CORRELATES OF SUCCESS IN PROPOSALS FOR EXTRAMURAL
FUNDING: IMPLICATIONS FOR PLANNING ADMINISTRATIVE
SUPPORT SERVICES FOR FACULTY

by

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A MASTER'S THESIS

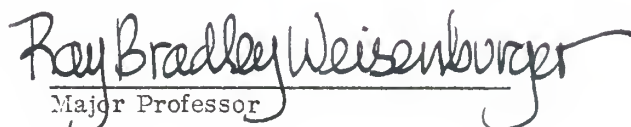submitted in partial fulfillment of the

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Chapter 1

INTRODUCTION

Major universities traditionally assume responsibility not only for a
sound instructional program and a wide program of service to an extended
community, but also for a productive program of research, for the university
exists to transmit and preserve established truth and to discover new knowl-
edge.

The historic antecedents of mission-oriented research came from the
Morrill Act of 1862, which legitimated government supported institutions for
research on university campuses (Heiss, 1970). The Agricultural Experiment
Station at Kansas State University is an example of such an institute.

Kansas State University, the first land grant college established under
the Morrill Act, is charged with providing programs in the applied sciences
and agriculture, "without excluding other scientific and classical studies . . .
in order to promote the liberal and practical education" of the general popula-
tion (Morrill Act, 1862). As a University, the strengths of Kansas State lie
in providing not only new knowledge to the people of the state and elsewhere,
but also in the means to extend this knowledge to relevant applications and dis-
ciplinary support for applied and professional programs.

It is the opinion of the research administrators at the Kansas Regents'

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Institutions that support for research will increase in those areas of identified national needs (Regents' Report, 1972). The charge to this university is precisely that it contribute to the solutions of relevant needs of the "common man" (Morrill Act, 1862).

If it is the stated purpose of the federal government to support research in solution of national needs (P. L. 85-934), then of particular interest for this study is the federal contribution to research expenditures. The approximate distribution of research dollars at Kansas State is 55 percent federal money, 41 percent state money, and 4 percent other (foundations, industry, etc.). Of the 41 percent contributed by the state, 38 percent of the budget is devoted to agricultural research. The other 3 percent is divided between the Engineering Experiment Station and the Bureau of General Research, which is administered by the Graduate School (Review of Funded Research at KSU, 1973).

Legislative appropriations for general research at Kansas State University were first obtained in 1957 in the amount of $50,000. Annual increments have more than doubled this appropriation; even so, it was less than $150,000 for FY 1977. The Graduate School uses these funds to make awards on a competitive basis to faculty. The size of the grants is usually small and can be considered to be only seed money in most instances.

The 1977 Financial Report of Kansas State University shows an expenditure of $18,782,529 or 21 percent of the university budget for research. An analysis of research funding at KSU in 1973 showed that over half of those funds come from the federal government through grants and contracts. Although a
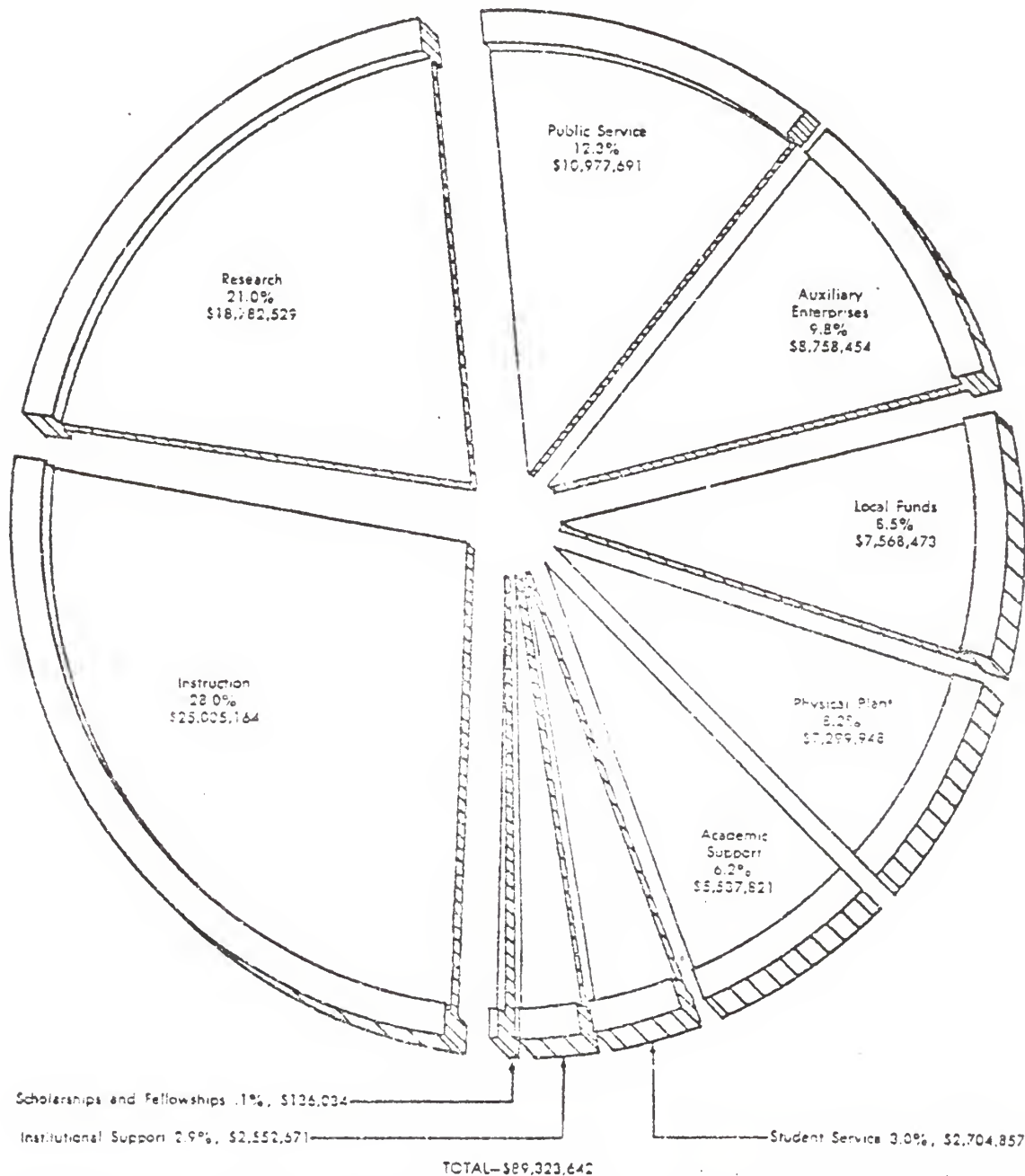
more recent analysis has not been done, the general funding pattern for research at the university has not changed in the intervening years. Consequently, approximately 10 million dollars would have been the federal contribution through grants and contracts for research at KSU for FY 1977. These grants and contracts, awarded through a competitive process, represent an essential share of the university's research effort and are acquired through faculty members' initiative.

