Assessing Grant Capacity and Readiness: A Systematic Review of the Periodical Literature of Research Administration

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ABSTRACT

The author knew of no formalized system for appraising grant capacity and readiness so, in an effort to understand the current state of knowledge regarding assessment of these institutional factors, conducted a systematic review of the research administration literature. Every article published from 1982 through 2013 by five major journals in the field of research administration was considered as a source. The results showed that across 32 years, few articles have been published on the assessment of institutional grant capacity and preparedness and little evidence-based content is present related to this topic. Since discussion of every grant proposal includes some interaction about institutional capacity to complete the project and preparedness to undertake it, this is an important gap in the literature. Gauging an organization's capacity for grant activity or its readiness to propose projects to external funders is practiced, at present, locally and in an often idiosyncratic manner. This circumstance does not allow for quantification of institutional capacity, benchmarking against past capacity or that of peer institutions, or strategic planning of grant activity based on measured levels of capacity and readiness. Moving practice in this area from being subjective and context dependent toward including evidence-based and context-independent factors is necessary to allow measurement, benchmarking, and comparison. Research administrators' strong focus on process comprehension, management, and improvement would appear to support consideration and development of solutions in assessing grant capacity and readiness. Existing and future studies that demonstrate constructs which influence activity related to sponsored projects could serve a foundational role in the development of such assessments.

RATIONALE

The author knew of no formalized system for appraising grant capacity and readiness. In an effort to "identify…and critically appraise" (Moher, Liberati, Tetzlaff & Altman, 2009, p. 332) the current state of knowledge about assessing these factors, a systematic review of the research administration periodical literature was undertaken.

DEFINITIONS

The constructs *capacity* and *readiness* were defined as follows:

1) *grant capacity* describes an institution's potential volume of grant activity while considering qualification, complexity, and suitability; and

2) *grant readiness* is a relative level of preparation to pursue grant activity, both in general and in respect to specific projects and opportunities.

The difference between the two constructs can be seen through the example of the U.S. Department of Education's Title III application guidelines and the National Institutes of Health's Shared Instrumentation guidelines. An institution may have the appropriate traits for Title III eligibility and the infrastructure to pursue development of a proposal of this type (hence, *capacity*) without having reached a state of preparation necessary to work on the proposal (for example, the eligibility application has not been not filed, consensus is lacking regarding project objectives, no individual is willing to lead project planning and proposal preparation, etc.). NIH's Shared Instrumentation guidelines illustrate the possibility of the reverse situation: that an organization can exhibit preparation without capacity. The institution may have identified a group of interested parties, relevant projects, and a valuable piece of research equipment suitable for the proposed projects (i.e., *readiness*) without meeting the capacity qualification of a "minimum of three Program Director(s)/Principal Investigator(s)... with NIH research grants with one of the following activity codes: P01, R01, U01, R35, R37, DP1 or DP2" (National Institutes of Health, 2014).

PURPOSE

The literature review sought to answer two questions:

- Have systems for measuring grant capacity and preparedness been proposed, and if so, when and by whom?
- Where proposed or actual patterns of assessing capacity and preparedness have been carried out, what evidence has been offered for their validity?

In addressing these questions, the researcher considered all digitally accessible articles from five major research administration publications.

METHOD

A modification of the PRISMA pattern for systematic review (Moher et al., 2009) was employed in developing the investigative method and as a guide in reporting. The PRISMA pattern consists of "a 27-item checklist…and a four-phase flow diagram" (Liberati et al., 2009, para. 6) detailing the *P*referred *R*eporting *I*tems for *S*ystematic reviews and *M*eta-*A*nalyses. This pattern originated as an approach in reporting literature reviews in the health sciences and is described in the following way by its creators:

> A systematic review attempts to collate all empirical evidence that fits pre-specified eligibility criteria to answer a specific research question. It uses explicit, systematic methods that are selected to minimize bias, thus providing reliable findings from which conclusions can be drawn and decisions made (Liberati et al., 2009, para. 3).

A comprehensive literature review was conducted in early 2014, with every available article published from January 1982 through December 2013 in five major research administration journals considered as a potential source. Not considered as potential sources were editorials, regular features on organizational activities, letters to the editor, and regional or departmental reports.

