few years, the names of these free study programmes were changed (in 1991 and 1993, respectively).

The University of Nijmegen started a free programme in Mass communications before 1974. It was renamed in 1981 to Communication and taken up in the Academic Statute. Two years later the University of Amsterdam introduced the programme too. The first two programmes were established in the department of Social Sciences. In 1992, the University of Groningen introduced the free programme Communication studies in the department of Humanities. The free programme Language, information and communication of the Catholic University of Brabant emerged in 1993. It was in fact one of the branches (together with the programme Language and culture studies) of the former programme Language and literature studies, established in 1978. In the year 1993, the University of Twente established the programme Applied communication sciences.

The University of Amsterdam already introduced a free programme Drama before 1974. The University of Utrecht started Theatre studies in 1976. After the programme was taken up in the Academic Statute in the beginning of the 1980s, the University of Amsterdam changed the name into Theatre studies. In 1985, the Catholic University of Nijmegen started a free programme: Film and performing arts, broadening the idea of theatre studies to other media. The same goes for the University of Amsterdam, introducing the free programme Film and television in 1991. In the 1990s, the University of Utrecht followed this trend and changed the name of its programme into Theatre, film and television studies. All programmes found a place in the department of Humanities.

The technical universities – in Delft (TUD), Eindhoven (TUE) and Twente – all started a programme in Technical informatics in 1981. In the 1990s, the Catholic University of Nijmegen changed its programmes in the department of Sciences and started a programme Technical computer science. A few years later, the University of Groningen established the programme Technical informatics, also in the department of Sciences.

The *Vrije Universiteit* started the programme Business mathematics and informatics in 1990. As part of the changes in the Faculty of Sciences of the University of Nijmegen (see above), also a programme Computer science for business and industry was implemented. In the same year, the University of Amsterdam started the programme Information systems, renamed Business information systems in 1993. In that year, the University of Twente started the programme Business information technology. All programmes originated in the department of (Mathematics and) Informatics or the department of Sciences. Table 1 gives an overview of the travel of ideas: the programmes that emerged within the seven clusters. In the table, the names as they were used in the 1999 CROHO are recorded.

TABLE 1 ABOUT HERE

LATE ADOPTERS ARE WORSE OFF IN TERMS OF ENROLMENTS

Two indicators are proposed to show the impact of the innovation on the enrolments. First, the market shares of the departments of Theology before and after the innovation are compared. Data on the first-year enrolments in the period 1982 – 1995 in all programmes of departments of Theology are used to calculate the market shares. To give an example: when a new programme was established in 1987, the average share

of first-year enrolments in the period 1982 – 1986 was compared to the average share in 1987 – 1995. Table 2 shows the results.

TABLE 2 ABOUT HERE

The table shows a mixed pattern of success. Late adopters (KUN, UVA) were less off than the initial innovator (and the two following innovations). One innovation (KUN) even led to a considerable decrease of the share of enrolments. The last innovation in the field of Theology, however, has – contrary to the expectation – increased the market share of the department considerably (+43%).

Since the innovations have been implemented in different years, one could object that the increase of enrolments in the initial innovations (until 1990) have been induced by an external factor, for instance a sudden general increase of enrolments in Dutch universities. The particular case of non-traditional religion studies allows for correcting for such external factors. A comparison between a department that has not introduced and five departments that have introduced a new programme is feasible. This implies that the 'non-innovative' department can be used as a kind of 'benchmark' against which the success of the innovators can be measured. Table 3 gives an overview of the change in market shares in the Theology departments, relative to the change in market shares of the department of the Utrecht University (the 'non-innovative' department).

TABLE 3 ABOUT HERE

The results are clearly different from those in table 2. The introduction of new programmes has had a positive effect on the enrolments, although the visitation rightly concludes that the enrolments are relatively low and the dropout rates high (VSNU 1992, 1997). Comparing first and late adopters leads to the conclusion that there is no regular pattern in terms of success of the former and (conceivable) failure of the latter.

THE QUALITY OF THE PROGRAMMES

For three cases, materials were available to convert the qualifications of the peer visitors in the quality assurance process in Dutch higher education. Students' judgements were available in four cases. Table 4 gives an overview of the results.