The federal contribution accounts for nearly all research expenditures except for those connected with the Agricultural Experiment Station. These federal dollars enhance the graduate program of the University by providing stipends for graduate students, travel grants for faculty, additional clerical and technical staff, specialized equipment, and other benefits. It is apparent that the research program of this university is heavily dependent upon financial support from the competitive grant and contract programs sponsored by the federal government.

Although federal funding of research has an important effect on the size and quality of an institution's research effort, it is important to note that other programs are also affected. An active research program obviously promotes an active graduate program. The intellectual stimulation of these programs makes an obvious contribution to the institution's educational climate and, hence, to undergraduate instruction. It is no exaggeration to say that the success of the externally-funded research program has a fundamental effect on the character and vitality of the entire institution.

FIGURE 1.

THE 1976-77 KANSAS STATE UNIVERSITY OPERATING DOLLAR SERVICES PROVIDED

Public Service
12.3%
$10,977,691

Research
21.0%
$18,782,529

Auxiliary
Enterprises
9.8%
$8,758,454

Local Funds
8.5%
$7,568,473

Instruction
28.0%
$25,005,164

Physical Plant
8.3%
$7,299,948

Academic
Support
6.2%
$5,537,621

Scholarships and Fellowships .1%, $136,034

Institutional Support 2.9%, $2,552,571

Student Service 3.0%, $2,704,857

TOTAL—$89,323,642

In view of a projected decline in enrollments of traditional college age group students (Parker, 1977) and the increasing costs of the institution of higher education, the procurement of extramural funds is even more critical. Reduced state support is an obvious concomitant of decreased enrollments. Thus, state-supported PhD granting institutions, whose extramural funding is minimal, will face the need for serious reductions in program and staff. In many instances, increase in extramural funding will represent the only major solution to the destructive consequences of enrollment-induced retrenchment.

It requires time and effort to compete effectively for federal funds. If research is a priority of the university, then a high level administrative decision must be made to support the faculty in their efforts to secure that funding. It is the purpose of this study to attempt to ascertain commonalities in characteristics and strategies among faculty members who are successful in their pursuit of federal funds. If there are similarities, then that information should be helpful in guiding planning efforts designed to support the federal research effort of the university.

Chapter 2

REVIEW OF RELATED LITERATURE

This study seeks answers to three questions: (1) What are distinguishing characteristics of faculty members who are successful in securing grants? (2) What, if any, elements in the planning framework facilitate the successful pursuit of grants? (3) What is the impact of grant administration services on the fate of grant proposals?

Literature was reviewed in two areas: (1) institutional planning principles as they relate to basic planning assumptions, and (2) grant administration practices as they relate to extramural funding for faculty. Because these are comparatively new areas of inquiry, there is a paucity of literature with direct relevance to this study.

Although planning has often been viewed with distrust and apprehension, institutional planning in higher education has been increasingly accepted as a function of the growing disparity between program needs and available resources. Centralized planning threatens some of the power now located in individual units within the university. Decisions about tradeoffs and alternatives which are made from the perspective of the total university will differ from those that are departmentally oriented. Resistance has also been encountered because modeling schemes, frequently a part of comprehensive planning, tend to be insensitive to

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the value judgments which define the essence of a university. A further claim
is often made that being tied to a plan makes it difficult, if not impossible, for
the institution to be responsive to feedback.

Planning processes, for universities, have tended to be incremental,
done on a year-by-year basis primarily for budget purposes, relatively infor-
mal, and highly decentralized (Massy, 1975). As long as universities were in
a period of expanding resources, this system worked satisfactorily. But this
period has passed (Massy, 1974). New programs are still needed to meet new
situations and utilize new knowledge, but resources to support such programs
will increasingly have to come from the reallocation of funds available to the
university. Funds for new programs will continue to be increasingly scarce.
For these reasons, the concept of institutional planning in higher education has
become both more necessary and more acceptable. While critics of planning
will not be silenced, the options they support have become less and less viable.

Universities must now become "planning" rather than "planned" institu-
tions. "Because time, energy, and money spent on education is time, energy,
and money invested (rather than consumed), institutions must constantly evaluate
whether the renewal of goals or the introduction of innovative programs justify
the expenditure" (Heiss, 1970: 7).