DATA SOURCES AND SELECTION

The following publications were consulted:

- *Journal of the Grant Professionals Association* (*JGPA*)—formerly *Journal of the American Association of Grant Professionals*
- *Journal of the National Grants Management Association* (*JNGMA*)
- *National Council for University Research Administrators Magazine* (*NCURAM*)—all archived issues, 2007–2013
- NCURA's *Research Management Review* (*RMR*)
- *Journal of Research Administration* (*JRA*)

All editions of the publications available in online archives and those published in the 2013 calendar year were consulted.

An article was considered a relevant source if it addressed characteristics that impact grant-funded activity. Content was sought regarding institutional features and activities, characteristics of institutional personnel, and means of measuring the extent or quality of an organization's traits and activities as they relate to grant activity. Key terms considered indicative of this type of content were *assessing*, *measuring*,

evaluating, *barriers*, *inducements*, *factors*, *variables*, *readiness*, *preparation*, and *capacity*. A judgment regarding the relevance of each article to the purpose of this review was made by the researcher based on the article's title and abstract. If an abstract was not present, the initial pages of the piece were read to identify its purpose.

All source decisions were made by the same researcher, eliminating potential for inter-reviewer bias.

The publications reviewed, the beginning and end date of the material accessible to the researcher from each, the number of articles considered as possible sources from each publication, and the number of articles from each journal judged to be relevant to a discussion of assessing grant capacity and preparedness are presented in Table 1.

Table 1. Source Material

Source	Beginning & End Dates	# Articles Available	# Articles Relevant
JGPA	1/2004–12/2013	92	2
JNGMA	1/1982–12/2013	199	4
NCURAM	1/2007–12/2013	398	1
RMR	1/1987–12/2013	168	14
JRA	11/1997–12/2013	195	4*
Total		**1,032**	**25**

* A fifth potential source was not accessible online and a copy of the article was unavailable in print form.

Data Gathering and Analysis

A simple form of content analysis (Gall, Gall & Borg, 2010; Neuendorf, 2002) was employed to consider the texts gathered. The title and abstract, or title and initial pages for articles without abstracts, were read to identify relevant sources. Each of the relevant articles was read in its entirety, categorized by purpose and content, and then sorted into groups based on similarity in content. Whenever possible the purpose or summary statement of an article was used in this process. Where a clear purpose statement was absent, a descriptive statement was generated based on the article's content. At the highest level of categorization, sources were sorted into three designations of content focus: *assessing grant readiness*, *assessing grant capacity*, and *other grant activity*. As subcategories in the group *other grant activity* became recognizable based upon the general purpose and focus of the material, additional labels were generated. All classification of the material was the work of one researcher, eliminating the possibility of variance between parties evaluating sources. Articles were then described

according to the type of evidence they presented using common categorizations such as *statement of opinion*, *description of practice*, *proof of concept*, *case study*, *literature review*, and *survey results*.

Also considered were the appropriateness and implementation of stated methodologies and the age of the publication. The information-gathering methodology employed by the authors was compared to recommended approaches based on process descriptions found in Pan's *Preparing literature reviews: Qualitative and quantitative approaches* (2013); Gall, Gall, and Borg's *Applying educational research* (2010); and Fowler's *Survey research methods* (2013). The approaches used were labeled as *appropriate*, *subjective* (i.e., statements of opinion), *errant*, and *unidentifiable*. Articles classified as having unidentifiable approaches described the results of an analysis or investigation but provided insufficient methodological detail to facilitate judgment regarding the approach taken. Source age was described as *recent* (published in the last five years), *acceptable* (published in the last ten years), and *old* (published more than ten years ago). Two articles received an additional label, *notable*, as they contained topic-defining information judged by the researcher to be significant regardless of age.

Finally, each source's topic, type of evidence, methodology, and date of publication were considered together to assess the "potency" of the article; that is, its ability to contribute to a current understanding of assessing grant capacity and readiness. Articles were characterized with respect to potency as *strong* (less than five years old with directly applicable content and good methodology), *moderate* (less than ten years old with directly or indirectly applicable content and appropriate methodology), *limited* (published more than ten years prior, indirectly related content, subjective/unidentifiable methodology), and *none* (old, indirectly related, and/or general rather than specific content).