TABLE 4 ABOUT HERE

The average quality scores range from 1 to 4, the latter indicating the highest level of quality. The total number of items involved, used to calculate the average score is put between brackets. For four clusters also students' evaluation data were available. In a large-scale survey students judged several aspects of their programmes on a scale from 1 (poor quality) to 10 (high quality). The average score reflects the overall quality of the programme. The programmes per cluster are taken up in chronological appearance. In the last column the rank score for the programme is mentioned. For the programmes in the clusters of Public administration and Educational studies, the unweighted average rank score for the two indicators (high mutual correlations) has been calculated.

Only some support for the institutional hypothesis can be found in the case of Educational studies. Here, the oldest programmes (KUN and UT) seem to have the highest quality (although it must be stressed that the differences are small). The more recently established programmes have a somewhat lower quality score, two of the youngest programmes have disappeared (which is interpreted as a general failure, in which the lack of quality probably played a major role). A straightforward pattern is not found in the other two cases. Whereas both the visitation committee and the students rate the oldest programme in the cluster Public administration highest, the most recently established programme is on the second position. The case of Non-traditional religion studies is entirely contrary to the institutional expectation; the quality of the programme is inversely related to the age of the programme.

PROFOUND CHANGES IN THE PROGRAMMES

For all cases, the indicators of profound change in the programmes could be measured. Table 5 gives an overview of the rate of change in the structure and content of the specialisations of the programmes. The number indicates how often such a change has been brought about during the lifetime of the programme (since 1974): .500 means a change every two year, .100 indicates a change every ten years. Furthermore, an indicator has been taken up for a profound change in the name of the programme as well as an indicator for the closing down of the programme.

Some support for the expectations could be found in the cases of Computer engineering, Educational studies and Public administration. In Computer engineering, the more recent programmes underwent more changes in the organisation and contents of their specialisations than the programmes established in 1981. In the cluster of Educational sciences, the change in the specialisations does not yield a clear picture, but the fact that the two most recent programmes were closed down after some years of existence (three to four years) is in line with the expectation. The cluster of Public administration shows that the two young programmes have changed their name during their existence. The other four cases falsify the expectations. Either the profound changes are spread randomly across the programmes (Communication studies, Business informatics) or the cases show an inverse relationship: the followers show less profound changes than the initiator(s) (Theatre studies, Non-traditional religion studies). In the case of Non-traditional religion studies, the early adopter experienced most often changes in the structuring of the specialisations and the name of the programme. The programme will even not be offered anymore as of 1999.

TABLE 5 ABOUT HERE

CONCLUSIONS AND DISCUSSION

In this chapter the central question was whether institutional theory could explain the behaviour of late adopters of innovations. The specific innovation we focused on was the introduction of new study programmes in the Dutch university sector in the period 1974 – 1993. We interpreted the introduction of comparable study programmes as a travel of ideas in which an initial innovation is followed by others in the organisational field. Institutional theory – contrary to rationally-oriented theory – would predict that followers are less successful than initiators. The empirical data on seven cases (including in total 35 study programmes) do not support the institutional expectations. Looking at enrolment patterns, the quality of the programmes and profound changes in the programmes (including closure), there was no consistent pattern of followers being worse off than the initiator(s). The enrolment patterns indicate that strategic choice explanations better fit the data: the innovators are better off in terms of enrolments than the department that did not implement a new study programme. In terms of quality, sometimes early adopters are successful, in other cases late adopters are more successful. Also concerning profound changes in the programmes, there are mixed results: four out of seven cases contradict the institutional expectations.

The empirical data seem to point at the effects of both strategic adaptation and institutional behaviour. The results are in line with studies that either confront or combine institutional and strategic adaptation (or resource dependence) theories (Kraatz and Zajac 1996; Oliver 1988, 1991; Greenings and Gray 1994) or contradict institutional predictions (Huisman and Morphew 1998). An important lesson is to be learned especially for students of (presumed) imitative behaviour in higher education. A substantive number of studies has addressed issues of homogenisation, academic drift, institutional emulation etc. (see e.g. Huisman 1995, 1998 for an overview) in higher education. Most of these studies are hardly driven by theory, but it is often assumed that imitation plays an important role in such processes. For instance, regarding the behaviour of higher education institutions in the U.S. system, a number of authors put forward that institutions – by imitation – try to reach the higher positions (e.g. research universities) in the rank order of institutions. A reanalysis of such processes and further research, using adaptation and institutional theory might lead to a more precise assessment of strategic choice and institutional imitative behaviour in higher education.

