An Argument on Why the City Should Contribute to the Library Budget in a Means Similar to Corporate Funding of R&D

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The public library budget needs to become a function of the city's budget similar to corporate set-asides for research and development (R&D) expenses. The R&D model posits that public libraries will enrich, entertain, and educate the residents to become better persons, to obtain better paying jobs, and to be able to pay local taxes and be productive citizens. At the library, there occurs an exchange of ideas with others and a "cross-leveling" of knowledge. From using library resources and meeting with like-minded persons, people leave with and are exposed to new ideas and ways to apply them in their lives. This improvement manifests itself in demonstrable ways, and as ideas are relayed to others, the process starts over.

Baskerville and Dulipovici, in their 2006 work "The Theoretical Foundations of Knowledge Management," illustrate the information creation process. In it, persons share knowledge to create concepts and build archetypes, which leads to a cross-leveling of knowledge.[1] Once they have then articulated this knowledge, there is an exchange of ideas with others, which starts the process over again. Building upon concepts put forth by Nonaka and Konno (1998), Nonanka and Takeuchi (1995), and Nonanka and Toyama (2003), Baskerville and Dulipovici also show a flow of processes whereby socializations and combinations of ideas lead to expansion.[2] It is at the point of expansion where information is internalized and externalized, and the process begins anew. The public library, as a community center, can be a prime place of expansions of thought and knowledge.

These processes of transformation can be considered similar to the corporate R&D process, as they foster and encourage ideas that can be used for advancement. Every good corporation sets aside monies for R&D that will in turn bring in future revenue. Similarly, by helping persons to become educated and develop skills, the library serves to generate human resource to a community. These residents possess abilities to earn more, volunteer more, and care more about the communities, and in general contribute more to the city. Such a higher achieving population is more likely to support community projects through their work and taxes. This is a kind of civic R&D, and when a certain amount of the city budget is set aside annually for library expenses to meet this goal, positive outcomes in the present and the basis for success in future endeavors are enhanced.

Corporate R&D Needs

The business world recognizes the need for R&D. Monies set aside in a corporate budget specifically for R&D is a regular annual line, allocated purposefully and without any immediately expected return. Corporate practice over the years has demonstrated that regular amounts of the budget set aside for R&D projects will provide a larger return. Thus, corporate financial statements should meet three tests:

1. Finances show solvency or an ability to generate cash.
2. They show earning power that creates an ability to grow and earn larger returns.
3. Assets increase and liabilities decrease.

R&D funding addresses the second test of corporate strategy, which is recognized as a legitimate cost of doing business. R&D costs are "costs that are incurred to generate revenue in the future through the creation of new products or processes."[3] These costs are incurred in the process of creative experimentation and analysis covering sometimes years of study given to a problem, product, or thought on the expectation that they may yield innovation down the line. Most types of R&D expenditures are considered liabilities during the year in which they have accrued (although another view considers them to be investments). For example, the U.S. Bureau of Economic Analysis (BEA) released a September 28, 2007 document "Research and Development Satellite Account," which states that if R&D was treated as an investment it would have accounted for five percent of real GDP (Gross Domestic Product) growth between 1959 and 2004 in the United States. The release states, "This ramp up in R&D's contribution helps explain the pickup in economic growth and productivity since 1995. To put it in perspective, the business sector's investment in commercial and other types of structures accounted for just over 2 percent real GDP growth between 1995 and 2004."[4] BEA recognizes that their data must keep up with the changing and growing economy, and

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it has planned more improvements in conjunction with the National Science Foundation to extend its estimate of R&D on domestic growth by collecting data on service industries.

A visit to the website of the National Science Foundation (NSF) also has some relevant links. For example, looking at quartiles for R&D as a share of gross state product for 2002, New Jersey landed in the first quartile with 8.76 to 2.8 percent spent on R&D. NSF states that "the indicator shows the extent to which research and development play a role in a state's economy. A high value indicates that the state has a high intensity of R&D activity, which may support future growth in knowledge-based industries."[5] However, looking the number of science and engineering doctorates conferred per one thousand degree holders for the year 2003, New Jersey landed in the fourth quartile with 34.3 to 17 percent. NSF cautions that "some states with relatively low values may need to attract S&E doctorate holders from elsewhere to meet the needs of local employers."[6]

The NSF website also features the Industrial Research and Development Information System, a collection of spreadsheets tabulated to look at corporate spending on R&D in many ways, including by industry and size of company.[7] This collection has a category "other non-manufacturing industries" from 1956 to 1998, and the industry supported percentage in 1988 was 6.8. Libraries may be considered to fit into this category.

The federal government also recognizes R&D as a valid business credit by the Internal Revenue Service (IRS). An examination of IRS interpretations of income tax instructions explains that there are several different lines of funds spent on items that can be collectively viewed as a "general business credit."[8] These include approximately thirty types of items, including work opportunity credits, welfare, work credits, empowerment zone credit, and research credit. There are limitations on the amounts of business credits that may be offset against tax liabilities, but the research credit is available as a two-part tax credit:

1. Incremental Research Activities—where the credit for research is for increased expenditures over a base amount (where about 20 percent of qualified expenditures over the average spent in the last three years can be considered).
2. Basic Research Credit—usually used for corporate monies spent on university research in areas such as the sciences.