Table 2. Data Analysis Pattern

1. Read title and abstract of all articles in the sample.
2. Collect copies of articles judged to be relevant.
3. Capture or generate a purpose statement for each article.
4. Label content type.
5. Sort into topical subsets by expressed purpose.
6. Label and assess methodology.
7. Assess age and potency of content.

RESULTS

No evidence was found of systematic assessment of grant capacity and readiness. In 1,032 articles published across 32 years, no authors addressed measurement of grant capacity and only two authors directly discussed assessment of grant readiness

(Table 3). Twenty-five sources were judged to be relevant to the purposes of this literature review, yet the vast majority (23) addressed grant capacity and readiness indirectly.

Of the two authors who directly discussed readiness, Brophy (2004) suggested that it is "important to evaluate your institution by the standards your funders value" (p. 23) and referred to the elements she described as "predictable traits that make [institutions] grant ready". The article provides general questions organizations should ask regarding grant capacity and suggestions for answering those questions, with its arguments based upon Brophy's professional experience. However, no empirical evidence was given that the traits identified were common to institutions that were successful in pursuit of external funding (i.e., that the traits were "predictable"). Kurup and Butler (2008), in the only other article identified to be addressing readiness, promised a discussion of "assessing the organization's capacity for grant seeking and readiness to obtain funding" (p. 7). In their view, grant readiness consists largely of public access to simple institutional information (such as DUNS Number [p. 9]) and institutional documents (e.g., organizational history, most recent audit). Brophy, Kurup and Butler spoke in general terms of advisable but reasonably ubiquitous practices without providing evidence that these practices have a measured impact or identifying the sphere and extent of that impact.

. . . five themes (topical categories) related to assessing grant capacity and readiness were found in the literature: 1) assessing grant readiness, 2) improving efficiency/quality of grant processes, 3) computing ROI/value, 4) influences on sponsored program/research activity, and 5) descriptions of the enterprise/recommendations based on experience.

Table 3 provides a breakdown of all sources by topic and pattern of evidence. The initial topical sort, as noted above, was: *assessing grant readiness*, *assessing grant capacity*, and *other grant activity*. Through content analysis, five themes (topical categories) related to assessing grant capacity and readiness were found in the literature: 1) assessing grant readiness, 2) improving efficiency/quality of grant processes, 3) computing ROI/value, 4) influences on sponsored program/research activity, and 5) descriptions of the enterprise/recommendations based on experience. The second theme, improving efficiency/quality of processes, is further divided into two subsets: 1) improvements within grant recipient organizations, and 2) improvements within funding organizations.

Table 3. Categorization of Sources

Topical Category	*Author (Issue, Year)*	*Source Publication*	*Type of Evidence*
Assessing grant readiness	Brophy (3.1, 2004)	*JGPA*	Opinion
	Kurup & Butler (6.1, 2008)	*JGPA*	Opinion
Assessing grant capacity	N/A	N/A	N/A
Improving efficiency/ quality of the grant process *of recipient organizations*	Olsen (36.2, 2006)	*JRA*	Opinion
	Flood (15.1, 2007)	*JNGMA*	Opinion
	Flood (16.1, 2008)	*JNGMA*	Description
	Saha, Ahmed & Hanumandla (18.2, 2011)	*RMR*	Case study
	Taylor (43.4, 2011)	*NCURA*	Opinion
Improving efficiency/ quality of the grant process *of funding organizations*	Straight & Kestenbaum (7.1, 1992)	*JNGMA*	Description
	Kestenbaum, Hooker & Straight (7.3, 1994)	*JNGMA*	Description
Computing ROI/value	Kordal & Guice (16.1, 2008)	*RMR*	Survey
	Uttam & Venugopal (16.1, 2008)	*RMR*	Proof of Concept
Influences on sponsored program/research activity	Stahler & Tash (6.1, 1992)	*RMR*	Survey
	Dooley (7.2, 1995)	*RMR*	Survey
	Monahan & Fortune (8.1, 1995)	*RMR*	Survey
	Boyer & Cockriel (29.4, 1998)	*JRA*	Survey
	LeBlanc, Jackson & Wright (13.1, 2003)	*RMR*	Survey
Description of enterprise/ recommendations based on experience	Mishler (2.2, 1988)	*RMR*	Lit. rev.
	Mishler (3.1, 1989)	*RMR*	Case study
	Laughlin & Sigerstad (4.1, 1990)	*RMR*	Survey
	Davis (5.2, 1991)	*RMR*	Opinion
	Hays (5.2, 1991)	*RMR*	Opinion
	Stanley & Sellers (5.2, 1991)	*RMR*	Lit. rev.
	Baker & Wohlpart (10.1, 1998)	*RMR*	Survey
	Ebong (31.1, 1999)	*JRA*	Description
	Kirby & Waugaman (36.1, 2006)	*JRA*	Survey

