

Integrative Chapter in Support of the Award of a PhD by Publication

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Abstract

This chapter draws together work developing, synthesizing and applying a model for library performance measurement in academic and research libraries. The work comprises publications based on reviews of published studies and primary data from surveys and other investigations.

The provenance of the work and the ways in which the individual studies are connected and informed by each other and by the author's previous work is explained in the chapter.

The work follows the author's long-term quest to understand the idea of value in relation to libraries. At the outset of this investigation there was little work and less clarity about the meaning of and methods for value measurement in libraries.

The work argues for a measurement conception for libraries that goes beyond instrumental internal data collection to achieve evaluation of the transcendent worth and contribution of libraries.

An intellectual framework for performance measurement is provided in the form of the Value Scorecard, with examples of practical measurement applications to populate the framework. The eight publications are described and their contributions to the field of library performance measurement are analysed in the chapter.

The published work and the conference presentations on which they have been based have also made a contribution to the debates in the field, and may have potential application beyond libraries.

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Followed by copies of publications and signed declarations

List of Publications submitted for consideration

Town, S. (2011a). The value of libraries: the relationship between change, evaluation and role. In Baker, D. and Evans, W. (Eds.). *Libraries and Society: role, responsibility and future in an age of change*. Oxford: Chandos. pp. 303-325.

Town, J.S. (2011b). Value, impact and the transcendent library: progress and pressures in performance measurement and evaluation. *Library Quarterly*, 81(1), 111-125.

Town, J.S. and Kyrillidou, M. (2013). Developing a values scorecard. *Performance Measurement and Metrics*, 14(1), 7-16.

Town, S. (2014). The value of people: a review and framework for human capital assessment in academic and research libraries. *Performance Measurement and Metrics*, 15(1/2), 67-80.

Town, J.S. (2015a). Measures of relationship capital for the value scorecard. *Library Management*, 36(3), 235-247.

Town, J.S. (2015b). Evidence based organizational change: a seven year case study. *Library Management*, 37(8/9), 623-643.

Town, J.S. (2015c). Implementing the value scorecard. *Performance Measurement and Metrics*, 16(3), 234-251.

Town, S. (2016). LibQUAL+: a quality survey case study. In Atkinson, J. (Ed.). *Quality and the Academic Library*. Oxford: Chandos. pp. 209-220.

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Author's declaration

The publications submitted for consideration are my own work, except for one article co-authored with Martha Kyrillidou. One paper was developed from a conference presentation involving Ian Hall, Jo Black and Karen Smith of the University of York. In the co-authored work I was the lead author; the creation of the Value Scorecard framework was my contribution and Martha Kyrillidou provided the idea of using the ARL Futures scenarios. The scenario analysis was assisted by Katie Burn, who acted as a research assistant for much of this programme of work.

The primary data for the studies was variously collected and collated by the Association of Research Libraries (LibQUAL+ and ClimateQUAL), the University of Maryland (ClimateQUAL), Capita and ORC International (University of York staff surveys). University of York Information Directorate staff were active in contributing both data and ideas throughout the period of the applications of the various instruments.

The LibQUAL+ Chapter was based on a joint presentation for which data and ideas were provided by Martha Kyrillidou, Fred Heath, Colleen Cook, and Selena Killick. The critique and reflections on LibQUAL+ are my own, but these were improved by comments and suggestions from Martha Kyrillidou.

Other contributory acknowledgements are made in each individual paper.

1. Introduction

1.1 Foreword

“ ... the value of a [library] service must ultimately be judged in terms of the beneficial effects accruing from its use” (Orr, 1973, p. 318)

In other words, libraries produce an effect beyond use transactions. The summit of library performance measurement is therefore the provision of evidence that allows that ultimate judgment to be formed. The context of that judgment will therefore be beyond the immediate frame of reference of the library. This work consequently argues for and is intended to contribute to libraries demonstrating transcendent benefit. Measurement may apply at all organizational levels (operational, managerial and strategic) but this work concentrates on proof of worth of the overall library beyond itself, and its leadership perspective directs this towards the purpose of advocacy.

In the process it describes and illuminates an eight-year case of leadership and change in an academic research library. In so doing, it seeks to answer the challenges set by Van House (1995) of telling a cohesive story of the library, of making values an explicit part of the narrative, and not mistaking performance measurement for performance or achievement.

The purpose of this integrative chapter is to provide a coherent narrative linking the offerings and to define the contribution of the collective work. I have attempted to set this within the context of trends in the broader fields of management and measurement, and their translation into the academic and research library field.

1.1.1 Career context and aspirations

Whilst the study programme and contributions are defined within an eight-year period, the quest for library improvement and measurement of the benefits of that improvement has been a central feature of the forty-year association of the author with libraries. In all three professional posts I have held there was either an implicit or explicit contract to improve the libraries under my leadership. This generated a consequent personal decision to engage with the application of organizational, leadership and management theory to those libraries, and to committing to the emerging discipline of library performance measurement and assessment over the last twenty years.

1.1.2 Origins

This doctoral study, with its focus on exploring the measurement of those beneficial effects in academic libraries, had its immediate origins in the commission in 2005 from the UK national sectoral library body SCONUL's Working Group on Performance Improvement to deliver the Value and Impact Measurement Project (VAMP). The objectives of this project were to produce data for effective library advocacy, summarised as:

- Filling gaps in existing measurement instruments and tools for academic libraries
- A full coherent framework for performance, improvement and innovation
- Persuasive data for University Senior Managers to prove the value, impact, comparability and worth [of their institutional libraries] (Town, 2007; Town, 2009)

This work delivered a Performance Portal and an impact tool for SCONUL, but the more challenging elements of producing other new value-related tools was ultimately

interrupted by my move to York, and the subsequent extension of my task here to encompass the full information needs of the University.

The failure in the VAMP project to detect much work on specific value tools and techniques in libraries spurred a broader consideration of the meaning of value. The connection between values and value is explored in the first paper (Town, 2011a). This was based on a presentation made to the 2009 Northumbria International Conference on Performance Measurement in Libraries and Information Services, subtitled “ a metaphysical enquiry”, as a deliberate attempt to return to first principles and ideas before attempting any practical synthesis.