Planning is the choice made between alternative allocations of resources,
within established constraints, to achieve previously articulated goals and ob-
jectives. The rationale for comprehensive planning is well documented in basic
planning texts (Goodman, 1968; Branch, 1975). The following steps are a part

of any planning process: (1) the identification of the problems and their inter-relationships; (2) a determination of objectives in dealing with each problem; (3) an appraisal of existing means of dealing with the problems; (4) the formulation of alternative recommendations; (5) the evaluation of the alternatives (through a process of cost-benefit analysis); (6) a recommendation for the adoption of the most appropriate alternatives; and (7) process for future modifications (Catanese, 1975).

In a study supported by the Exxon Foundation, Stanford University examined the need for purposeful planning as an institutional priority. Massy, the director of the study, suggested the need for long-range university planning and pointed out the negative consequences of short term, year-by-year planning efforts at Stanford: (1) an insufficient basis on which to develop long-range plans; (2) a tendency to live with budget constraints rather than assessing the trade-offs possible among a variety of alternatives; and (3) the loss of academic and human values in the institution resulting from the constraints imposed by an incremental budget.

Massy's concerns are supported by Rolff (1970). In his analysis, piece-meal decision making (which is frequently the result of an inability to work within long-range priorities) may not only prevent the institution from making steady progress toward a desired objective, but also may render it impossible to even maintain the status quo (Rolff, 1970).

As is suggested by these authors, the need for planning for all aspects of university functions will become increasingly apparent as the competition

for available resources grows. The research program of the university is but one of these competing needs, and the expectations of this program are important inputs into the planning process of the institution.

One of the accepted missions of any major university is to create an environment for the discovery of new knowledge (Jaspers, 1959). Such an environment not only supports the creation of new knowledge but also provides an atmosphere of intellectual curiosity and excitement that facilitates its dissemination through instruction. University research administration is concerned with research policy, including "decisions about the framework and environment under which research is undertaken, establishment of criteria to be used in determining the acceptability or undesirability of a specific project, and supervision of the integration between research and instruction" (Wile, 1967).

Grant administration is a relatively new endeavor. The Society of Research Administrators provides the one refereed journal in the field. Although articles in this journal lean heavily toward how-to-do-it, Buchtel's (1974) article, "The Integrative Aspect of Policy Development for Research Administration" has application to this study.

Buchtel discusses the difference between the stated goals and philosophies of the university and the actual conduct of the university's programs and system of rewards. He points out that policies are developed into procedures, which provide the operational framework of the university. He suggests that an optimal approach for creating this framework is to analyze the actual procedures in terms of their consistency with the institution's philosophy and current goals.

This article thus offers some rationale for the investigator's interest in ascertaining faculty procedures in grant submission.

Articles which hypothesize reasons for proposal rejections are reasonably common (Larsen, 1973; Townsend, 1974; Eaves, 1972). These generally summarize specific difficulties in the way in which the proposal is prepared, including such things as a poor introduction, verbose wording, inadequate articulation of objectives, lack of evaluative procedures, incompetent investigators, inadequate facilities, an unrealistic budget request, and the lack of adherence to the sponsor's rules and regulations. Some failures have also been blamed on the lack of contact between the applicant and the agency to which he is applying. This list of problems should provide a helpful background against which to review faculty perceptions of why specific proposals failed.

Two surveys reported in the literature were germaine to this study. Both attempted to ascertain what research services faculty members thought were most helpful in developing successful grant proposals. One survey, conducted on the two campuses of the School of Education at Indiana University, indicated that faculty members found proposal budgeting services to be most important. Seed money was considered to be of high priority, also, although it appeared to become less important among senior faculty members. Faculty rejected services that insulted their intelligence or disparaged their academic capabilities, e.g., access to style manuals (Harty, 1977).

In a survey conducted at San Diego State University, Frea Sladek (1977) studied faculty perceptions of the importance of personal contact with federal

program officers in the funding process. She found that:

1. Successful proposers had made many more agency contacts than had unsuccessful ones.

2. Proposal-related contacts were more important than social contacts.

3. The majority (77 percent) of the successful faculty "tailored" their proposals specifically to discussions with agency personnel.

She found no significant differences between successful and unsuccessful proposals relative to any other procedures (Sladek, 1977).

Literature was also reviewed which would provide the background for the importance of collecting baseline data to be used in planning decisions. Massy discusses the fragile ecology of an institution of higher education and makes the case for marshalling data in such a way that it enhances the opportunity for making judgments.

The critical importance of planning in higher education never has been more clearly manifest. This is a time of great financial pressure on colleges and universities. More important, it is a time of threat to some basic academic values. Some would say the validity of the academic enterprise itself is at stake. The challenge to planning is not just to alleviate the current pressures, but to assure that the traditions of independence, creativity, and intellectual excellence survive, if not prosper, during the years ahead (Massy, 1975: 1).

Findings in the literature have supported the importance of a planning framework. A primary step in the planning process is to gather baseline data which are relevant to decisions about alternative choices. This study assumes that a continuing priority will be to enhance the research atmosphere of the University. It will attempt to discover some clues as to how this might best be done.

Chapter 3

PROCEDURE AND DESIGN

The purposes of this study were to find distinguishing characteristics
of faculty members who were successful in securing grants, to identify factors
which facilitated or inhibited the pursual of grants, and to examine faculty ex-
periences with the various grant administration services available to them and
the relationship of these experiences to grant success.

SAMPLE

Forty Kansas State University faculty members were selected for the
study. Their names were selected from a list of those who had submitted pro-
posals to a federal agency during 1976 and 1977. Since the federal government
is responsible for well over 90 percent of the University's extramural funds,
this restriction did not substantially reduce the size of the population; it was
imposed to ensure some uniformity in the granting process.

