A TECHNOLOGICAL LIFE-CYCLE APPROACH TO THE ORGANISATIONAL FACTORS DETERMINING GATEKEEPER ACTIVITIES

by

ARNOUD DE MEYER

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Edith PENROSE
Associate Dean: Research and Development
INSEAD

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INSEAD
Boulevard de Constance
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France

A Technological Life-Cycle Approach to the Organisational Factors determining Gatekeeper Activities

Arnoud De Meyer (*)
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Abstract

The concept of the technological gatekeeper has met with considerable success in the research about communication in R&D departments. Some studies reach the conclusion that gatekeepers appear spontaneously while other studies see their role as a result of administrative status or managerial action. This study presents a model to explain these differences and offers some empirical evidence which supports the model.

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* Arnoud De Meyer is Assistant Professor with INSEAD, Fontainebleau, France. This research was supported by a grant of the Interuniversity College for Doctoral Studies in Management, Brussels.

A Life Cycle Approach to the Organisational Factors determining Gatekeeper Activities

1. INTRODUCTION

Within the field of the information flow in technical departments, the role of the technological gatekeeper (2),(7),(8),(14),(15) has attracted quite a lot of attention. The concept of the technological gatekeeper is in fact the application to the field of research and development of the more general two step process of information transfer as it had been described in earlier research about opinion forming (10). It is probably only one among several possible roles which can be described in relation to communication such as the bridge role or liason roles which link two cliques, the first one performed by a person belonging to one of the cliques, the second performed by somebody outside the cliques (13). Gatekeepers are, as a classical definition runs, individuals who "maintain constant outgoing contact outside his organization, who understands the way in which outsiders differ in perspective from their organizational colleagues, and who are able to translate between the two systems. The gatekeeper is able to understand external technological developments and to translate them into terms that can be understood by, and are relevant to, his organizational colleagues". (4)

The obvious success of the gatekeeper concept is due to the fact that, Allen e.a. (4) have shown, though in an indirect way, that performance of technical project groups and the presence of technological gatekeepers are positively related. In particular when "there exists a well-defined organizational boundary and a dynamic technology the gatekeeper is most important; the informal two-step process is an important way in which a dynamic technology can continuously be drawn into an organization" (4). This situation of dynamic technology and a clear

organizational boundary is probably most typical for the "bread and butter" product and process innovations produced by industry. The evidence for the existence of gatekeepers and their importance is, however, not limited to the U.S. (2),(14). In Europe too (3),(7),(8), these special individuals could be identified.

Once one accepts the existence and the importance of the gatekeeper phenomenon, the next question to be raised regards the characteristics and origin of a gatekeeper. Here however, opinions differ clearly. Allen (2) cites, apart from the gatekeeping behaviour, four characteristics:

1. Technologically they seem to perform very well;
2. Gatekeepers of the same organisation are usually well interconnected;
3. They are, after some reflection, immediately recognisable by management;
4. Usually they are to be found at the lowest level of the hierarchical ladder.

Reflecting on these characteristics one can only conclude that gatekeepers are a spontaneous phenomenon. They are important, and one would hope that if a favourable environment were created they would appear spontaneously.

In the British studies however, (7), (9) a dissenting opinion is presented. Frost and Whitley (7) argue that administrative status is the real determinant of the degree to which an individual is consulted by his colleagues, and that external contacts too are a consequence of the administrative position, in other words some jobs bring ex officio extensive internal and external contacts, with them. Consequently gatekeeping is a result of administrative status.

Hall and Ritchie (9) too report the existence of gatekeepers, but they come to the conclusion that in the laboratory they studied, the organisation structure had an important impact on the information flow. They suggest that the gatekeeping task is a consequence of the organisational structure, thus a direct result of management action.

In a recent paper, Myers (11) develops the concept of "specialised gatekeepers", or gatekeepers who are communication facilitators for specific categories of information. He distinguishes between information related to the managerial aspects of the project, information about a scientific field or discipline, and information concerning the performance of different kinds of laboratory techniques. His results, based on one medium-sized laboratory, do not reject the concept that for each of the three kinds of information, gatekeepers are characterised by a different set of descriptors. A qualitative interpretation of his results suggest that the gatekeepers for managerial information are organisationally determined, while the gatekeepers for the second kind of information are more explicitly associated with informal relations. One of the conclusions which Myers derives from his model is that depending on the type of reserved task, a laboratory director should recognise which gatekeeper model is appropriate to the administration of the laboratory.