Following that presentation the study commenced as a personal and organizational quest for the determinants of the worth of the academic research library, and in particular a search for compelling value measures from a service advocacy and leadership perspective. This was not simply a theoretical exercise; it influenced and was influenced by the direction of a real-world library and its services and staff. How the case library engaged with the study is described in 1.2.2 below.

1.2 Research methodologies and perspectives

This sub-section describes the research methodologies, perspectives, approaches and assumptions of the study, and concludes with an introduction to the published papers and the form of the integrative chapter.

The study combined multiple methodologies, and as Ragin and Becker (1992) suggest for case studies, the hybrid of various approaches in this study may appear to be difficult to disentangle. In brief summary, the research started out as a philosophical enquiry (Town, 2011a; Town, 2011b), later becoming drawn into autoethnographic enquiries involving case experience (Town, 2015b; Town, 2016) in order to provide a constructivist account of library value and its measurement (Town, and Kyrillidou, 2013; Town, 2014; and Town, 2015a), and then to apply that in practice (Town, 2015c). These methodologies are described further below.

1.2.1 Study approach

The published works may be described as a collective study or a programme of studies. The object of the study is the (relatively) stable characteristic of the research library; the potentially variable concepts explored are the notion of value and its measurement; and the proposition is that the components of the theoretical framework of the value scorecard are both necessary and sufficient to be used for the measurement and advocacy of value within the domain of the research library and its context (the methodological terms here are as defined by Dul and Hak, 2008).

The term research library is used in this chapter as a shorthand for a higher education academic library in a research university (although there are research libraries in other contexts), and therefore one supporting teaching programmes as well as research. Not all the components of the value of a library have been fully explored in detail in the study, and further comment on this is at 5.3. A choice was made to concentrate on areas that had not previously received much attention.

This is both theory- and practice-oriented research. The intent is to provide outcomes of benefit to the theory of value measurement, but ones that follow through into the practitioner domain. This is not unusual in the library management field, where researchers are often practitioners. There is evidence here of the aims of both types of management research (Dul and Hak, 2008): a generalizable proposition of a theory of value (in Town and Kyriallidou, 2013; Town, 2014: and Town, 2015a); together with reports of successful interventions based on measurement in the real life context studied (Town, 2015b; Town, 2015c: and Town, 2016).

1.2.2 Case study approach

As indicated in 1.1.2, the University of York library was the case study research library in which quantitative and qualitative methods of data collection were applied to develop and test the theory and practice of value measurement.

Some of the research approach falls within accepted definitions of the case study (Yin, 2009; Dul & Hak, 2008). This is an investigation of a contemporary phenomenon within its real-life context. As Yin suggests, the boundaries between the object of study (the research library) and its context may not be clear, and indeed because this research seeks to explore the transcendent effect of libraries, it is fundamentally about boundary issues. The research library context also meets Yin's suggestion that case studies are about technically distinctive situations in which there will be more variables than data, and what data there is needs to converge on new theoretical propositions that guide further data collection and analysis. This case study is in a real-life context; it is not possible to manipulate this reality scientifically; and quantitative data from the case is analyzed in a qualitative manner (Dul and Hak, 2008). The component specific research methodologies and assumptions relevant to each paper are described in the individual publications.

The use of the University Library (and the broader Information Directorate and University) at York as a case has potential for limitation and weakness, but a strength is that this provided a consistent (although changing and developing) context for the research over an eight year longitudinal period. York has elements of both uniqueness and typicality as a University, as does its library. All aspects of the research are however considered to be applicable to other research library contexts. The researcher cannot guarantee the uptake of the theoretical model and the other learning and practical techniques arising from the study, but there is no obvious barrier to this.

1.2.3 Autoethnographic perspective

At the 2015 Northumbria International Conference, following a presentation of the paper describing the people journey in the case library (Town, 2015b), a questioner asked "don't you think the difference here is you?" This role of the researcher as leader has been a key element in the study, and requires some discussion and justification.

The research has been conducted throughout from the perspective of the leader of the library. This might be described as situated (Lave and Wenger, 1991); those involved

in each element of the contribution have a real-world relationship with the investigations and actions, and with the researcher as leader. The research could not have been achieved (in this particular way) without the leadership opportunity and the experience of the broad range of pressures for both performance and its proof in a world-class research university context. As leader, that vantage point provides access to a range of data of all kinds that is brought together in the overall contribution.

The approach to the overall study is therefore partly autoethnographic, in Hayano's (1979) sense of self-observation of a social world, in this case that of an academic and research library, and also in that the researcher is a full member of the culture studied. This is reflexive work (Davies, 1999) in the awareness that the overall study developed through reciprocal influence between the researcher, the setting, and the informants. The work is therefore not solely grounded in what Davies calls self-experience or self-absorption, but a contribution to truthfully rendering the case (Anderson, 2006) and thereby generally extending the social knowledge of libraries. It also passes the tests that Anderson applies to analytic autoethnography: that the researcher is a full member of the setting; that this is visible in the published texts of the contribution; and that the commitment has been to an analytical research agenda focused on improving the theoretical understanding of the broader context (p. 375).

There have been ethnographic explorations of libraries, originating in the work of Foster and Gibbons (2007), but these mainly focus on particular user groups. This work is a unique and different contribution from a leadership perspective. This is considered to be a key strength of the study, because such evidence of connected thought, commitment and achievement in the library field from this perspective appears to be rare.

1.2.4 Constructivist development of the framework

The study proceeds from analysis to the provision of a synthesis of library value measurement in the scorecard framework (Town and Kyriallidou, 2013).

The research approach to developing this framework was constructivist, relying on our participant view of the situation being studied (Creswell, 2003), and drawing on

our experiences and background in the field. The research process was used to generate inductively a pattern of meaning in the creation of the initial framework, and both quantitative and qualitative methods were used to further develop and deepen the full description (as suggested by Mackenzie and Knipe, 2006).

1.3 Coherence and continuum

The contributions all relate to the theme of exploring library value and its measurement and so have a natural coherence in the sense of forming a unified whole. A logical and consistent approach has been taken throughout the study.

The first paper (Town, 2011a) provides the rationale for the programme of work in its introduction (p. 303): “evaluation frameworks shape what libraries are and what they do ... the key question [is] the value of libraries ... [the work] seeks to offer a route to library value based on broader values ... within the construct of the transcendent library”. All the contributions may be seen as fitting within this intent.