IRS Code Section 41(a) reviews business credit. The point is to know that the United States government, through the auspices of the IRS, also recognizes the long-term value of R&D. Just as R&D is a recurring and necessary expense for any organization, a city government can assign R&D funding as a specific line that is part of its intangible assets. In a similar way, if the city were to set aside funds as a percentage of its assets each year for the library, there would be an expectation of the future results. This leads to a discussion of knowledge management.

Knowledge Management

There has been extensive coverage of the emerging concept of Knowledge Management (KM). Wiig writes: "Improvements in knowledge management promote those factors that lead to superior performance: organizational creativity, operational effectiveness, and quality of products and services."[9] Myers goes on to say: "Knowledge is an innately human quality, residing in the living mind because a person must identify, interpret, and internalize knowledge."[10] Davenport and Prusak seem to concur when they say: "Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information."[11] Baskerville and Dulipovici trace the formation of KM theory foundations and institution in practice in the business world.[12]

Viedma brings an interest in KM to city administration. Observing that "progress in new technology has radically transformed the way people live and work in the information society," he recognizes that changes in ways we work and live are due to how communication and information technologies affect culture.[13] Viedma goes on to describe the necessity for cities to harness their intellectual capital. He draws the metaphor of the city as a tree—with tangible assets such as reports symbolized by leaves and branches—but he says "the roots of the tree (or the foundation of the house, to mix metaphors) reflect the renewal and development capital of the city—the source of future growth and affluence," which is built upon knowledge.[14]

The study of KM came to libraries early in its evolution. White traced the growth of KM to its initial presentation to libraries as a means for

> organizational stakeholders to begin requiring strategic responses and goals that were more intangible in nature: examples including producing outcomes (i.e. differences in condition, thoughts, or abilities for stakeholders; improved staffing ability and knowledge to produce and manage the organizations' assets, efforts, and resources; greater ability to utilize information and knowledge in producing and managing assets, efforts, and resources in order to reduce the growing knowing-doing gap).[15]

Blair and Wallamn, who wrote that traditionally intangibles have not been treated as part of a nation's wealth, but are "important in the production, marketing, and distribution of physical goods as well as the delivery of services."[16] Coakes and Bradburn come to the conclusion

that "there is an absence of linking mechanisms between knowledge management and intellectual capital and that this may be located in the difference between valuing and measuring and the importance of these two processes to the discrete constituencies involved."[17] Use of intangibles assessment in libraries began more than twenty-five years ago with Buckland's 1982 article on "Library Goodness."[18] The study of measurements of worth in libraries changed in the early 2000s, to where many libraries created return-on-investment spreadsheets to prove their worth.[19] Libraries everywhere attempted to document their worth through such mechanisms. Cities have not been as forthcoming in recognition of library worth, however. By viewing the funding of libraries as money well spent on R&D, the cities, states, and nation invest in the public, which can return long-term benefits that will be realized through civic enrichment. Libraries must then not so much focus on the need to prove themselves in the present, as to show how they can transform their communities toward an even better future.

Finally, in lines of a corporate budget, under assets, there is a portion for "intangible assets," which are named thus because they have no physical substance. These are generally carried at Net Book Value (the cost of acquiring the item or dollar amount and do not depreciate). Some things that are typically considered intangible assets include: good will, patents expenses, copyright and trademark expenses, and research and development. These intangible assets are invaluable to cities as well as corporations.

Library Budget Systems

Linn's article does a very thorough and detailed job of reviewing the different means of devising a budget system for libraries over the years.[20] Line-item budgeting, which he says is most commonly used, involves the assignment of a percentage of the budget to a category. Another attempt is formula budgeting, which creates the appearance of fairness by allowing a perception that the budget process is without political influences. Mathematical decisions models were described in greater detail by Rodas.[21] However, mathematical decisions models for budgeting have declined in use because of time involved. Zero-based budgeting, which forces the library to re-create its budget from scratch each year, is a work-intensive process.[22]

Program budgeting highlights costs by each type of output or activity instead of listing each variety of cost. This type of budget requires that activities be quantifiable and can sometimes neglect the quality of services that the library or organization gives.[23] Somewhat differently, while performance-based budgeting measures outputs, it is actually based on outcomes. The difference is that an *output* may be the number of students that attended a class, whereas the *outcome* would be the skills that the students acquired. This method was discussed by Caruthers and Orwig, and previously by Axford. These authors agree that it is very hard to try to trace backwards exactly to find whether a certain output led to a certain outcome, in this case the students' learning. Also, the need for keeping time-consuming statistics is considerable.[24]

Another strategy is responsibility-center budgeting, similar to cost-center budgeting in the corporate world, as explained by Bava.[25] It essentially requires that each academic unit pay a portion toward the library, but the problem is that it forces the departments to pay for its compartmentalized resources, hinders cross disciplinary works, and creates redundancies. Hallam and Dalston highlight block incremental budgeting, which is similar to responsibility-center budgeting.[26] Another is initiative-based budgeting, or reallocation budgeting, discussed by Goldstein.[27] Initiative-based budgeting creates resources to pool for new initiatives the organization may want to fund.