It was assumed that there may be substantial differences in the funding
process for science projects and other projects. It was also assumed that there
may be differences in procedures which attract support for research activities
and for educational/demonstration "program" projects. Therefore, the following
groups were established:

1.   Five successfully funded science research projects

2. Five successfully funded science program projects

3. Five successfully funded "other" research projects

4. Five successfully funded "other" program projects

5. Five unsuccessful science research projects

6. Five unsuccessful science program projects

7. Five unsuccessful "other" research projects

8. Five unsuccessful "other" program projects

An attempt was made to select successful and unsuccessful efforts from the same department. When this was not possible, departments representing the same broad disciplinary area were chosen (e.g., social science; humanities).

DATA COLLECTION

A questionnaire was mailed to the forty faculty members on April 4, 1977. A cover letter explained the nature of the research and sought cooperation in granting a thirty-minute interview. All of the faculty chosen agreed to participate in the study. Interviews were arranged and carried out from April 12, 1977, through May 4, 1977.

Faculty members were asked to indicate teaching and research experience, responsibilities, professional rank, academic status, and experience with grants. A copy of the questionnaire used to collect demographic information is contained in Appendix A.

Questions used to guide the interview are included in Appendix B. More detailed information relating to the questionnaire items and the processes used in developing proposals was gathered in the interviews. The interviews enabled

the investigator to discern some of the idiosyncratic factors associated with the proposal which could not be easily described through the questionnaire approach.

HYPOTHESES

Each of eight general hypotheses was tested for the total group of forty as well as for four subgroups of twenty each--"science" vs. "non-science"; "research" vs. "program." The specific hypotheses were:

H_1: There is no difference in the success rate of faculty who were first funded as graduate students and those who were first funded as faculty members.

H_2: There is no difference in the success rate of faculty who pursued a proposal because of a continuing personal interest and those who responded to a request for proposal or who sought funding because of an outside influence.

H_3: There is no difference in the success rate of faculty who submitted single investigator proposals and those who submitted collaborative investigators' proposals.

H_4: There is no difference in the success rate of faculty who consulted with others and those who did not. Four sub-hypotheses were developed, one for each consultation service:

H_{4a}: There is no difference in the success rate of faculty who consulted with colleagues and those who did not.

H_{4b}: There is no difference in the success rate of faculty who consulted with their department heads and those who did not.

H_{4c}: There is no difference in the success rate of faculty who consulted with the sponsored program's office and those who did not.

H_{4d}: There is no difference in the success rate of faculty who consulted with the Grants and Contracts Office and those who did not.

H_5: There is no difference in the success rate of those faculty who had Washington contacts and those who did not.

H_6: There is no difference in the success rate of those faculty who had experience as a proposal reviewer and those who did not.

H_7: There is no difference in the success rate of those faculty who felt pressure to submit proposals and those who did not recognize any pressure. Three sub-hypotheses were developed, one for each source of pressure:

H_{7a}: There is no difference in the success rate of those faculty who perceived pressures regarding the importance of grants to the tenure decision and those who did not.

H_{7b}: There is no difference in the success rate of those faculty who perceived pressures from their peers and those who did not.

H_{7c}: There is no difference in the success rate of those faculty who felt pressure from their department head and those who did not.

H_8: There is no difference in the success rate for faculty who experienced problems with University procedural policy for grant submission and those who did not. Again, three sub-hypotheses were proposed, one for each source of procedural problem:

H_{8a}: There is no difference between the success rate for faculty

who experienced procedural problems with the Grants and Contracts Office and those who did not.

H_{8b}:   There is no difference between the success rate for faculty who experienced procedural problems with routing procedures and those who did not.

H_{8c}:   There is no difference between the success rate for faculty who experienced procedural problems with over-head rates and those who did not.

The chi-square test for independence was used to test these hypotheses (Ferguson, 1966). In most instances, the chi-square value was computed from a 2x2 contingency table (funded/non-funded vs. presence/absence of a given experience variable). In a few instances, three levels of the experience variable were assessed, forming a 2x3 contingency table. In those instances where any of the expected cell values of a 2x2 contingency table was less than .05, the exact probability was computed (Ferguson, 1966: 209).

The statistical methodology examined only one variable at a time. It would have been better if all variables could be studied simultaneously so that any interactions among them could be detected. For example, pressure from the department head may promote funding of a program in non-science areas but not in science; or it may be effective with young faculty but not with those who are experienced. Detailed examinations of such contingencies must await the time when much larger samples are available for study.

Given the exploratory nature of the study and the relatively small number

of participants which could be included, it was decided to reject the null hypothesis if the probability of its being true was less than 5 in 100. Furthermore, if this probability was less than 10 in 100, it was decided to remain in doubt; that is, such findings are to be regarded as worthy of some interpretative speculation now and of continued investigation in the future. This rather liberal interpretation of statistical results seems justified since the consequences of the second type of error (accepting a false hypothesis) might result in overlooking a valuable planning practice.

Chapter 4

RESULTS AND DISCUSSION

There were eight general hypotheses formulated for this study. The fourth hypothesis, concerned with consultation, was elaborated by four sub-hypotheses. The seventh hypothesis, which dealt with faculty perception of pressure for submitting proposals, required three sub-hypotheses; and the eighth general hypothesis, concerning the impact of university procedural policies, also required three sub-hypotheses. Thus, a total of fifteen hypotheses were proposed. Each was tested five times (total group, research proposals, program proposals, science proposals, non-science proposals). Of the 75 statistical tests, five were significant beyond the .05 level and eleven were significant beyond the .10 level. Since this number of significant findings is greater than would be expected on the basis of chance, it was concluded that there were significant differences in the experiences of those whose proposals were funded and those not receiving funds.

Significant differences were found in testing one general hypothesis and four sub-hypotheses. Findings were dependent upon the groups being compared; in no case was the null hypothesis rejected for all five comparison groups.

This chapter will report all data relevant to any null hypothesis which was rejected. If all five tests resulted in acceptance of the hypothesis, the raw

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data are included in Appendix C.