There is also a coherence of the contribution in the application of leadership and associated techniques and measurement to the case library across time. The length of the period of study has hopefully led to some development and progression in thought as ideas have been sharpened, corrected or influenced by debate and feedback. There is a continuum of incremental addition to the study corpus and to the literature of library performance measurement, but also distinctiveness across the spread. In particular the longitudinal implementation cases provide substantial contributions given the periods covered (Town, 2015b; and Town, 2016).

1.4 Organization of the Chapter

1.4.1 The published works

The published works from the study might be seen as pairs in four strands:

Town (2011a and b) cover similar ground, exploring the meaning and locus of library value, linking the idea of library value to broader values, and recognizing that transcendent effect is the ultimate aim of the research library.

Town and Kyrillidou (2013) and Town (2015c) define the framework for value and describe its components and application in the case library.

Town (2014 and 2015a) elaborate two elements of the framework, selected because of the lack of previous work in these areas.

Town (2015b and 2016) provide two longitudinal studies of the application of measurement practice relevant to library value, mainly from the case library.

1.4.2 Layout

Section Two provides an organizational and historical perspective on the study, to explain and justify its contribution to understanding of value measurement. This leads into consideration of the Momentum dimension of the Value Scorecard, as a means of illuminating the key importance of timely innovation to the evaluation of a research library.

Section Three reflects on the idea of the value of the research library from a social and relational viewpoint. This leads into a justification and explanation of other areas of the proposed Values Scorecard, introducing some fresh language in the idea of Library Virtue, and suggesting that the scorecard may have wider application.

It is of course difficult in both practical and theoretical terms to separate these two strands, especially given the central importance of people to the idea of library value in the study.

Section Four briefly summarises the contribution of the study. Section Five provides a conclusion, some comments on reception, and ideas for further work. References are in Section Six.

2. Organizational strands of the study

2.1 Introduction

The primary aim of the work is to provide a necessary and sufficient concept and practice of value measurement for research library organizations. This started with the reviews and critiques of Town (2011a; and 2011b) and subsequently led to a proposed answer in Town and Kyrillidou (2013) and Town (2015c). The study also provides evidence of long-term practical application of relevant tools and methods to achieve organizational capital improvement in Town (2015b) and Town (2016).

This section starts with a brief and selective historiographic treatment of library performance measurement, in order to locate and justify the contribution of the study within this progression, including at various points this author's involvement. In so doing, it shows how broader management ideas have influenced library developments. Subsequently it describes some of the organizationally related components of the study, and the impact of engagement with the study on the case library as an organization.

2.2 Libraries, performance and measurement

This sub-section attempts to capture the essence of at least a hundred years of how libraries have conceived of themselves as organizations, and how this influenced ideas of performance and its measurement.

2.2.1 Libraries as organizations

The study adopts the common assumption that a research library can be treated as an organization in its own right, "a thing apart" as described by Landau (1961, p. 7),

even though it is usually a component of a broader institution. The justification for this is probably that research libraries are sufficiently large and differentiated enough to be so considered. They often have their own vision, mission and values; and people delivering a complex range of services and processes at operational, managerial and strategic levels. They require alignment with institutional goals and advocacy for the library to the parent body and beyond. Performance and measurement apply at each level, and library performance measurement is a recognized field of research.

A useful conceptual model for research library history is Lancour's (1951) prescient notion that research libraries develop or have developed through three phases: storehouse, service, and educational; and that these phases might influence performance measurement relevant to each conception (Thompson, 1991; Town, 2000a). This study focuses on that final phase, in which educational value and wider benefit is seen as the ultimate proof of research library worth (Town, 2011a; Town, 2011b).

2.2.2 The storehouse and statistics

Libraries have always counted things, and the collection of quantitative data has been a central feature of the history of library measurement. Molyneux (1986) contends that libraries have been collecting storehouse statistics since the Alexandrian library. Canfora (1989) confirms this, and suggests that the measure of that library's greatness was based on a target number of scrolls representing universality. The longest continuous set is the Gerould/Association of Research Library series (Molyneux, 1986). The ARL timeline (Association of Research Libraries, 2015a) describes the North American development of the appreciation of measures needed by research libraries across more than a century. For about ninety years of that period, the focus was on quantitative statistics relating mainly to storehouse attributes. Scale and inputs were the measure of the credible research library, and an index of these measures was the means of defining entry to its North American club of research libraries until the digital age.

2.2.3 Scientific management and effectiveness

Alongside the statistical activity there was a desire to apply scientific management and related measurement to libraries through adopting the ideas initially defined by Taylor (1911). In an early conference on library administration Shaw, (1939, p. 359), recognized that “... there is a trend toward the application of scientific management to libraries ... quite impossible twenty years ago”.

A systems model of organizational function, taking inputs into processes and delivering outputs that create outcomes, and ultimately having impact, subsequently became a core concept for library measurement, for example in Morse (1968); Orr (1973, p. 318); Lancaster (1993, p. 2); Abbott (1994, p. 19) and Matthews (2015, p. 212). This model derives from broader management theory (see for example, Brown, 2000).

A reductionist view is often apparent in the use of the systems model. Abbott (1994, p. 17) for example suggests that the library is intended to deliver impact and other higher order effects such as “long-term benefits”, “social impact” and “educational value”, but that it is “generally accepted ... that attempts to assess the higher order effects of libraries are fraught with difficulty ... for the purposes of this guide, they will be largely ignored”. This perhaps reflected an acceptance of what Boulding’s model (1956) of the hierarchy of systems implies; that when we reach the level of transcendental systems we are dealing with the “unknowable”.

The Effective Academic Library (Ellard et al, 1995), added the need to measure integration (with the parent institution) and customer satisfaction, but in succeeding work (Barton and Blagden, 1998) these ideas were not developed; instead a limited set of comparable quantitative statistics and indicators were recommended as the basis for proof of worth to UK University leaders and funders.

2.2.4 Critiques and transcendent benefit

There was however a dialectic across this history countering reductionism in measurement, suggesting that research libraries delivered broader benefits, identified in this study as their “transcendent” contribution (Town, 2011b).