Whether technological gatekeepers are a result either of management action and administrative status, or are a spontaneous phenomenon resulting from a favourable environment influenced by organisational factors, or a result of sociometric preferences, is the central focus of this paper. In the next section a conceptual framework will be presented. Methodology and results of the empirical test of the results will be discussed in further sections.

2. A FRAMEWORK

The divergence between the early U.S. (2), (14), and the British results may be due to the fact that different organisations were studied. The projects studied in the U.S were mainly related to aerospace applications and the chemical industry. The British studies focused on a government laboratory and a pharmaceutical laboratory. To Epton (6) the difference between the British and America studies are due to the fact that the U.S. studies concerned typically engineering and a fast changing technology, while the British focused rather on science.

The material published does not allow, us to go that far, since in neither of the papers the technology used by the studied organisations is well described, but the kind of technology is probably a factor affecting the characteristics of the gatekeeping function. Allen et.al (4) implicitly suggest this when they make a distinction between scientists working on universally defined tasks, on technical support or on the development of stable technologies, and dynamic technologies and come to the conclusion that in particular in the third situation (dynamic technologies) the gatekeeper is a necessary avenue for transfer of technological information. Myers' results (11), though on the basis of one case study, suggest that it could be useful to make a distinction between organisationally determined and informal gatekeepers.

A model well supported empirically which links the characteristics of the innovation task to the characteristics of the technology is the technological life cycle approach suggested by Utterback and Abernathy ((1), (16)). In the development of a productive unit or segment, which is the combination of a product line (including the relevant downstream activities) with its production process, they distinguish three consecutive stages: a fluid state, a transient state and a specific state. The main

idea of their model is that as the set of technologies, that are central to a product or product line, mature, that organisation and production process evolve in a way which is closely related to the maturity stage of the technology. Without necessarily accepting all the details of the model, and without assuming that the model will cover all innovative activities, we found it useful to classify the activities of productive segments into three groups.

a. A "product innovation" group which is characterised by a high frequency of product innovation aimed at the development of products with new characteristics, an uncertain competitive environment with a large variety of competitors, an entrepreneurial managerial approach, and organic organisation with a non-coordinated flexible production process built around general purpose equipment.

b. A "transitional" group, characterised by innovative activities which focus on improvements and variations on the basis of a dominant design, by a production process in which islands of automation exist besides manual operation, and relying on a growing specialisation of tasks and formal procedures.

c. A "process innovation" group, in which innovative emphasis is oriented towards process innovation and product improvement, rather than towards product innovation, competing with standardised products and characterised by an efficient bureaucracy-like organisation relying on clear standard operating procedures.

With respect to the gatekeepers we want to make a distinction between hierarchical and non-hierarchical gatekeepers. The first group are the gatekeepers which were assigned a "gatekeeping" function as a consequence of their hierarchical position or task. The second group, the non-hierarchical gatekeepers, are those individuals who spontaneously act as gatekeepers. The labels "hierarchical" and "non-hierarchical" have been

chosen because for the first group the gatekeeping function can directly be influenced by a hierarchical decision, while for the second group hierarchy can only create an (un)favourable environment.

It is hypothesised here that the presence of non-hierarchical and hierarchical gatekeepers in the R&D department of a productive unit is directly related to the group to which the productive segment can be categorised on the basis of the typologies defined above. This leads to two hypotheses:

H_1: In the R&D departments of productive units of the product group there will be no gatekeepers or the gatekeeping function will be performed by non-hierarchical gatekeepers.

H_2: In the R&D departments of productive units of the process groups the gatekeeping function will be performed by hierarchical gatekeepers.

The transitional group has to be considered as a transitional stage, where a mix of hierarchical and non-hierarchical gatekeepers will appear.

3. METHODOLOGY AND RESULTS

a. Questionnaires

In order to test the hypotheses a questionnaire was distributed among the engineers of the R&D groups of sixteen firms. In this questionnnaire the respondent was asked to indicate who he contacted inside as well as outside the company, in the event of technical problems, and also the frequency with which he contacted them. Consequently we could draw the internal network of technical communications for each of the group of the firms considered, and the network of external contacts for each individual. Apart from the questions about the network of personal contacts we also asked some questions to understand the extent to which the respondents consulted literature. This allowed discrimination between the intensive

readers and those respondents who do not consult written information very often.