As seen in Table 3, no empirically-based work on the assessment of institutional grant capacity and preparedness was found to have been published in the five journals. The two texts that addressed grant readiness stated general ideas and made best-practice recommendations but contained no research evidence as support. Given that discussion of every grant proposal includes some interaction about the institution's capacity to complete the project and readiness to undertake it, this

dearth of material and the absence of empirical evidence represents an important gap in the literature.

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Overall, little evidence-based content is available. Seven of the 25 relevant sources were statements of opinion while four others were descriptions of current practice at an organization. Thus nearly half of the material relevant to grant capacity and preparedness put out by "research" administrators was notably lacking in empirical investigation. The two sources that directly addressed preparedness were statements of opinion, did not describe measurement patterns, defined preparation for grant activity in broad and simple ways (such as: "If you are doing something that matters, somewhere someone is expressing a need for…your project and your organization" [Brophy, 2004, p. 23]), labeled accessibility of information commonly used in proposal preparation and submission as grant readiness (a fallacy of division), and failed to consider the computerized nature of research administration (stating that keeping physical copies of institutional documents "ensure[s] grant-readiness!" [Kurup & Butler, 2008, p. 9]).

The information gathered also provides insight into the professional focus of research administrators. Management of products and processes is their primary concern.

The information gathered also provides insight into the professional focus of research administrators. Management of products and processes is their primary concern. Fully 23 of the 25 sources described processes, how they could be improved or influenced, or how to demonstrate return on investment resulting from an activity.

Table 4 classifies the sources by age and methodology alongside classification of the pattern of evidence. As noted above, methodological assessments were made based on recommendations in Pan's *Preparing literature reviews: Qualitative and quantitative approaches* (2013); Gall, Gall, and Borg's *Applying educational research* (2010); and Fowler's *Survey research methods* (2013).

Table 4. Nature of the Data

Topical Category	*Author (Year)*	*Age*	*Type of Evidence*	*Methodology*
Assessing grant readiness	Brophy (2004)	Acceptable	Opinion	Subjective
	Kurup & Butler (2008)	Acceptable	Opinion	Subjective
Assessing grant capacity	N/A	N/A	N/A	N/A
Improving efficiency/ quality of the grant process *of recipient organizations*	Olsen (2006)	Acceptable	Opinion	Subjective
	Flood (2007)	Acceptable	Opinion	Subjective
	Flood (2008)	Acceptable	Description	Subjective
	Saha, Ahmed & Hanumandla (2011)	Recent & Notable	Case study	Appropriate
	Taylor (2011)	Recent	Opinion	Subjective
Improving efficiency/ quality of the grant process *of funding organizations*	Straight & Kestenbaum (1992)	Old	Description	Subjective
	Kestenbaum, Hooker & Straight (1994)	Old	Description	Subjective
Computing ROI/value	Kordal & Guice (2008)	Acceptable	Survey	Unidentifiable
	Uttam & Venugopal (2008)	Acceptable & Notable	Proof of Concept	Appropriate
Influences on sponsored program/research activity	Stahler & Tash (1992)	Old	Survey	Appropriate
	Dooley (1995)	Old	Survey	Appropriate
	Monahan & Fortune (1995)	Old	Survey	Appropriate
	Boyer & Cockriel (1998)	Old	Survey	Appropriate
	LeBlanc, Jackson & Wright (2003)	Old	Survey	Appropriate
Description of enterprise/ recommendations based on experience	Mishler (1988)	Old	Lit. rev.	Unidentifiable
	Mishler (1989)	Old	Case study	Appropriate
	Laughlin & Sigerstad (1990)	Old	Survey	Appropriate
	Davis (1991)	Old	Opinion	Subjective
	Hays (1991)	Old	Opinion	Subjective
	Stanley & Sellers (1991)	Old	Lit. rev.	Appropriate
	Baker & Wohlpart (1998)	Old	Survey	Unidentifiable
	Ebong (1999)	Old	Description	Subjective
	Kirby & Waugaman (2006)	Old	Survey	Unidentifiable

The researcher found no research-based content that directly addressed assessment of grant capacity and preparedness. Nearly all of the material was ten or more years old or simply a statement of professional opinion. Only three of the 25 sources did not exhibit one or both of these characteristics.