Landau (1961, p. 5) for example identifies this broader contribution as “realiz[ing] the potentialities of the libraries as an active agency in the fields of education, self-improvement and moral reform”. Thompson (1974a, p. 11) is clear that an academic library is “a practical, service institution, accountable for every aspect of its performance” quoting Gelfand as saying “the fundamental role of the library is educational ... not a mere storehouse ... but a dynamic instrument of education”, and elsewhere offers a very broad conception of a library’s power and contribution if it could move beyond mechanistic preoccupations (Thompson, 1974b).

Orr (1973) is the influence on the intent of this study to extend library measurement to the assessment of transcendent value. Orr makes clear the distinction between the goodness of a library and the good it does, the latter pointing unequivocally towards a requirement to measure post-utilization beneficial effects. The identification of this as “value” in contrast to “quality” (“the capability for meeting user needs”) is key. Orr rejects the terms “effectiveness” and “benefit” as “jargon” (p. 317), in favour of these simpler terms.

I have in the past made my own critiques of the narrowness of performance measurement in libraries (Town, 2000a; Town, 2004), and this study responds to some of my own exhortations.

2.2.5 Quality

User focus and quality approaches have been one of the main intakes to librarianship from broader management theory and practice over the last twenty years (see for example Poll and te Boekhurst, 2007; Brophy, 2006), and many of the library

applications are based on quality thought leaders such as Deming, Crosby, Juran and Feigenbaum, with the focus on satisfying customer needs, and methods of continuous improvement. Goodall (1988) provides a good picture of a pessimistic library performance worldview before quality theory arrived, in which internal quantitative measurement largely applied, and a plea needed to be made for user-related measurement.

Quality theory and its application transformed the scene, and provided the sense of directionality that was hitherto lacking. Quality theory and practice had a profound influence on my practice, through the British Army's TQM programme (Town, 1993) and the first academic library benchmarking exercise (Town, 2000b).

There are however critiques of over-reliance on the customer approach, for example in Gorman (2011, p.11): "reductionism is allied with business jargon to shrink the historic roles of libraries to the status of a shop". Quality theory may therefore also have a reductionist effect on library performance measurement, and may not provide the full story of a library.

2.2.6 Cross-pressures and multiple perspectives

A further justification for the study arises from the idea that public service management is under cross-pressures arising from different influences in the environment (Town, 2011a), expressed and evidenced in Pors and Johansen (2003). The recognition of cross-pressures as a fundamental defining feature of current society is made for example in Taylor (2007). Recognition of multiple stakeholder perspectives is evident in library assessment (see for example Dugan, Herson and Nitecki, 2009).

A current cross-pressure applies to the role of the research library in research. A perceived lack of attention to the interests of researchers led in the UK to efforts to define this contribution more clearly, through linking immediate outcomes and benefits to broader "end benefits" with a locus beyond the library (Research Information Network/Research Libraries UK, 2011). The author was a member of

the Project Board, and was able to influence and encourage this extended sense of value.

2.2.7 Value and impact

Concern about suitable advocacy and proof of worth of the academic and research library became a major source of concern amongst library leaders more recently (Research Information Network, 2010). This had led to the creation of the VAMP programme by SCONUL in 2005 (Town, 2007), and to a further SCONUL value and impact study in 2014 (yet to report). In North America a response was the Lib-Value project (Mays, Tenopir and Kaufman, 2010), including return on investment (ROI) methods. Critiques of ROI are in Town (2011a; and 2011b), and ROI was more strongly criticized as “madness” by Neal (2011).

A discourse of failure of advocacy applied beyond the research library: Jaeger et al (2014) point up the same sense in the US Public Library context, linking it specifically to the current age of austerity and neoliberal politics. Leaders appeared unable to tell the story of their libraries in a convincing way to stakeholders, suggesting that there was still something missing from the armamentarium of performance measurement, and that the missing element was proof of value. This places this study at the heart of contemporary library performance measurement concerns.

2.3 The Case context

The work would have been impossible without the opportunity to use a real research library case as the crucible for experimentation and application. This subsection describes that context, and the leadership and management framework and methods supporting the study and related organizational change.

2.3.1 The case library

The case library at the outset of the study was seeking to define itself as worthy of its vision of being world-class, in line with York's world-class university aspirations (University of York Library & Archives, 2006). This review document reveals a discourse of worth and measurement based largely on the storehouse model. Whilst user satisfaction was recognized as important, surveys were infrequent and basic. National Student Survey (NSS) results were "disappointing" (p. 28), indicating a library that had not fully made the transition to Lancour's service phase. Performance indicators focused on inputs and traditional use activity. Internal and external perceptions were of a library of insufficient capital to meet research library standards, reflected in York's failure to achieve membership of the elite Research Libraries UK (RLUK) grouping.

The challenge to the researcher as leader was to create a strategy for the library at York that would result in attaining world-class performance and reputation. The dimension of excellence in the university strategy was seen as the most relevant, and the desire to identify what constituted excellence for a research library, and to move towards some standard for this according to both local and national measures was a motivating factor for the study.

In cultural terms, the case library at the beginning of the study could be characterized as conservative according to the models of strategic momentum in Miller and Friesen (1982), and that a low risk-low innovation culture pertained. This is evidenced in Town (2015b) through the Association of Research Libraries consultancy in 2008.

2.3.2 Leadership context and methods

Zaccaro and Klimoski (2001, p. 12) suggest that "most theories ... of leadership are largely context-free" and that low consideration is given to organizational variables, so it is important to delineate some of the organizational and leadership factors that surrounded the study. Their view that leadership choice defines collective responses

is certainly true in relation to the application of the Value Scorecard in the case library.

The overall responsibility for University information strategy offered the opportunity to introduce a more rational approach to change across the institution, using a programme and project management approach based on a simplified PRINCE2 methodology (PRINCE2.com, 2015). The ambidexterity (Tushman and O'Reilly, 2004) of continuous improvement as a bottom-up feature was coupled with larger top down business objective-related projects identified in the strategy. The quality management framework introduced was based on Tenner and DeToro (1992) for service organizations. This approach was also enhanced by encouraging innovation through "inside-out" staff creativity, as suggested by Earl for information strategies (1989, p. 80).

Leadership involves a performance imperative, and personal leadership style choice met the challenge expressed by Zaccaro and Klimoski (2001) to provide direction setting as a key feature of adding value. This may be equated to vision, which was shared and ultimately endorsed in the values exercise described in Town (2015b). This confirms House and Shamir's view (1993) that the vision of the leader is ideological and so stated in terms of values. The vision was also the beginning of an appreciation of transcendence and a link to values in management and measurement; as Kirkpatrick and Locke (1996, p. 37) suggest "a vision is a general transcendent ideal that represents shared values".