In order to be able to categorise the firms on the basis of product, transition or process typologies, it was necessary to design a new instrument. We developed a second questionnaire covering a number of items such as:

1. the objectives of the firm (either product innovation or cost reduction or both),
2. the relative number of product and process innovations,
3. the degree of flexibility of the production schedule and process,
4. the type of equipment (general purpose or specifically designed),
5. the perception of the environmental uncertainty,
6. the frequency of new product introductions and
7. the perception of the emergence of new technologies.

This questionnaire was presented to a senior executive of the firms. Since the literature does not for instance provide a clear cut-off rate for what a high frequency of product or process innovations means, and moreover since virtually none of the firms could be categorised to the same group for all twelve items, a procedure for classification had to be developed. Two approaches were considered. The questionnaire leads to twelve "category scores" for each company. From these twelve scores one can derive a score distribution for each of the companies. The first approach to classification was based on the mode of the distribution. This fairly mechanical classification has important disadvantages: it implicitly assumes that each of the twelve items is equally important and further, that they are uncorrelated. To overcome this, it was decided to opt for a second approach which relies on a classification of the firms on the basis of the answers to the second questionnaire, by a group of experts.

b. Sample

The sixteen companies considered were chosen at random, but they do not form a random sample. First they come from a limited geographical region (the northern part of Belgium), secondly we considered only companies which could be easily identified with a productive segment. (One product line with associated production process). The majority of the companies are consequently rather small, sales varying from less than 1 million to 100 million US dollars. The average number of employees is 309 and the number of technologists ranges from four to forty-two. Firms are in industries as varied as electronics, chemicals, mechanical construction and bio-engineering. None of them produced consumer products.

Every company was approached through one of its senior executives. In half of the cases this happened to be the top manager, and in the other half he was the person who acted as "vice president" responsible for R&D.

This senior executive was also the person who filled out the second questionnaire, and our categorisation was based on his perception. The questionnaires for the technologists were also distributed through this channel. There were 181 responses, of which 85 were in the product group, 58 in the transition and 38 in the process group.

The group of five experts were chosen for their familiarity with the process of industrial innovation and their broad knowledge of the industry. The experts were sent a memo containing the list of the companies in the sample, a short description of the typology and a request to prepare a classification. A group discussion on the basis of the individually prepared classification and a summary of the answers to the second questionnaire for each company was organised. In this discussion consensus was reached, or only one opinion differed.

4. RESULTS

The categorisation exercise resulted in seven companies belonging to the product, four to the transition group and five to the process group. This balanced classification is not the result of bias in the process a deliberate action. To the extent that bias exists, it was probably introduced during the selection of the firms rather than during the classification procedure. If one compares the results of the mechanical categorisation (which was never even mentioned to the members of the panel of experts), thirteen out of the sixteen companies were classified in the same group. The differences were in two of the cases, exchanges between product and the transition groups. For one company, classified in the product group by the experts, the mechanical procedure resulted in a classification in the process group.

In order to trace the technological gatekeepers we had to find out who, amongst the technologists, were often consulted by their colleagues (the internal communication facilitators) and who of the technologists keep abreast of the externally available technological information through personal contacts or literature.

To identify the internal communication stars we defined two requirements:

a. The distribution of the number of times a person is consulted by others should be positively skewed, to guarantee that the high frequency with which a person is consulted is not a purely random activity;

b. to be identified as an internal communication star, the number of times a person is mentioned by others should be at least one standard deviation higher than the average for the company.

The second requirement is the one traditionally used by others (2), (4), (14).

We are aware of the limitations of this approach. As Epton (16) notes, the drawing of a sharp distinction between those whose communication activity exceeds a certain level, and those whose activity falls below it, makes the concept of the gatekeeper a somewhat arbitrary construct. In this study, this limitation is less important, since the construct will be applied to each of the companies in the sample and our results will be based on the comparison of companies. Furthermore, we are convinced that the first requirement is important for theoretical reasons. Indeed, if one relies only on the second requirement, the procedures will almost always lead to communication stars, even in cases where one would expect the internal consulting to be random.

In only one case the hypothesis that the distribution was not positively skewed could not be rejected. Consequently in this case it was not possible to identify internal communication stars. We found a total of 36 internal communication stars, or 19.9% of the total number of respondents.