The findings presented in Table 4 confirm that research administrators'

conception of assessing grant capacity and readiness has been and remains largely idiosyncratic and local. This accounts for the volume of personal opinion and description of institutional practice present in the literature.

Among the 25 articles judged to be relevant to the purposes of this study, the most common form of investigation was survey research. The texts on survey results reported appropriate methods, though four were classified as having an unidentifiable methodology since some or all of the particulars of the sample selection, calculation of level of confidence, and verification that the ultimate sample represented the intended target population were not present.

Only two articles were classified as notable. Each received that characterization as a result of the value of its content regardless of the time elapsed since publication. Uttam and Venugopal (2008), using project data from an Indian research center, demonstrated the utility of a process for calculating the return-on-investment for externally funded projects. Their procedure incorporated the ability to assign organization-specific weighting to elements of "soft" return as well as calculation of fiscal benefit. In the researcher's assessment, this is a beneficial conceptual addition to the field as it introduces a transferable, broadly applicable set of concepts and patterns that will remain relevant and are based in empirical analysis. Saha, Ahmed, and Hanumandla (2011) described their study of the impact of high expectations within institutional culture on work output in research administration. Here also the rigor of the methodology and breadth of potential applications establish this article as a contribution to the field of research administration which the researcher judged to have persistent value.

Table 5 presents a final means of sorting the data from the literature review. Each text's date of publication, focus, and "potency" (i.e., ability to contribute to a current consideration of measuring grant capacity and readiness) is listed. Evaluation of potency involved the article's topic and age, type of evidence presented, and categorization of methodology. Potency is described in the categories listed above (*none*, *limited*, *moderate*, and *strong*). Articles regarded as making no contribution to understanding the assessment of grant capacity and preparedness were those with old, subjective, and general information or that exhibited at least two of these characteristics. Texts categorized as having *limited* potential to contribute to current understanding had content that directly or indirectly addressed topics related to assessing grant capacity and readiness, relied on subjective or unidentifiable methodology, and/or were ten or more

years old. The *moderate* classification was assigned to pieces with multiple areas of content that could be considered in grant readiness and capacity assessment, that were based upon an appropriately conducted investigation, and that were less than ten years old. The *strong* classification was reserved for papers that directly addressed standards for or means of measuring institutional grant capacity and preparedness, used appropriate methodology, and were of recent origin.

Table 5. Focus of Content and Potency of Sources

Topical Category	*Author and Date*	*Content Focus*	*Potency*
Assessing grant readiness	Brophy (2004)	Basic proposal development concerns described as grant readiness.	Limited
	Kurup & Butler (2008)	Grant preparedness discussed in simple and broad terms.	Limited
Assessing grant capacity	N/A	N/A	N/A
Improving efficiency/ quality of the process *of recipient organizations*	Olsen (2006)	Presents a pattern to plan a review of a sponsored programs office (SPO).	Limited
	Flood (2007)	Advocates for uniform "grant administration standards" (p. 28) for recipients.	Limited
	Flood (2008)	Describes "Grant Administration Criteria Standards which relate to the pre-award phase of the grant cycle" (p. 28).	Limited
	Saha, Ahmed & Hanumandla (2011)	Impact of expectation of improvement on sponsored program outputs.	Moderate
	Taylor (2011)	Notes that both internal and external assessment of the SPO is possible and helpful.	None
Improving efficiency/ quality of the process *of funding organizations*	Straight & Kestenbaum (1992)	Logistics Management Institute's process to review grant management in government departments.	Limited
	Kestenbaum, Hooker & Straight (1994)	Analysis tool "designed to improve quality, timeliness, productivity, and responsiveness of funders" (p. 55).	Limited
Computing ROI/value	Kordal & Guice (2008)	Analysis of Association of University Technology Managers (AUTM) annual U.S. Licensing Activity Survey for 2007.	Limited
	Uttam & Venugopal (2008)	A system for predicting and quantifying the ROI potential of various sponsored projects.	Moderate
Influences on sponsored	Stahler & Tash (1992)	Survey of chief research officers at 18 of the top 30 research institutions re:	Moderate