All these elements taken together provide what Zaccaro and Klimoski (2001) describe as the mental model required to encode growth values, reflecting long-term aspiration and organizational change in concurrence with dynamic external factors. In practical expression the approach to achievement was through a transformational leadership approach (Bass and Riggio, 2006) involving the communication of strong performance expectations.

2.4 Organizational components of the study

2.4.1 The Value Scorecard

The Value Scorecard is the main deliverable of the study (Town and Kyrillidou, 2013). It is hospitable to all the previous strands of library performance measurement described above, resolves the reductionism of quantitative statistical measurement, and reconciles measurement of both good and goodness (Orr, 1973). It is future-proofed against potential research scenarios. A key insight is that centering the framework on values allows its use to be varied according to cross-pressures from the hardest economic to the softest social perspectives. It is proven through application in a research library setting across more than two years (Town, 2015c). In practice the scorecard collates quantitative, qualitative and narrative data, according with Sveiby's (2010) view that scorecards need not estimate monetary values or achieve a single composite index.

2.4.2 LibQUAL+

The use of LibQUAL+ as a means of obtaining deeper understanding of customers is described in Town (2016), demonstrating two different contextual cases of long-term commitment to this quality instrument, and its organizational impact.

Quality (in the progressive sense of improvement) is regarded as an essential element of Library Virtue in the scorecard, and this is further considered in Section Three.

2.4.3 Innovation and Momentum

A key pressure on research libraries for some time has been the demand for dynamic change (Riggs, 1997). If a library organization can encompass change positively, then it is future-proofed to survive, flourish and deliver enduring transcendent benefit. Innovation is consequently recognized in the study as being a key component for measurement (Town, 2015c).

Howard (1981) recognized that library structure (in four ARL libraries) influenced innovation, and that centralization, formalization and stratification had a negative effect. Neal (2001) echoed the management literature by demanding that libraries become entrepreneurial to achieve radical change. More recent work confirms the importance of innovation to research libraries (see for example Deiss, 2004; Jantz, 2012a; and Jantz, 2012b).

The scorecard proposes Momentum as a necessary (and critical) dimension of the performance of a research library to reflect the achievement of a directionally positive and competitive pace of change and innovation.

Miller & Friesen's (1980) notion is that two patterns of momentum operate depending on pre-existing organizational tendency, and that more timely progress towards innovation will occur in those places that are loosely-structured and organic. Their view is that momentum will co-exist among many variables of strategy and structure, and together these features will manifest a gestalt with mutually reinforcing elements. The creation of a new gestalt may encompass a Kuhnian (Kuhn, 1970) change of paradigm of assumptions and orientations in the organization. Miller & Friesen refer to industrial examples in which a new gestalt is created by new leadership. This was apparent in the case library journey. The study provided a means of patterning and codifying pervasive momentum, and for a reversal of culture from the bureaucratic towards the innovative.

Momentum is defined by the study as a measure of the combination of incremental improvement with radical innovation at a pace that results in a standard of competitiveness, and will be dependent on the critical sub-component of organizational culture identified as 'a culture of momentum' (within the human capital framework) in its achievement. Methods for measurement and evidence flow from these concepts (Town, 2015c).

2.4.4 Continuity and longevity

The sense of time is inherent in this idea of momentum. A critique of performance improvement initiatives is that they may be short-lived, superficial or damaging (Baxter and MacLeod, 2008). A strength of this study is the evidence of long-term commitment to quality improvement (Town, 2016), accompanied by efforts to ensure that people experience was improved alongside (Town, 2015b). Whilst there is evidence of long-term commitment to improvement systems in business (see for example Blue Circle in Baxter and MacLeod, 2008 p. 30), this is perhaps rarer in libraries (but see for example Willemse, 1995; Jantti and McGregor, 2007; and Phipps, Franklin and Sharma, 2013).

2.5 Benefits for the case library and organizations

The Value Scorecard is a new and potentially important conception and tool for research libraries as organizations. The study as a whole demonstrates that the application of this tool within a context of commitment to organizational development can generate achievement and success. The organizational performance achievements over the period in the case library are described briefly in Town (2015b, p. 641). An academic stakeholder view taken at the midpoint of the study period confirmed that the library reputation for innovation was placed first in a league table of University of York service departments.

3. Social strands of the study

3.1 Introduction

An aim of the work is to provide a necessary and sufficient concept of value for research library measurement. This section focuses on the social dimension of the research library and the view that measurement of the social contribution of the library is an essential component for assessment and evaluation. This led to three of the papers in the study (Town, 2014, 2015a, 2015b) and supports the inclusion of the dimensions of Library Virtue and Library Relationships in the scorecard, as well as Human Capital measurement as a key element within Library Capital.

The scorecard is conceived and expressed to measure capital, defined here as both the investment of resource into the library and the additional value generated by the library (using the term additional instead of surplus in the Marxist explanation of capital). Capital may include tangible and intangible assets; the latter suggests three elements of intangible capital in libraries (Kostagiolis, 2012, p. 10): human capital; organizational (or structural) capital; and relational capital. These areas are addressed in the study to recognise the additional social value that research libraries contribute to their institution and beyond.

3.1.1 The library as social construct

This section rests on the ideas of the library as a social construct, and one that generates a social capital value. The idea that libraries are part of a social context and that they have cultural (in an anthropological sense) responsibilities is not new (Benge, 1970). This study adds social components to the idea of library value, which requires some justification given the failure of library performance measurement to encompass these aspects until relatively recently. The study contends that transcendent benefit is delivered by libraries, so the library is an actor or agent

beyond the immediate transactional system level. The library does something beyond itself, and its social contribution therefore falls within the study's aim of identifying transcendent value.

Social construct theory is relevant to the study, because it suggests that many features of reality are socially constructed; that is, they are taken for granted, and knowledge about them is taken as read (Berger and Luckmann, 2011). Hacking's (1999) critique of social constructs is of interest here, in that an assumption can be made about whether specific phenomena need to exist in their current form. There is a rationalist view amongst some contemporary library leaders (see Town, 2011a, p. 321) that libraries would not have been invented if they had not arisen before digital information was available. Thus some hold a narrow social construct of what a library is and does, recognizing only instrumental virtue and ignoring the social and transcendent benefits of libraries.