Careful reading of various budget analyses suggests that the popular formula model remains preferred by many, if not most, libraries. Formula budgets mandated by many state legislatures can eliminate political manipulations and reduce the amount of time spent addressing the budget itself, enabling work to be accomplished in a timely fashion. Once all the parties can be brought to the table for discussion, the formula can be determined and put into long-term use. For the purposes of this argument, it is important to note that formula-based budgeting can also be especially adaptable to allocating monies based upon R&D needs of libraries.

Return on Investment

In any city's assets, the library budget could be looked at as an intangible asset. The library budget in particular might be comprised of an amount equal to 6.8 to 8.8 percent of the total city budget, which includes the funds collected for the city school system. The 6.8 to 8.8 percent of the total city budget reflects an amount that would normally be spent in a corporate budget for R&D and a reasonable amount in terms of the costs involved in running a library based upon the R&D needs of cities with libraries.

The following is a sample budget looking at typical library's expenses if they were to be awarded this level of funds. In a typical medium-sized city budget of about $44 million ($22 million for city services plus $22 million for education), if 7 percent is allocated for the library (at the low end of the 6.8 to 8.8 percent R&D allocation), then approximately $3.1 million would be set aside. This is a reasonable figure considering the following: $1.5 million straight salary costs, plus $500,000 healthcare costs, and $500,000 pension matches, annuity matches, and other flex benefits contributions. This yields an amount of $2.5 million encumbered for staffing.

Approximately $608,000 remains in the budget at this point. Various allocations are possible, of course, but for

the present purposes, consider the following as generally representative:

- $125,000—utility costs for a medium-sized building
- $65,000—to pay for database licensing and software licensing fees
- $55,000—equipment (replacing one third of the computers every three years; paying for licensing; updating servers; network printers, copiers, and so forth)
- $18,000—for programming activities (speakers, printing brochures and flyers, catering, and so on)
- $15,000—for miscellaneous office supplies (paper, postage, pens, toner, and such)
- $12,000—for newspapers and periodicals

The subtotal so far is $290,000, leaving only about $318,000 for other materials and fees (for example, books, consortia fees, and costs for upgrades). Also all budgets should be designed so they allow the board of trustees and director flexibility in the budget lines to address situational needs such as special equipment purchases or adding extra staff.

The same principle can be applied to academic libraries. An academic library would start by looking at a small university budget of about $88 million, and its R&D budget of 7 percent of the university budget would be around $6.16 million. Needs would be different, so that an extra amount might be allocated for databases and journals. Because university libraries are usually open seven days a week and until midnight, extra funding for personnel must rise above and beyond the budgeted amount. The idea of supporting the library as a function of the college's R&D, though, moves beyond meeting immediate needs and invests in the organization's continuous improvement.

What are city officials getting for their money? There are some immediate returns on investment in terms of saving the residents the expenses of buying and using commonly needed resources. Still, many city officials who cling to short-term financial views could be reminded that the proper rationale of R&D is to work on plans that will bring innovations in the future. Potential value of R&D expenditures is hard to quantify, although corporations recognize that without it, growth is impossible. Setting aside annual R&D-type funding for the library requires a strategic long-term view, reflecting an investment in the city, state, and country. Investments in libraries and success may be measured in longer-term means in terms of citizens' earnings and the economic health of the community. This can be tied to targeted outputs; for example, funds my be allocated on the basis of measured numbers of high school diplomas and bachelor's degrees earned by residents, in the yearly incomes earned by residents from one period to the other, or the reduction of crime or police reports over a defined period using reliable data sources, such as the U.S. Census Bureau.

Recently, New York City Mayor Bloomberg was quoted as saying that payments to families for attending parent/teacher conferences, to students for perfect attendance, or to individuals for improved career skills made sense. He said it would "encourage actions that are good for the city and for families."[28] These are other intangibles that should be encouraged. However, while Bloomberg's heart is in the right place, the more collectively beneficial way to invest in the future of citizens would be to invest in their public library system. The library is uniquely poised to serve as an incubator for ideas, creativity, and innovation, which could enhance the city's prosperity.

Libraries have been influential parts of their communities since the inception of public libraries in America. Civic growth goes hand-in-hand with investment in libraries, and thus libraries can be viewed as intangible assets that will provoke future growth, too. When viewed as partners, libraries can help residents become productive and contribute to society. Just as a corporation invests in R&D expecting future benefits, so might a city invest in its libraries.

Cities that fully fund their libraries according to this principle will see increased creativity, innovation, participation, and leadership among their residents. It may be argued that cities that fully fund their libraries will also see returns such as lower crime, higher quality of life, better public safety, higher educational levels, increased volunteering, and a reputation as a destination or relocation alternative. The library, fully funded, is the place where these things can happen. Fully funding libraries as social institutions of research and development will return today and long term.

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