Topical Category	*Author and Date*	*Content Focus*	*Potency*
program/research activity		inducements and barriers to sponsored program activity.	
	Dooley (1995)	Survey of TX A & M SOE faculty (56 total) re: inducements and barriers to sponsored program activity.	Moderate
	Monahan & Fortune (1995)	National survey (163 institutions in 42 states + DC) re: 33 factors seen as inducements for grant activity in other studies.	Moderate
	Boyer & Cockriel (1998)	National survey (248 faculty) of AAU institutions re: factors that motivate or hinder their pursuit of grants.	Moderate
	LeBlanc, Jackson & Wright (2003)	Survey of CA St. Chico faculty re: view of sponsored programs and research.	Limited
Description of enterprise/ recommendations based on experience	Mishler (1988)	Recommendations re: resources and processes needed to transition from IHE focused on teaching to one placing more emphasis on external funding.	Limited
	Mishler (1989)	Changes made and strategies utilized to promote external funding during two distinct but consecutive five-year phases at an IHE.	Limited
	Laughlin & Sigerstad (1990)	Survey of 42 persons at 21 NSF Eng. research centers re: research admin. role in creating a supportive environment for grant activity.	Moderate
	Davis (1991)	General concepts to consider if planning to evaluate a pre-award office.	Limited
	Hays (1991)	Critique of a variety of organizational structures for OSPs.	Limited
	Stanley & Sellers (1991)	Review of recommendations made in the literature re: improvement of management of federally sponsored research from 1980-1990.	Moderate
	Baker & Wohlpart (1998)	National survey in 1996 (80 chief res. officers) re: institutional activity and characteristics.	Limited
	Ebong (1999)	Presents a "four-category faculty-ranking model based on faculty sponsored project history" (abst.).	Limited
	Kirby & Waugaman (2006)	National JRA survey (2002) re: pre-award and post-award workload, staffing, and practices.	Limited

None of the sources could be labeled as "strong." Approximately one-third of the sources (8) were classified as being of moderate importance. Six received this classification based chiefly on recent publication, while Saha, Ahmed, and Hanumandla (2011) and Uttam and Venugopal (2008) were classified in this way because their content indirectly related to assessing capacity and readiness. The majority of the sources (16) were judged to be of limited value with respect to assessing capacity and readiness—they had subjective content, did not directly address the topic, or were not recently published. The topical category with the greatest potential to influence assessments of grant capacity or preparedness was *influences on sponsored program/research activity*—this topic area captured information that could be used to identify key concerns related to capacity and preparation.

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Limitations

The primary limitation applicable to this review is that it is the work of one person. Any bias he had regarding the topic could have influenced data gathering, data analysis, and presentation of results. The methodology employed, incorporating comprehensive consideration of the literature, pre-specified criteria, organic development of categories and labels, frequent crosschecks of data and results, and the use of research methodology texts as references, was chosen as a means of minimizing both bias and human error.

Discussion and Conclusions

Research administrators and grant professionals have nearly failed to consider appropriate means of assessing grant capacity and readiness in their periodical literature; those who have done so have presented material that is general, location-specific, or limited in scope. This major shortcoming in the field inhibits strategically meaningful quantification and qualification of grant activity and leaves research administration without reliable and replicable benchmarking capability. It also leaves the most obvious (but not the most representative) measure of quality and success, dollars in external funding received, as the primary easy-to-understand means by which research development, research administration, and proposal development assistance can be evaluated. There is a growing sense of dissatisfaction with this incomplete and limited form of assessment (Falk-Krzesinski, 2013;

McArthur, 2013; Schulz, 2013; Trinkle, 2013).

The lack of identifiable published work on assessment of grant capacity at the institutional or project team levels seems inconceivable. The capacity of the recipient entity to implement, complete, and sustain initiatives, as described in the proposal, is instrumental to every grant project. Yet the research administration field has not produced a means of measuring and benchmarking the elements of this capability. The same can be said regarding preparedness for a grant project or for grant activity in general. Being able to assess level of readiness in a replicable and reliable manner would allow for more thorough understanding of the needs and idiosyncrasies of departments, schools, and institutions, and would inform resource allocation within and among them. At present, research administrators' assessments of grant capacity and readiness at their home institutions are based on past experience in the field and with the institution. An empirically-based approach would enable benchmarking and comparison on a more objective footing, facilitating goal-making with respect to sponsored programs and communication between research offices and institutional administrators.