The study might be seen therefore as a defensive response to these reductionist views. The end of libraries has been predicted, discussed and sometimes rejected since the beginnings of the digital revolution (see for example, Thompson, 1982) and part of the rationale for survival offered in this case rested on the human capital value argument. Thompson (1974b) had also answered the social value question in other ways, recognizing a power in libraries based on image, influence, reputation, and educational and societal contribution beyond the transactional storehouse. The study draws on scenario planning for the broader research context in an attempt to ensure that the value framework is not dependent on future variations in the library construct (Town and Kyriallidou, 2013). In contemporary organizational theory terms, Hatch and Cunliffe's (2013, pp. 80-82) picture of the modern boundaryless organization seems to map well to the modern research library. Freeman and Reed's (1983) view that organizations have a social contract with society would seem more strongly true of both public sector universities and their libraries, and they also link this to ideas of corporate social responsibility.

The conclusion here is that the library can be seen as a social construct, and although that construct may be shifting, the social nature of a library requires measurement to encompass actions that deliver social consequences.

3.1.2 The library and social capital

The idea of social and cultural capital as applied to this study originates with Bourdieu (1986) but came to my attention through the work of Putnam (2000), and ideas of co-operation (Sennett, 2012) and trust (Fukuyama, 1995) as key components of reducing internal and institutional transactional costs. This raised the question of whether the library is a social capital generating institution or not, and if so, how do we measure this contribution and incorporate the idea into our measurement frameworks?

To rephrase Lin, Cook and Burt's (2001) model of social capital, the research library invests in social relations to gain access to resources to enhance expected returns. In doing so it may achieve its own instrumental gains in resource, power and reputation, but these organizational returns are not ends in themselves, but a means to generate further benefits for its community. Universities have been identified as creators of social capital for those who have studied in them (Putnam, 2000) and the library plays a part in this. It also plays a part locally, for example, through its provision of 'third' space for students (Oldenburg, 1999). A research library's relationship staff may help to generate forms of social capital at all three levels: for the individual student or researcher's own social capital for future deployment; for the institution's relational social capital internally and the other social networks that libraries inhabit; and for society more broadly. Hence the importance in the study of the provision of a relationship network map (Town, 2015a, p. 243) to point up a broader sense of the relationships that need to be assessed to recognize the varied range of social capital that a research library creates.

The position taken for this study is that libraries are collective social assets, and that social capital is a public good worth building, managing and measuring. There is also a link here to human capital made by Lin, Cook and Burt (2001), that if human capital can be manipulated for the good of individuals and society, perhaps social capital can be as well. I would substitute the word managed for manipulated, and take the view that if the research library is active in relationships, networks and

structures, then it is creating social capital, and this should be recognized in a measurement framework based on capital value.

3.1.3 The library as an organism

The perception of the library as an organism adds a supporting analogy to the case for both social and transcendent measurement. Ranganathan's fifth law of library science (1931) is that "a library is a growing organism", and he places this idea as relevant to the planning and organizational system level (as opposed to the operational) in the library. An organism evolves with its environment embracing change in size, shape or form. Ranganathan also makes clear that change may be radical (discontinuous) or slow and continuous variation. This predates but coincides with subsequent ideas on the benefit of organic (as opposed to mechanistic) management systems in responding to environmental change (Burns and Stalker, 1961). Ranganathan considered library staff to be key to success as an organism. The move from a historically mechanistic to a more organic structure and orientation in the case library is described in Town (2015b).

Ranganathan's work is receiving some contemporary attention, although this has not fully fed through to performance measurement theory. For example, Barner (2011) calls for a "proactive approach [through] the vision of the library as a growing organism" towards the "deeper acquaintance on the part of the library with its consumers", reinforcing the justification for measurement practice to cover relational dimensions.

The section below describes how the study responded to these social theories by providing frameworks that might begin to define measurement practices in the areas of human and relational capital.

3.2 Social components of the study

3.2.1 Human capital value

The study provides a new and distinctive definition and conceptualization of human capital for measurement application in libraries. It integrates learning from the field of human capital arising from both the mainstream management literature and library people measurement works. The analytical review in Town (2014) reveals little shared or consistent approaches to measurement and evaluation in libraries, and a potential for confusion of terminology, particularly in the areas of culture, climate and engagement.

The contribution provides a new framework for human capital measurement covering and unifying the full range of potential assessment areas, and provides technical meaning for these in a field in which terminological certainty is often lacking. Deeper analysis of the people elements of research libraries is now becoming more apparent in library literature and practice, from the perspectives of quantitative HR data (for example longitudinally across Canadian research libraries, see Delong, Sorensen and Williamson, 2015), climate (see Association of Research Libraries, 2015b) and culture (for examples see Blessinger and Hrycaj, 2013), but there has been no comprehensive synthetic framework for human capital measurement of the kind specified from the study (Town, 2014).

Town (2015b) is intended to “tell the story of a library from a people perspective over time” (p. 624) employing quantitative data from multiple investigations in the case library about how people feel and opine about work, and the actions taken across an eight-year period to improve policies and structures. This is a unique case study in academic libraries. The honesty in the opinions provided by people in the case library is matched by the robustness of the managerial response, and the improvement in instrumental scores indicates that many aspects of the lived experience of staff can be improved by thoughtful evidence-based intervention. It demonstrates the importance of values alignment, and makes a start to providing real evidence of correlation between more contented staff and better service performance.

3.2.2 Relational value

Town (2015a) links the idea of libraries as organisms in an environment to the precise context and range of relationships of the research library. This coincides with increased attention to this field of study, both theoretical and practical, and in some cases associated with specific relationship staff (see for example Corral, 2015). The intent here is not to miss any of the relationships on which research libraries depend, but that have not generated much measurement interest, for example, supplier relationships. A framework of both relationships and measures is provided for practical application (pp. 243-244).

The review reveals the importance of trust as an economic value benefit. Doing business costs less in higher trust relationships (Fukuyama, 1995). Also surfaced is the potential for measurement of digital social media interactions. The contribution shifts the frame of reference of library measurement into those broader systems with which the library interacts, and recognizes that the library is creating social capital.