FINDINGS FOR WHICH THE NULL
HYPOTHESIS WAS ACCEPTED

Before examining those instances where the null hypothesis was rejected, it is advisable to review the hypotheses where no significant differences were found. Using the 10 percent level of confidence, funded and non-funded projects-- in total or by proposal type--were not differentiated by:

1. The career stage of the investigator where he/she was first funded;

2. The source of the proposal (personal interest, RFP, other outside influence);

3. Whether the proposal was prepared by an individual or by a team of collaborators;

4. Whether the department head or the Grants and Contracts Office was consulted or not;

5. Whether or not the faculty member had experience as a proposal reviewer;

6. Whether the faculty member felt pressure from peers or from requirements of the tenure process; and

7. Whether procedural problems were encountered with respect to either routing procedures or overhead rates.

In most instances, respondents reported a variety of experiences pertaining to these matters; but those who were funded did not differ from those who were not funded. In a few instances, failure to find significant differences

appeared to be due to the uniformity of experience among most members of the sample. For example, no one consulted the Grants and Contracts Office in advance; hence, it was impossible to detect any differences. This type of problem was also encountered when inquiry was made about procedural problems connected with overhead or routing (only three of the forty reported any problems with the former, while only seven encountered some problems with the latter). Likewise, only seven reported any experience as a reviewer, making the test of that hypothesis dubious.

FINDINGS FOR WHICH THE NULL
HYPOTHESIS WAS REJECTED

The first rejection of a hypothesis occurred for Sub-hypothesis 4a: There is no difference in the success rate of faculty who consulted with colleagues and those who did not. Results for the various comparison groups are reported in Table 1.

Table 1

Proposal Success as a Function of Consulting Colleagues

| Group | Activity | Outcome | | Prob. |
		Funded	Not Funded	
Total	Consulted	19	12	
	No Consultation	1	8	.009
Science	Consulted	10	8	
	No Consultation	0	2	NS
Non-Science	Consulted	9	4	
	No Consultation	1	6	.027
Research	Consulted	10	6	
	No Consultation	0	4	.043
Program	Consulted	9	6	
	No Consultation	1	4	NS

In three of the five comparisons, the funded group was significantly more likely to consult colleagues than was the non-funded group (Total, Non-science, and Research); trends in the same direction were found in the other two groups, but these were not statistically significant. Of the 20 funded proposals, colleagues were consulted on 19; of the 20 which were not funded, colleagues were consulted on 12. It is safe to conclude that colleague consultation is a valuable way to strengthen proposals.

Hypothesis 4c stated: <u>There is no difference in the success rate of faculty who consulted with the Sponsored Program's Office and those who did not.</u> This hypothesis was accepted three times, but on two occasions (the "non-science" and "program" groups), the decision was to remain in doubt since the probability was between .05 and .10. Results are displayed in Table 2.

Table 2

Proposal Success as a Function of Consulting
the Sponsored Program Office

Group	Activity	Outcome		Prob.
		Funded	Not Funded	
Total	Consulted SPO	14	11	
	No SPO consult.	6	9	NS
Science	Consulted SPO	7	8	
	No SPO consult.	3	2	NS
Non-Science	Consulted SPO	7	3	
	No SPO consult.	3	7	0.78
Research	Consulted SPO	6	7	
	No SPO consult.	4	3	NS
Program	Consulted SPO	8	4	
	No SPO consult.	2	6	.075

Of the 20 successful proposal writers, 14 consulted with the Sponsored Program's Office. The same was true of 11 of the non-successful applicants; the difference was not statistically significant. Such consultation was unrelated to funding in the case of both "science" and "research" proposals. But for "non-science" and "program" proposals, the majority of successful writers consulted this office; only a minority of the unsuccessful ones did so. Tentatively, it can be concluded that consultation with the Sponsored Program's Office enhances the prospect that "non-science" and "program" proposals will be funded.

Hypothesis 5 stated: There is no difference in the success rate of those faculty who had Washington contacts and those who did not. Significant differences between the successful and non-successful writers overall were found in their use of Washington contacts. The trend was identical for all four subgroups, and in the case of the non-science and program proposals, the difference was significant beyond the .10 level. Results are reported in Table 3. Although the small number of cases may make the results unstable, there is reason to believe that using Washington contacts increases the probability of writing a successful proposal.

Hypothesis 7c stated: There is no difference in the success rate of those faculty who felt pressure from their department head and those who did not. Results relevant to this hypothesis are shown in Table 4. Although the success rate of program proposals was considerably greater for those faculty who experienced some department head pressure, this was not true of any other type of

proposal. It appears that there is something special about program-type pro-
posals such that perceived pressure from the department head increases the
probability of funding.

Table 3

Proposal Success as a Function of Using Washington Contacts

| Group | Activity | Outcome | | Prob. |
		Funded	Not Funded	
Total	Used D.C. contacts	15	8	
	No D.C. contacts	5	12	.05
Science	Used D.C. contacts	8	5	
	No D.C. contacts	2	5	NS
Non-Science	Used D.C. contacts	7	3	
	No D.C. contacts	3	7	.078
Research	Used D.C. contacts	7	3	
	No D.C. contacts	3	7	.078
Program	Used D.C. contacts	8	5	
	No D.C. contacts	2	5	NS

Table 4

Proposal Success as a Function of Perceived
Pressure from Department Head

| Group | Activity | Outcome | | Prob. |
		Funded	Not Funded	
Total	Pressure	13	12	
	No pressure	7	8	NS
Science	Pressure	10	10	
	No pressure	0	0	NS
Non-Science	Pressure	4	2	
	No pressure	6	8	NS
Research	Pressure	6	10	
	No pressure	4	0	NS
Program	Pressure	8	2	
	No pressure	2	8	.022

Finally, significant differences were found in testing Sub-hypothesis 8a:
There is no difference between the success rate for faculty who experienced
procedural problems with the Grants and Contracts Office and those who did not.
Data relevant to this hypothesis are displayed in Table 5.