External communication stars are defined as persons with a high level of external contacts. To operationalise this we defined the following requirements: they must

a. either indicate a number of contact persons as well as a contact frequency which is higher than the average for their company.

b. or read a number of textbooks, periodicals, journals, or other literature originating outside the company, which is higher than the median for the company

c. or meet both previous conditions.

Checking the first condition is a straightforward exercise on the basis of the questionnaire. Regarding the use of written sources we knew for six types of literature (textbooks, scientific or professional journals, journals of professional institutions and popular journals) how often they consulted them and this on a relative scale. For each of these types of literature the respondents who scored above the median of the sample distribution were identified. Finally, those respondents who scored at least four times above the median were selected as intensive readers.

For the total sample of 181 respondents we got 51 (28.2%) persons with a high number of external contacts, and 30 (16.6%) intensive readers.

By definition, technological gatekeepers are persons who combine being an internal communication star with a high level of external contacts and/or intensive reading. The comparison of the results of the two exercises described above allows us to define these gatekeepers.

In the 16 companies considered there are two companies where no gatekeepers could be observed. It concerns the company without internal communication stars, and one company where there is no overlap between the people with a high level of external contacts and the internal communication stars. In Table 1 the results of the previous analyses are summarised per group of companies.

Table 1: Communication stars per group

Group	Number of respondents	Number of Internal Communication Stars	Number of persons with a high level of external contacts.	Number of intensive readers	Number of gatekeepers
product	85	15	15	14	8
transition	58	10	16	14	4
process	38	10	16	6	7

To test our hypotheses we had to discriminate between hierarchical and non-hierarchical gatekeepers. To operationalise this we defined the non-hierarchical gatekeepers as the group of engineers or first-line supervisors with a very limited management responsibility (in practice it meant that they could be young engineers responsible for a subproject and and working with a few programmers, analysts or technicians). The group of hierarchical gatekeeepers consist of those people who bear more than a purely technical responsibility, who belong to the management of the company, or who take on the formal responsibility for the gatekeeping function (though it was never labelled as such).

If one categorises the technological gatekeepers according to the groups defined above (table 2), it becomes apparent that in the product group there are two companies without gatekeepers, while the five remaining companies have only non-hierarchical gatekeepers. In all companies that not belong to the product group one can identify gatekeepers. The number

of companies with non-hierarchical gatekeepers becomes larger than the number of companies with non-hierarchical gatekeepers in the process group. Actually in the process group there are six companies mentioned since one of them had hierarchical as well as non-hierarchical gatekeepers, and consequently it has been counted twice.

Table 2: Cross tabulation of companies by group and type of gatekeepers

Incidence of gatekeepers	Product	Transition	Process
No gatekeepers	2	0	0
Non-hierarchical gatekeepers	5	3	1
Hierarchical gatekeepers	0	1	5

Table 3: Number of hierarchical and non-hierarchical gatekeepers

Type of gatekeepers	Product	Transition	Process
Non-hierarchcical	8	3	2
hierarchical	-	1	5

If one looks at numbers of gatekeepers instead of companies, one ends up with eight non-hierarchical gatekeepers in the product group, three in the transition, and two in the process group. On the other hand there are no non-hierarchical gatekeepers in the product group, one in the transition and five in the product group. (Table 3)

This table is clearly not fit for traditional statistical analysis. We had to rely on a small sample technique, (log-linear models), to be able to assert something about this table. Moreover there is the additional problem that one of the cells contains a zero. Goodman (8) suggests in this case to add to each cell a small number e.g. 0.5. He argues that this is a conservative procedure which tends to underestimate the confidence level.

Applied to table 3 the log-linear procedure provides a model which tries to explain the results, considering only the main effects (group and type of gatekeeper) and a model which considers the interaction effect between the main effects as well. Consideration of the interaction effect improves the goodness of fit significantly (chi-square test: $p<2.9\%$).

5. DISCUSSION

From the results presented above, one can draw some conclusions. First the phenomenon of the technological gatekeeper could be identified again in the R&D groups of a sample of small and medium-sized Belgian companies, producing mainly industrial products. This confirms earlier results, which were based on larger companies. The statement by Pruthi and Nagpaul (12) that there would be some critical size of the group beneath which the phenomenon would not exist, and which was based on the experience with a small laboratory of five persons is not supported at all. There must indeed exist a group, but even in the small R&D groups studied here, the existence of gatekeepers could be shown in a very straightforward way.