The sample of relevant articles included few evidence-based accounts. The texts with the strongest empirical evidence were those described as notable: Uttam and Venugopal (2008) and Saha, Ahmed, and Hanumandla (2011). The first used "[d]ata for 40 projects undertaken at the National Chemical Laboratory…Pune…India" (p. 57) across a six-year period to validate a model. The second was a comparison of the analysis of variance between a "pre-implementation period… [and] the post-implementation period" (p. 9), looking for statistically significant differences. The most frequently deployed evidence-gathering methodology for the sample was survey research. Five of the seven articles reporting survey results were judged to be of moderate value for assessment of grant capacity and readiness. While up to 24 years old, together they established a consistent understanding of some characteristics that support or encourage grant activity. When taken together, these nine evidence-based articles represent only one-third of the sample.

A consideration of the sample articles revealed that research administrators make capacity and readiness judgments based on personal experience, interpretation of solicitations and guidelines, and subjective analysis. This limits evaluation of capacity and readiness to local, context-dependent patterns. The literature contains no reliable, replicable pattern for assessing and benchmarking these characteristics, a substantial flaw in a field that relies heavily

on assessment of capacity and preparedness in decision making. Given that understanding, managing, and improving products and processes is a primary concern of research administrators, the need for a means to measure influences on grant processes seems self-evident.

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Material exists that could form a single plank in a platform from which to initiate assessment development. A small group of reports based on surveys of research administration practice seek to identify influences on grant activity. The surveys conducted by Boyer and Cockriel (1998), Dooley (1995), Laughlin and Sigerstad (1990), Monahan and Fortune (1995), and Stahler and Tash (1992) present a decade-long but reasonably uniform perspective of elements that impact or represent grant capacity and readiness. With verification in the present setting, this material could inform efforts to construct assessments of capacity and preparedness. The quantitative research done by Saha, Ahmed, and Hanumandla (2011) regarding the impact of corporate culture on grant processes contributes another element to the small list of known influences on the elements of grant activity under question.

RECOMMENDATIONS

Saha, Ahmed, and Hanumandla (2011) made the following observation:

> Research administration is a dynamic discipline involving a variety of processes in the delivery of research excellence. The discipline operates as a complex vehicle in carrying out research strategy formation, grant application preparation, awards negotiation and management, compliance implementation, research publication, knowledge transfer, and research product commercialization. However, the activities imposed upon or expected from research administrators and managers are growing and seem to be endless (Green & Langley, 2009). Therefore, research administrators must seek new and fresh approaches to managing the multidisciplinary system (Saha, Ahmed, Hanumandla, 2011, pp. 2–3).

An understanding of institutional and team grant capacity and readiness, while a complex undertaking, is an important purpose within the multidisciplinary research administration system. The ability to measure and compare characteristics would allow for benchmarking, evidence-based strategic planning on micro and macro levels, and demonstration of

institutional advancement using criteria other than dollars awarded. As recent conference presentations have indicated, there is a growing interest in meaningful metrics for research administration and research development (Falk-Krzesinski, 2013; McArthur, 2013; Schulz, 2013; Trinkle, 2013).

Development of assessments like those proposed will require that research administrators add identification, verification, and measurement of the influences on sponsored programming to their existing professional experience-based judgments. Only activity of this type will allow reliable and replicable assessment that will facilitate a substantiated body of knowledge and through it evidence-based management of practices and processes.

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LITERATURE CITED

Baker, J. G., & Wohlpart, A. (1998). Research administration in colleges and universities: Characteristics and resources. *Research Management Review, 10*(1), 33–57.

Boyer, P., & Cockriel, I. (1998). Factors influencing grant writing: Perceptions of tenured and nontenured faculty. *Journal of the Society of Research Administrators, 29*(4), 61–68.

Brophy, S. (2004). Grant readiness. *Journal of the American Association of Grant Professionals, 3*(1), 23–28.

Davis, S. (1991). Evaluating the pre-award research administration office. *Research Management Review, 5*(2), 18–28.