Table 5

Proposal Success as a Function of Procedural Problems
with the Grants and Contracts Office

Group	Activity	Outcome		Prob.
		Funded	Not Funded	
Total	Problems	10	9	
	No problems	10	11	NS
Science	Problems	5	4	
	No problems	5	6	NS
Non-Science	Problems	5	7	
	No problems	5	3	NS
Research	Problems	8	4	
	No problems	2	6	.075
Program	Problems	3	7	
	No problems	7	3	.078

About half of the sample (19 of 40) acknowledged some kind of problems
with the Grants and Contracts Office. In general, this experience was unrelated
to the funding outcome. However, potentially significant differences $(p < .10)$
were discovered when testing the hypothesis for two types of proposals--research
and program. For the latter, seven of the successful proposals, but only three
unsuccessful proposals were problem-free. For the former, the opposite trend
was apparent (eight successful and only two unsuccessful proposals encountered

problems with this office). Since it is hard to see how such problems could be considered as positive indicators, it was tentatively concluded that these results reflect chance fluctuations.

Chapter 5 reviews these findings and discusses their implications.

Chapter 5

SUMMARY, CONCLUSIONS AND IMPLICATIONS

SUMMARY

This investigation explored factors related to successful funding of pro-
posals requiring support from extramural sources. As the result of a review
of proposals submitted to federal agencies in 1976 and 1977, a total of 40 Kansas
State University faculty members were selected for the study. These were
chosen at random to represent each of eight subgroups: funded research pro-
posals in science (N=5), funded research proposals in other (non-science) dis-
ciplines (N=5), funded program proposals in science (N=5), funded program
proposals in other (non-science) disciplines (N=5), and four other subgroups
(N=5 each) similar to those just listed except that the proposals were not funded.

By interviewing the faculty members who initiated these proposals,
data were collected relevant to eight hypotheses. These hypotheses related to
personal characteristics of the faculty member (time of first funding, expe-
rience as a reviewer, Washington contacts), the dynamics of proposal develop-
ment (personal interest versus a request from the funding agency, independent
versus collaborative effort, "pressure" from peers or department head), and
the influence of other agencies (Sponsored Programs Office, Grants and Con-
tracts).

The chi-square technique was used to examine these hypotheses. Each

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was tested five times (Total group, Science group, Non-science group, Research group, and Program group).

Before drawing any conclusions from the findings, it is important to discuss the limitations within which the study was done. The sample size was small and was drawn to attempt to match subject matter areas within Science and Non-Science fields. As a consequence, not all departments of the University were represented. Generalization would be limited in any case, since not all departments compete for federal funds.

Obviously, results pertain only to Kansas State University. It is likely that local circumstances (attitudes, tradition, resources for assistance, etc.) are sufficiently influential that generalization to other institutions would be unjustified.

A further limitation arose from the fact that most of the faculty members identified as unsuccessful for purposes of the study had achieved success with funding efforts at some prior time. As a consequence, hypotheses about personal characteristics of funded and non-funded faculty members were not tested with much precision. Although the data for testing other hypotheses would not necessarily have been affected by this problem, it would have been desirable to have restricted the "unsuccessful" group to those whose proposals had never been funded.

Finally, the interview has inherent limitations as a data-gathering device. It is subject to the usual difficulties of interpersonal communication (misunderstanding questions, misinterpreting answers). Likewise, there is no assurance

that the most important or revealing questions were asked or that the respondents were totally candid and insightful. These limitations provide the framework from which the results should be interpreted.

CONCLUSIONS

1. The most significant finding concerned consultation with colleagues. The Total funded group, the Non-Science group, and the Research group were more likely than their non-funded counterparts to consult with colleagues.

2. The funded Non-Science group and the funded Program group consulted more frequently with the Sponsored Programs Office than did their comparable non-funded colleagues.

3. Having Washington contacts was more characteristic of three funded groups than of their non-funded counterparts--Total, Non-Science, and Research.

4. In one instance, perceived pressure from the department head was related positively to funding (Program proposals).

5. The final significant findings involved problems with the Grants and Contracts Office; the funded Research group and the non-funded Program group encountered difficulties more frequently than did their comparison groups.

Science and Non-Science proposals were significantly different seven times ($p < .05$). In general, Science proposals differed from Non-Science proposals by: (1) using more consultation/team approaches, (2) sensing more pressure (mostly in the form of professional expectations), and (3) discerning fewer administrative problems.

Research and Program proposals differed less. Compared to Program

proposals, those for Research were: (1) more likely to reflect a personal interest (not outside influence), (2) more likely to be prepared on an individual (rather than a team) basis, and (3) less subject to pressure from the department head.

IMPLICATIONS

The study was intended to be exploratory. In view of the limitations cited earlier, the findings raise more questions than they answer. Nonetheless, planning frequently must be done on the basis of "soft" answers to hard questions. Therefore, it is appropriate to suggest implications, at least on a tentative basis.

Faculty have indicated the importance of collegial assistance and consultation. Administrative recognition of this might lead to a more formalized pairing of experienced and inexperienced faculty members to provide "seed" time much as seed money is now provided. It might be beneficial to determine which areas of consultation are most frequently sought (sounding board for the original idea? refinement of the process? editing or preparation assistance? etc.).

The Sponsored Program Office (SPO) was used most frequently by the Non-Science and Program groups. More specific inquiry should be made as to the types of help provided. It seems likely that scientists would be less prone to use this office on the basis of (a) the esoteric nature of their proposals and (b) their greater familiarity with funding agencies (due to historical circumstances and tradition). In other words, SPO's main contribution may be to

faculty members who do not have access to other sources of assistance.