3.3 Virtue

A dimension of library measurement labeled Virtue is a fresh idea and merits some explanation beyond those in the papers (Town and Kyriallidou, 2013 p. 14; Town, 2015c, p. 247), although the latter begins to address its meaning and what measurement practice might fill out this part of the scorecard.

Concepts of virtue arise originally from the ancient Greek *arete*, which can be translated as either virtue or excellence (Barney, 2011). Excellence is what many universities seek, and the application of this concept to libraries was a discussion point in the case library in the formation of strategy to achieve a world-class rating. In its original meaning as interpreted by Barney, it is the virtue “governing social interactions and good citizenship or leadership”. In particular it is “a set of skills that enable someone to function successfully in [a] social role”. Applying this to the research library as an organization, this begins to gather a number of potential

performance strands into a concept of library virtue. Later developments in virtue ethics help add to this idea: that virtue is about practices that are coherent, social forms of activity and seek to realize goods internal to the activity, and that the ends may include integrity or constancy (MacIntyre, 1985). Neal proposed the concept of the “virtuous library” (Adams, 1999, p. 71) some time ago in an exhortation to greater sharing.

In practical terms, the experience of applying the scorecard (Town, 2015c) suggests that the dimensions of virtue should include measures of impact, improvement (assessed largely from the customer perspective) and integrity. These elements have not traditionally been linked in the library performance measurement literature. From the above origins it is clear that virtue is exercised through leadership and commitment to good citizenship, and this can be linked to more modern ideas of corporate social responsibility and the public good.

Integrity may also be taken to be about fair use and distribution of resources. In the library performance literature Brophy (2006, p. 7), following Proctor’s suggestion, added equity as an additional ‘E’ to the traditional three of efficiency, effectiveness and economy. It seems reasonable to add this insight as a component of virtue. Academic libraries need to be and be seen to be equitable and fair organizations by their users. This extends beyond the obvious surface equity in service approaches, and can also be seen as having a role in information delivery. Atkinson (2005) makes a case for the library having a function as fair witness: “The library’s success and credibility as fair witness depends directly on its ability to avoid prejudicing the user, always protecting the user’s ability to make his or her own fair judgments” (pp. 182-183). These ideas begin to suggest that an element of morality is important for assessing and advocating library value.

The study therefore seeks to present the idea of library virtue as encompassing equity, integrity and fairness in dispensing benefits, and thus to bring them within the framework of relevant measurement and assessment. Interestingly Atkinson locates the library’s role as fair witness as being for the academic community and for larger society, and recognizes that this may take the form of giving priority to the needs of these broader communities, even if this is contrary to local institutional interests. It is

clear from this, and from the sense of what Atkinson calls transversality effects in users, that the library is there to create benefits beyond itself.

3.4 Value and values

Consideration of virtue brings us back to a core idea arising from the study; that values define what value means in a particular context. The idea that values are central (and therefore necessary) to the scorecard needs to be explained and justified.

The insight that values define value, and are a matter of choice (Town, 2011a) was derived from the value concepts of Williams (1968) and Rescher (1969). Value has been linked to values in the library context by Gorman (2002). Cross-pressures from different stakeholder interests will generate different ideas of value. Consequently the content of a value scorecard will vary in different contexts, according to the perspective of those making the evaluation. Matthews (2015) links values to value in his survey of outcome measurement, providing specific typologies of potential value measurement that could be applied in libraries. Matthews also concludes that value will be determined by a combination of perspectives. The Value Scorecard is hospitable to any of these approaches or perspectives. Town (2015c) refers to some of the local values choices in the case, for example the rejection of hard financial measures in favour of more educationally-related impact for projects and developments.

The idea of a broader public value (Moore, 1995) is present in Matthews discourse, as are ideas of social capital (see above at 3.1.2), supporting the idea that value is linked to the broader and more long-term benefits of the library.

There is a measure of agreement that organizational success depends on shared or aligned values (see for example Henderson and Thompson, 2003), and evidence for this extends to educational settings (for example Branson, 2008). The study confirms that agreement on internal values was an essential part of the journey of successful organizational development in the case library (Town, 2011a and 2015b).

3.5 Beyond the library

Because the scorecard was developed in a service environment within a university setting, and in a broader public service environment, it offers potentially transferable understanding, models and measurement practice to other bodies and agencies. This is supported by the application of the scorecard across all information-related activities in the case university, and this included disparate elements akin to what Matthews (2011), quoting March and Olsson, describes as the “complex garbage cans” of service organizations in higher education “into which a striking variety of problems, solutions and participants may be dumped” (p. 85). A recommendation to extend the “exemplary” approaches of the case department to other areas of the university was made explicit as described in Town (2015b, p. 640), and the overall study contributes a theory and practical framework of value that could be applied to any organization seeking improved effectiveness, particularly where transcendent benefit or a contribution to the public good is being sought.

4. Summary

4.1 Introduction

The contribution of the study might be described in three ways. Firstly as an extended definition of what libraries are and what they do, and consequently of what must be measured to describe their full value. Secondly, to add to the understanding of methods that might be used to reveal truth about what libraries are and do. Thirdly, that the study itself has helped change and develop the field of library performance measurement, and as an essential by-product, improved the case library.

4.2 Ontologic contribution

An aim of the study is to provide a theoretical construct for value measurement in research libraries. The Value Scorecard presented and elaborated in Town and Kyrillidou (2013) and Town (2015c) achieves this goal. The contribution of the study has been to create a new ontology, seeking to describe what exists in the world of libraries, and to fully recognize and define all the components of what a research library is, what it does, and the value it provides.

The definition of ontology in this context is drawn from Gruber (1992):

“... an ontology is ... a *conceptualization*: the objects, concepts, and other entities that are assumed to exist in some area of interest and the relationships that hold among them ... an abstract, simplified view of the world that we wish to represent for some purpose. ... An ontology is an explicit specification of a conceptualization.”

Although this definition arises from computer science, it is rooted in previous philosophical ideas. A benefit of Gruber’s approach is that an ontology is written as a

formal vocabulary, and the Value Scorecard is intended to provide a set of words in its dimensions that can specify a more complete approach to library performance measurement. The deliverable of the Value Scorecard meets this requirement, and can act as a unifying framework for any and all forms of library performance data.

4.2.1 Alternative frameworks

The necessity of a new framework must be justified by considering whether any other existing framework provides a necessary and sufficient set of dimensions for the performance measurement of a research library. Matthews (2011) provides a full review of the framework options available.