NOTE

1.   We thank one of the anonymous reviewers for pointing at our "extreme" interpretation of assumptions behind the new institutional model.

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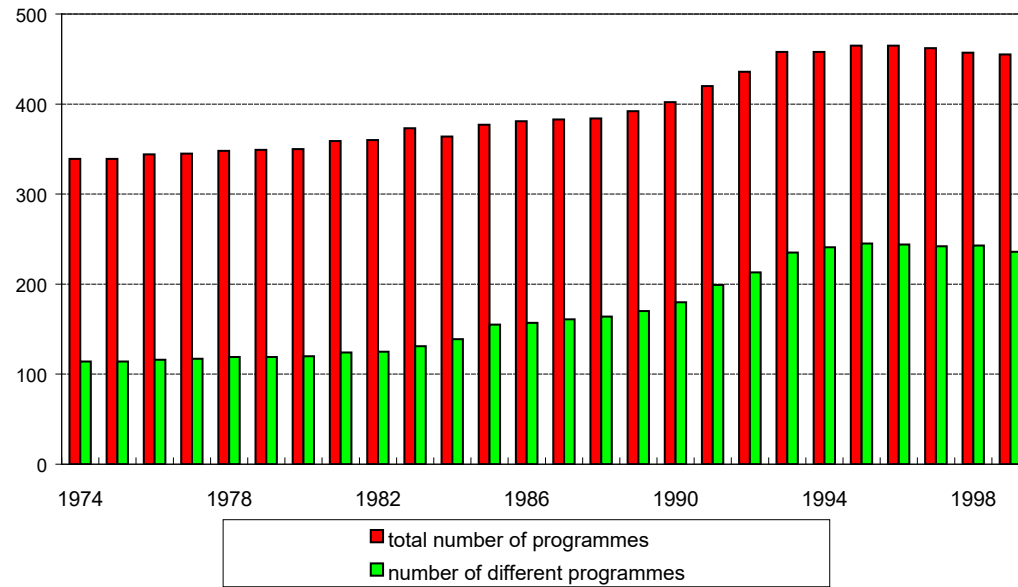**Figure 1:** *Development of supply of programmes 1974 – 1999*

Table 1: *The travel of ideas in seven clusters of programmes*

	Non-traditional religion studies	Educational studies	Public administration	Communication studies	Theatre studies	Computer engineering	Business informatics
1976			Public administration (UT)		Theatre, film & television (UU)		
1978							
1979		Educational studies (KUN)					
1981		Educational science & technology (UT)				Technical informatics (TUD, TUE, UT)	
1983		Educational studies (UU, RUG, UVA, VU)		Communication (UVA)			
1984			Public administration (EUR, UL)				
1985	Religious & non-religious world views (UL)	Educational Sciences (KUB)	Policy & organisation Studies (KUB)		Film & performing arts (KUN)		
1986			Adm. & organisation Studies (KUN)				
1987	General programme theology (VU)						
1989	Religious studies (RUG)						
1990	Religious studies (KUN)						Business mathematics & informatics (VU)
1991	Social science of religion (UVA)				Film & television (UVA)	Techn. computer science (KUN)	Computer sc. for business & industry (KUN), Business systems (UVA)
1992				Communication studies (RUG)			Business informatics (VU)
1993	Religions and world views (VU)			Language, inform. & communicat. (KUB) Applied comm. science (UT)		Technical informatics (RUG)	Business information technology (UT)

Table 2: *Market shares of the university departments before and after the innovation*

Programmes (in order of appearance)	Market share change (%)	Market share before (%)	Market share After (%)
Religious and non-rel. world views (UL)	+16	8,1	9,4
General programme Theology (VU)*	+36	11,2	15,3
Religious studies (RUG)	+41	10,1	14,3
Religious studies (KUN)	-16	19,2	16,2
Social sciences of religion (UVA)	+2	8,3	8,5
Religions and world views (VU)*	+43	15,3	21,9

* The market shares for the innovations at Amsterdam - VU were calculated differently, to forestall the interaction effect of the two innovations in the same department.