Dooley, L. (1995). Barriers and inducements to grant related activity by a college of education faculty. *Research Management Review, 7*(2), 10–24.

Ebong, I. (1999). Relating capacity to faculty funding persistence profile. *Journal of the Society of Research Administrators, 31*(1), 23–34.

Falk-Krzesinski, H. (2013). *Measuring research performance: Research metrics initiatives and approaches.* Retrieved from NORDP: http://www.nordp.org/2013-conference-materials

Fowler, F. (2013). *Survey research methods.* Thousand Oaks, CA: Sage Publications.

Gall, M. D., Gall, J. P., & Borg, W. R. (2010). *Applying educational research* (6th ed.). Boston, MA: Person Education, Inc.

National Institutes of Health. (2014). *Shared instrumentation grant program (S10).* Retrieved from: National Institutes of Health: http://grants.nih.gov/grants/guide/pa-files/PAR-14-073.html

Kirby, W. S., & Waugaman, P. G. (2006). Practice data from the 2002 JRA-bearing-point nationwide benchmarking survey. *The Journal of Research Administration, 36*(1), 4–15.

Kordal, R., & Guice, L. K. (2008). Assessing tech transfer performance. *Research Management Review, 16*(1), 45–56.

Kurup, S. K., & Butler, L. G. (2008). Getting your organization grant ready. *Journal of the American Association of Grant Professionals, 6*(1), 7–14.

Laughlin, P., & Sigerstad, A. M. H. (1990). The research administrator's role in creating a supportive environment for interdisciplinary research. *Research Management Review, 4*(1), 1–8.

LeBlanc, T. D., Jackson, R. M., & Wright, J. (2003). Assessing the needs of a changing faculty. *Research Management Review, 13*(1), 21–30.

Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gotzsche, P. C., Ioannidis, J. A. P., Clarke, M., Devereaux, P. J., Kleijnen, J., & Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate healthcare interventions: explanation and elaboration. *BMJ, 399*(b2700). doi:10.1136/bmj.b2700

McArthur, D. (2013, May 14). *NORDP 2013 conference presentations - Clinincal research: Measuring outcomes and impact.* Retrieved from NORDP: http://www.nordp.org/2013-conference-materials

Mishler, J. (1988). Enhancing the prospects for acquisition of sponsored funds at small to mid-level colleges and universities: A guide for program development. *Research Management Review, 2*(2), 17–31.

Mishler, J. (1989). Organization and promotion of sponsored research at a mid-sized state university; A ten-year case study. *Research Management Review, 3*(1), 33–41.

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *BMJ*, 332–336.

Monahan, T.C. & Fortune, J.C. (1995). Using institutional variables to predict success in the acquisition of sponsored projects. *Research Management Review, 8*(1), 23–40.

Neuendorf, K. (2002). *The content analysis guidebook.* Thousand Oaks, CA: Sage Publications.

Olsen, B. (2006). Constructing a grants office review: A case study. *The Journal of Research Administration, 36*(2), 23–33.

Pan, M. (2013). *Preparing literature reveiws: Qualitiative and quantitative approaches.* Glendale, CA: Pyrczak Publishin.

Saha, D. C., Ahmed, A., & Hanumandla, S. (2011). Expectations-based efficiency and quality improvements in research administration: Multi-institutional case studies. *Research Management Review, 18*(2), 1–26.

Schulz, G. (2013, May 14). *NORDP 2013 conference presentations - Research metrics and academic performance for individual faculty.* Retrieved from NORDP: http://www.nordp.org/2013-conference-materials

Stahler, G. J., & Tash, W. R. (1992). Success in external funding at the fastest growing research universities: Contributory factors and impediements. *Research Management Review, 6*(1), 14–24.

Stanley, D. A., & Sellers, W. (1991). Making things better: A summary of past recommendations for improving the management of federally sponsored academic research. *Research Management Review, 5*(1), 1–22.

Taylor, M. (2011). Assessing your sponsored programs office. *NCURA Magazine, 43*(11), 4–5.

Trinkle, D. (2013, May 14). *NORDP 2013 conference presentations - Research metrics in the federal government.* Retrieved from NORDP: http://www.nordp.org/2013-conference-materials

Uttam, S., & Venugopal, P. (2008). Assessment of benefits from sponsored research in publically funded organizations: A semi-empirical model. *Research Management Review, 16*(1), 57–68.

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