Existing frameworks as used in libraries do not seem to attach sufficient weight to strategic development, innovation and momentum, and few cover the measurement of the full social aspects of the library including its relationships. Some of these elements are recognized in the EFQM Excellence Model (EFQM, 2015), but this approach has not been widely taken up in research libraries. A range of stakeholder perspectives is inherent in the Balanced Scorecard (Kaplan and Norton, 1996), and this has been widely used in libraries. A discussion and critique of the Balanced Scorecard, and how it can be incorporated into the Value Scorecard is described in Town (2015c, pp. 238-239). The Value Scorecard has incorporated all previous forms of data and measurement in the case library satisfactorily, and while more data and methods are needed for its full population, it appears to meet the requirement of a comprehensive framework applicable to library operations, management, strategy and advocacy.

4.3 Epistemic contribution

A second aim of the study was to provide methods and approaches that would be of use to practitioners seeking tools for value-related measurement in other research libraries. The implementation paper (Town, 2015c) demonstrates the efficacy of the scorecard in practice, and the longitudinal application studies show how benefits can be gained by long-term commitment to specific tools. The contribution of the study

is therefore also epistemic, in seeking how we can elicit knowledge and truth about libraries and their benefits from the framework, methods and tools applied.

The work begins to provide an answer to what quantitative and qualitative data and information libraries might collect to create narratives to communicate performance outcomes and the relevance of the academic research library. This extended knowledge reveals a fuller truth, and may serve to unify the operational, strategic and transcendent levels of a library's performance.

4.4 Contribution to the field and the case library

Value measurement has been a developing area during the period of the study, but no other researchers have provided a full new theoretical and practical synthesis. It may be too early to judge the full contribution of the study at this point, given that half the papers have been published in the past year. Some further comments about the interaction of the study with the community of practice and debates in the field are made in 5.2 below. What is clear is that both the author's and York's role and reputation in this field is widely recognized, with advice given to other leading research libraries on elements of our understanding and practice, and with at least one North American research library taking up elements of the framework.

The case library at York has benefited from the study in its transformational journey over the last eight years. York now has an excellent library as judged by national measures, its customers and stakeholders (Town, 2015b p. 641), with proof of a change in external perception and reputation in its acceptance into the Research Libraries UK (RLUK) grouping.

5. Conclusion

5.1 Afterword

The study forms part of a career-long exercise of curiosity about libraries and their worth. It has been completed alongside the transformation and extension of information management in the case institution over the past eight years, but it also represents a capstone for forty years of engagement in academic and research libraries. Orr's seminal paper (1973) was published at the beginning of this period; and my work between then and now might be seen as an attempt to meet that challenge of applying effective management and measurement to libraries.

5.2 Reception and contribution to debates

The contribution has been built on systematic development of thought and application of new tools across two decades, with contributions to the debate and community of practice of library performance measurement through conference papers on which the publications are based. All the contributions have been presented to the community as either invited or peer-reviewed papers in international conferences in the UK, Europe or North America, with that additional opportunity for feedback and debate. Town and Kyrillidou (2013) won the 2014 Emerald Performance Measurement and Metrics Outstanding Paper Award.

The theme of value measurement is now a well-established element in library performance and assessment discourse, and the author's role in the assessment field has been noted (Dash, Sahoo and Mohanty, 2015). The specific elements of the contribution are mainly too recent to have attracted substantial citation yet, but download data for the various papers is already encouraging.

5.3 Missing elements and further work

Further work is required to fully populate all dimensions of the Value Scorecard through practical tools, and data collection and combination. The study has been selective in its attention to the author's choices of areas of interest suggested by gaps in the armamentarium of library performance measurement, or the needs of the case library and institution, or through the opportunity to use tools proffered at various stages of the study. Some comments on other areas for potential further work are made below.

5.3.1 Capital assets

The study has not fully unpacked the value of tangible library capital assets in the digital age, or those meta-assets provided in for example catalogues and digital library infrastructure, or yet provided a sub-framework for their evaluation, although a broad typology is given with some commentary in Town (2015c).

5.3.2 Virtue: improvement, impact and integrity

Three main ideas have been identified in the dimension of virtue in Town and Kyrillidou (2013 p.14) and Town (2015c p.247): improvement, impact and integrity, in shorthand terms. The latter two elements require further work.

Impact has received significant attention from others in recent years, and the study started from the delivery of an impact tool for SCONUL within the VAMP programme (Town, 2009). Since then a range of methods and approaches have been developed and applied in libraries (see for example Oakleaf, 2012). Big data combination to demonstrate correlation between library activity and student usage has produced interesting results (see for example Stone and Ramsden, 2013). The case library has been engaged with some of this work as noted in Town (2015c), and is now also using anthropologic methods for the investigation of user experience, although this came too late for inclusion in this study. It is interesting that recent

developments in the impact field specifically attempt to correlate library activity with those elements Abbott (1994, p. 17) believed that libraries would be unable to lay claim to: for example, the class of a student's degree. Longer-term impact remains difficult to measure, but this should not discourage future researchers from further efforts.

Integrity has perhaps always been a necessary facet of the academic library, and in the author's experience forms part of the discourse between the library and its users and governance. It is therefore a part of the narrative of performance, although largely unmeasured in quantitative terms. This area therefore requires further work in both theoretical definition and practical method.

5.3.3 Dashboards and visualisation

A final practical aim of the study was the creation of a dashboard based on the scorecard. Visualisation of relevant quantitative data helps to tell the story of a library's value. The range of data arising from the study, the variation in collection methods, and the technical challenges of developing a product meant that a dashboard was not achieved by the end of the study.

5.4 Ending

The author's intent has been to make a modest contribution to social intelligence so that libraries and librarians might have a better awareness of themselves and their transcendent role in education and learning. There are gaps to fill in the proposed value framework and new methods to discover to enhance the proof of the worth of academic and research libraries. There are many new workers in this field to take on the challenge.

Unlike Goodall (1988, p. 140), and with the benefit of seeing many intervening years of interesting work, I conclude on an optimistic and unifying note: progress in the field of library performance measurement has I believe not been circular but progressive, and much previous work retains its relevance as we move towards a

fuller understanding of the library and its value. I hope this study may form an original contribution to that development.

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