Table 3: *Market shares relative to the department at the Utrecht University*

Departments	Market share change (%)	Market share before (%)	Market share After (%)
Leiden	+27	21,9	27,7
Amsterdam – VU*	+40	28,6	40,0
Groningen	+83	25,1	46,1
Nijmegen	+13	47,5	53,7
Amsterdam – UVA	+43	21,0	30,2
Amsterdam – VU*	+116	40,0	86,5

* See note table 2.

Table 4: *Quality of the programmes*

Non-traditional religion studies	Quality score (N items)	Student judgements	Quality rank order
Religious & non-religious world views (1985, UL)	2,71 (77)		6
General programme theology (1987, VU)	2,85 (79)*		2
Religious studies (1989, RUG)	2,75 (77)		5
Religious studies (1990, KUN)	2,82 (77)		4
Social science of religion (1991, UVA)	2,93 (80)		1
Religions and world views (1993, VU)	2,83 (66)		3
Theatre studies			
Theatre studies (pre-1974, UVA)		7,07	1
Theatre, film & television (1976, UU)		7,00	3
Film & performing arts (1985, KUN)		6,90	4
Film & television (1991, UVA)		7,01	2
Communication studies			
Communication (pre-1974, KUN)		6,69	3
Communication (1983, UVA)		6,56	4
Communication studies (1992, RUG)		6,98	2
Language, inform. & communication (1993, KUB)		7,39	1
Applied communication science (1993, UT)		n.a.	-
Educational studies			
Educational studies (1979, KUN)	2,99 (79)	7,08	2
Educational science and technology (1981, UT)	2,99 (82)	7,36	1
Educational studies (1983, UU)	2,95 (83)	6,87	3
Educational studies (1983, RUG)	2,79 (78)	6,77	4
Educational studies (1983, UVA)	2,89 (82)	6,64	4
Educational studies (1983, VU)	-	-	-
Educational sciences (1985, KUB)	-	-	-
Public administration			
Public administration (1976, UT)	3,24 (86)	7,07	1
Public administration (1984, EUR)	3,02 (86)	6,72	4
Public administration (1984, UL)	2,88 (86)	6,92	3
Policy & organisation studies (1985, KUB)	2,80 (76)	6,79	5
Administration & organisation studies (1986, KUN)	3,15 (86)	6,86	2

* This is the score for the 'classical' programme and the general programme together.

Table 5: *Profound changes in the programmes*

Non-traditional religion studies	Change in structure/content	Change of name	Closing down
Religious & non-religious world views (1985, UL)	.500	Yes	Yes
General programme theology (1987, VU)	.400		
Religious studies (1989, RUG)	.375		
Religious studies (1990, KUN)	.286		
Social science of religion (1991, UVA)	.167		
Religions and world views (1993, VU)	.000		
Communication studies			
Communication (pre-1974, KUN)	.217		
Communication (1983, UVA)	.214		
Communication studies (1992, RUG)	.200		
Language, inform. & communication (1993, KUB)	.000		
Applied communication science (1993, UT)	.250		
Theatre studies			
Theatre studies (pre-1974, UVA)	.130	Yes	
Theatre studies (1976, UU)	.609	Yes	
Film & performing arts (1985, KUN)	.167		
Film & television (1991, UVA)	.333		
Computer engineering			
Technical informatics (1981, TUD)	.188		
Technical informatics (1981, UT)	.250		
Technical informatics (1981, TUE)	.250		
Technical computer science (1991, KUN)	.667		
Technical informatics (1993, RUG)	.500		
Business informatics			
Business mathematics & informatics (1990, VU)	.000		
Comp. Sc. for business & industry (1991, KUN)	.500		
Business information systems (1991, UVA)	.000	Yes	
Business informatics (1992, VU)	.000		
Business information technology (1993, UT)	.250		
Educational studies			
Educational studies (1979, KUN)	.277		
Educational science and technology (1981, UT)	.062		
Educational studies (1983, UU)	.429		
Educational studies (1983, RUG)	.357		
Educational studies (1983, UVA)	.286		
Educational studies (1983, VU)	.000		Yes
Educational sciences (1985, KUB)	.000		Yes
Public administration			
Public administration (1976, UT)	.381		
Public administration (1984, EUR)	.462		
Public administration (1984, UL)	.462		
Policy & organisation studies (1985, KUB)	.500	Yes	
Administration & organisation studies (1986, KUN)	.363	Yes	