Washington contacts seem to promote successful proposals. It might be appropriate to provide more deliberately for continuity of contacts between investigators and program directors or other federal personnel. Helping faculty make and retain contacts may be a key factor in increasing the success with which the University attracts extramural support.

Science faculty are more likely than others to assume the necessity of federal funding as a prerequisite of their employment, partly on the basis of historical precedent and partly because of the magnitude of available funds. While pressure to secure funds exists, it does so within the framework of the expectations created by the discipline. Writers of Program proposals frequently expressed another kind of pressure, namely from their department heads. Typically, this sort of proposal is one which a faculty member is asked to write under the pressure of an immediate deadline. It might be beneficial to examine ways of altering this situation to the end that it will enhance productivity (as with science faculty) rather than impede it through stress.

Those who indicated problems with the Grants and Contracts Office came from the Research group (which includes both Science and Non-Science) and the Non-Science Program group. Some faculty members—the engineers and bio-logists in particular—have administrative services available to them which serve to insulate them from the administrative detail required by the Grants and Contracts Office. Increased grant activity may be encouraged by providing similar services to faculty who presently must deal directly with this office.

Planning, reduced to its simplist form, is the process of making decisions based on the allocation of resources. University resources allocated from the legislature are finite. Extramural funding, which is dependent upon faculty initiation, represents a more elastic source. If it may be assumed that the University has a commitment to the program and research activities which extramural funds support, then administrative decisions need to be made which facilitate success in capturing such grants. One strategy worth exploring would be to assign faculty responsibilities in such a way that faculty members most skilled in securing grants will have a better opportunity to pursue them.

Administrative service, to facilitate and encourage the preparation of proposals, should be included by the department (to facilitate colleague consultation). It should also be accessible elsewhere to those needing assistance with budgetary and proposal preparation.

The existence of extramural funds has an important impact on budget realities. All within the University benefit, either directly or indirectly, from those funds. It behooves the University to seek all reasonable means to assist faculty members to write successful proposals.

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APPENDIX A

COVER LETTER

KSU KANSAS STATE UNIVERSITY ___35___

For the past year I have worked in grant development activities as a Graduate Assistant for Dr. John Murry. As a result of this experience, I have become interested in three questions: 1) what factors contribute to the development and submission of grant proposals by faculty, 2) what factors contribute to proposals being successfully funded, and 3) what commonalities exist between these areas.

Only faculty like yourself, who have submitted proposals, can provide insight into these questions. I would appreciate your responses to the attached questionnaire, and then the opportunity to interview you concerning your responses. The interview should not take more than 30 minutes, and will focus on questions similar to those on the questionnaire.

The results of this study will serve two purposes; it will let me fulfill the requirements for a master's degree in Regional and Community Planning, and, additionally, should provide information that may increase our office's effectiveness in helping faculty receive grant support.

I will call this week for an appointment, and to confirm your willingness to assist me in my research. Your cooperation would be greatly appreciated.

Thank you very much.

Sincerely,

Sue Peterson, G.R.A.

c

APPENDIX B

THE QUESTIONNAIRE

.

This study is being conducted under guidelines established by Kansas State University. By cooperating, you will help answer important questions; however, your participation is strictly voluntary. You should omit any questions which you feel unduly invade your privacy or which are otherwise offensive to you. Confidentiality is guaranteed; your name will not be associated with your answers in any public or private report of the results.

Name_____   Department_____

Highest Degree_____   Year earned_____

Academic Status - Full-time _____   Part-time_____

Professorial Rank_____

Years teaching experience_____

Years research experience_____

Member of graduate faculty - Yes____ No____

How many structured courses do you normally teach during the academic year?

_____

How many Ph. D. students completed their dissertations under your supervision (as major professor) during the last two years? _____._____

Have you submitted grant proposals for extramural funding prior to submitting the one entitled_____

If yes, how many?_____ Number Funded _____ Not Funded _____

                        Decision Pending _____

Of those funded, how many were: Of those not funded, how many were:

_____Research or development   _____Research of development

_____Demonstration, program   _____Demonstration, program

_____Fellowship   _____Fellowship
         Pre-doctoral_____   Pre-doctoral_____
         Post-doctoral_____   Post-doctoral _____

Additional information to be discussed during the interview pertains to such areas as the origin of your proposal idea, the development of the proposal process, motivational factors in seeking funding, and similar concerns.

For example, typical questions might be:

1.   How did the idea for the proposal originate?   (e.g., extension of doctoral or post-doctoral research, scholarly reading, discussion with colleagues, grant information, etc.)

2. Did you, during the development of the proposal,
    A. Consult with the granting agency? (by phone) (personal visit)
    B. Submit a preliminary proposal for the agency review?
    C. Revise the proposal in light of the agency review?
    D. Consult with John Murry's office?
    E. Have the proposal reviewed by faculty colleagues?
    F. Consult with the Grants and Contracts Office about the budget?

    Were there other procedures you followed which proved helpful in preparing the proposal?

3. Are you aware of any strong feelings on the part of your department head or dean which encourage faculty to seek external funding? If so, how have you been made aware of these feelings?

4. Apart from any pressures from administrators, what factors do you believe were influential in

    (a) your decision to pursue the project?
    (b) your decision to seek external funding for it?

Of course, any other thoughts which you feel might shed added insight into the dynamics of moving from idea to proposal will be most helpful, and will certainly be considered.