Regarding our own hypotheses, the results are not conclusive, but clearly supportive. First of all the two companies where no gatekeepers could be discovered belong to the first group. Secondly the categorisation in groups seems to explain why in some companies the gatekeeping function is a consequence of managerial action, or a function which is part of the task of managing an R&D group, while in other companies it is much more a spontaneous phenomenon. We are the first to admit that the sample is small, and is possibly too biased to provide a conclusive confirmation of the hypotheses.

If one accepts however the idea behind the hypotheses it has some interesting consequences for the management of an R&D group. Both the creation of a nurturing environment for spontaneous gatekeepers or the creation of a gatekeeping structure can be the correct approach to improve the channelling of externally available information inside the R&D group, but the environment in which both can be applied is dependent on the characteristics of the technology used. New emerging sets of technologies, applied to the creation of products for which the characteristics are barely defined are associated with spontaneous gatekeeping; mature technologies, used in connection with highly standardised products, manufactured in elaborate fine-tuned processes are associated with a well-organised gatekeeping function.

This has important implications for those companies or productive segments which are confronted with threatening new technologies or whose set of technologies goes through a rejuvenating cycle. A productive segment will in these cases preferably be urged to adapt its technical information system and leave some room for spontaneous contacts and informal information transfer instead of the well-organised organisation systems built around planned participation in conferences or workshops, a systematic review of the traditionally interesting literature, etc. This might require the destruction of some of the procedures, which are presently perceived as productive for providing information. The concept presented here suggests however that this will be necessary if the productive segment wants to adapt to the new situation.

References

1. ABERNATHY, W. J., The Productivity Dilemma, Roadblock to Innovation in the Automobile Industry, J. Hopkins University Press, Baltimore, 1978.

2. ALLEN T. J., Managing the Flow of Technology, M.I.T. Press, Cambridge, Mass, 1977.

3. ALLEN T. J, DE MEYER A., "Technical Communication among Scientists and Engineers in four Organisations in Sweden", M.I.T. Sloan School of Management, Working Paper No. WP 1318-82, 1982.

4. ALLEN T. J., TUSHMAN M. L., LEE D. M. S, "Technology Transfer as a Function of Position in the Spectrum from Research through Development", Academy of Management Journal, vol. 22, No 4, 1979, pp. 699-708.

5. DE MEYER A., Management van Informatiestromen in een Industriële Onderzoeksafdeling, Unpublished Doctoral Dissetation, Rijksuniversiteit GENT (Belgium), 1983.

6. EPTON S. R., "Ten Years of R&D Management - Some Major Themes: The Role of Communication in R&D", R&D Management, vol 11, no 4, (1981), pp. 165-170.

7. FROST P., WHITLEY R., "Communication Patterns in a Research Laboratory", R&D Management, vol 1, no. 2, (1971), pp 71-79.

8. GOODMAN L. A., "The Multivariate Analysis of Qualitative Data: Interactions among Multiple Classifications", Journal of the American Statistical Association, vol. 65 (1970), pp 225-256.

9. HALL K. R., RITCHIE E., "A Study of Communication Behaviour in an R&D Laboratory", R&D Management, vol 5, no. 3 (1975), pp. 243-245.

10. LAZARSFELD P. F., BERELSON B., GAUDET H., The People's Choice, The Free Press, New York, 1948.

11. MYERS, L. A., "Information Systems in Research and Development: The Technological Gatekeeper Reconsidered", R&D Management, vol. 13, no. 4, (1983), pp 199-206.

12. PRUTHI S., NAGPAUL P. S., "Communication Patterns in Small R&D Projects" R&D Management, vol. 8, (1978), no. 2, pp. 85-88.

13. ROGERS R., KINCAID D. L., "Communication Networks: toward a New Paradigm for Research", The Free Press, New York, 1981.

14. TAYLOR R. L., "The Technological Gatekeeper", R&D Management, vol 5, no 3 (1975), pp. 239-242.

15. TUSHMAN M. L. and KATZ R., "External Information and Project Performance: An Investigation in the Role of Gatekeepers", Management Science, vol. 26, no. 11 (1980), pp. 1071-1085.

16. UTTERBACK J. M. and ABERNATHY W. J., "A Dynamic Model of Process and Product Innovation", Omega, vol. 3, no. 6, (1975), pp. 69-656.

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