APPENDIX C

TABULATION OF RAW DATA

		Science	Non-Science	Prob.	Research	Program	Prob.
			Type of Proposal				
First Funded	Grad Student	10	6		9	7	
	Faculty Member	10	14	(NS)	11	13	(NS)
Origin of Proposal	Personal Interest	9	10		12	5	
	RFP	5	5		3	8	
	Other outside infl.	6	5	(NS)	5	7	(.05)
Preparation	Individual	9	15		16	8	
	Team	11	5	(.04)	4	12	(.01)
Consult colleagues	Yes	18	13		16	15	
	No	2	7	(.05)	4	5	(NS)
Consult dept. head	Yes	10	3		6	7	
	No	10	17	(.02)	14	13	(NS)
Consult SPO	Yes	15	10		13	12	
	No	5	10	(NS)	7	8	(NS)
Consult Grants & Contracts	Yes	0	0		0	0	
	No	20	20	(NS)	20	20	(NS)
Washington contacts	Yes	13	10		10	13	
	No	7	10	(NS)	10	7	(NS)
Experience as reviewer	Yes	4	3		4	3	
	No	16	17	(NS)	16	17	(NS)
Pressure – tenure	Yes	18	4		11	11	
	No	2	16	(.00)	9	9	(NS)

| | | Type of Proposal | | | | | |
		Science	Non-Science	Prob.	Research	Program	Prob.
Pressure – peers	Yes	9	3	(.03)	5	7	(NS)
	No	11	17		15	11	
Pressure – dept. head	Yes	20	6	(.00)	16	10	(.04)
	No	0	14		4	10	
Procedural prob. G & C Office	Yes	9	12	(NS)	12	10	(NS)
	No	11	8		8	10	
Proc. prob. routing	Yes	1	6	(.04)	4	3	(NS)
	No	19	14		16	17	
Proc. prob. overhead	Yes	0	3	(NS)	0	3	(NS)
	No	20	17		20	17	

CORRELATES OF SUCCESS IN PROPOSALS FOR EXTRAMURAL
FUNDING: IMPLICATIONS FOR PLANNING ADMINISTRATIVE
SUPPORT SERVICES FOR FACULTY

by

SUE DALLAM

B.S., University of Kansas, 1960

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AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF REGIONAL AND COMMUNITY PLANNING

Department of Regional and Community Planning

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1978

Universities traditionally assume responsibility for a sound instructional program, a program of community service, and a productive program of research. The 1977 Financial Report of Kansas State University shows an expenditure of over 18 million dollars or 21 percent of the university budget for research. An analysis of research funding at KSU shows that over half of those funds come from the federal government through grants and contracts. These awards, made through a competitive process, represent an essential share of the university's research effort and are acquired through faculty members' initiative.

This study sought to answer three questions: what are distinguishing characteristics of faculty members who are successful in securing grants; what, if any, elements in the planning framework facilitate the successful pursuit of grants; and what is the impact of grant administration services on the fate of grant proposals.

As a result of a review of proposals submitted to federal agencies in 1976-77, 40 KSU faculty members were selected for the study. These were chosen at random to represent each of eight subgroups: funded science research, funded non-science research, funded science program, funded non-science program, and four other subgroups similar to those just listed except that the proposals were not funded.

Data were collected by interview and questionnaire. Eight hypotheses were formed relating to personal characteristics of the faculty member, the dynamics of proposal development, interest versus a request from a funding agency, independent versus collaborative effort, "pressure" from peers or

1

department head, and the influence of university administrative units.

The Chi-square technique was used to examine these hypotheses. Each was tested five times (Total group, Science group, Non-Science group, Research group and Program group).

There were limitations to the study: a small sample size, the exclusion of departments within the university who do not compete for grants, failure to examine more than one university, and the interview as the information gathering device.

It was possible to make the following observations: funded faculty were more likely to consult with their colleagues and to have Washington contacts. Two funded groups, Non-Science and Program, consulted with the Sponsored Programs Office more frequently than other groups. Funded program proposers experienced pressure from the department head to produce successful proposals. The funded research group and non-funded program group encountered difficulties with Grants and Contracts office more frequently than the other groups.

Science and Non-Science proposals were significantly different seven times. In general Science proposals differed by using more consultation/team approaches, sensing more pressure, and discerning fewer administrative problems.

Research and Program proposals differed less. Compared to Program proposals, those for Research were: more likely to reflect a personal interest, more likely to be prepared on an individual basis, and less subject to pressure from the department head.

This was an exploratory study, designed to collect base line data to be

used in planning decisions made by university administrators. On the basis of
the findings, the following suggestions are offered:

1. Experienced and inexperienced faculty should be paired and provided
with "seed" time as well as seed money, to take advantage of the assistance
offered by collegial consultation.

2. More effort should be devoted to providing continuing contacts be-
tween faculty and federal agency program directors or other federal personnel.

3. It would be beneficial to develop ways of altering faculty reaction
toward pressure to produce which would enhance productivity (as with science
faculty) rather than impede it through stress.

4. The services offered by the Sponsored Programs Office should be
advertised, particularly to those segments of the faculty concerned with "pro-
gram" proposals or non-science research proposals.

5. Proposal writers should be protected from the necessity of dealing
directly with the Grants and Contracts Office. Those faculty who have access
to the Experiment Stations have already been provided this protection through
special administrative services. Those same services should be provided
faculty whose proposals are not cleared by the Engineering and Agricultural
Experiment Stations.

Planning, reduced to its simplist form, is the process of making deci-
sions based on the allocation of resources. Extramural funding, which is dependent
upon faculty initiative, is one elastic source available to the University. If it
may be assumed that the University has a commitment to the program and

research activities which extramural funds support, then administrative decisions need to be made which facilitate success in capturing such grants.

The existence of extramural funds has an important impact on budget realities. All within the University benefit, either directly or indirectly, from those funds. It behooves the University to seek all reasonable means to assist faculty members to write successful proposals.