

# A grounded theory research approach to building and testing TQM theory in operations management<sup>☆</sup>

Rodney McAdam<sup>a,\*</sup>, Denis Leonard<sup>b</sup>, Joan Henderson<sup>c</sup>, Shirley-Ann Hazlett<sup>c</sup>

<sup>a</sup>*School of Business, Organisation and Management, University of Ulster, Jordanstown, Belfast, BT37 0QB, UK*

<sup>b</sup>*Veridian Homes, Madison, USA*

<sup>c</sup>*Queens University of Belfast, UK*

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## Abstract

Total quality management (TQM) has continued to develop as a strategic business improvement approach in organisations and within the Operations Management literature. Strategic TQM is a dynamic phenomenon, reflecting the complexity and technology development in the business environment. Therefore, this conception of TQM has led to significant challenges with regards to developing suitable models and research methodology where traditional, and normative research data, includes survey responses associated with deductive theory and testing. Such data, and its use, is often premised on cause and effect rationality and fails to supply deep rich data to address meanings, phenomena and complex socio-political events, which is a feature of strategic TQM.

The primary aim of this paper is to develop strategic TQM models which are representative of the dynamic and complex elements of organisations and their environments. A secondary aim is to examine theory building in relation to TQM by using Grounded Theory research methods to fulfil the primary aim of the paper. The data includes longitudinal interviews; practitioner reflexivity; social constructionist groups; critical action learning teams and multiple and longitudinal cases, which was analysed and integrated using quality-based rules within Grounded Theory.

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## 1. Introduction

Increasing competition, complexity and technology development in the business environment has led to significant challenges within the field of total quality management (TQM) [1]. Traditional TQM approaches and resultant models (e.g. Business Excellence Model (BEM) and the Baldrige Model) are often based on rational paradigms, where traditional and normative,

research data, includes survey responses associated with deductive theory and testing [2]. At least two key issues arise in relation to TQM research. Firstly, TQM research data and its use is often premised on cause and effect rationality and fails to supply deep rich data to address meanings, phenomena and complex socio-technical and political events that are prevalent in the current and rapidly changing business environment. This approach can lead to prescriptive solutions to well defined problems, rather than addressing dynamic and emergent issues, such as knowledge workers [3,2]. Secondly, those working in the field have expended considerable effort and resources in developing and refining deductive research methodology [4]. However, there has been

<sup>☆</sup> This manuscript was processed by Area Editor Prof. B. Lev.

\* Corresponding author. Tel.: +44 028 90 368146;

fax: +44 028 90 368459.

E-mail address: [r.mcadam@ulster.ac.uk](mailto:r.mcadam@ulster.ac.uk) (R. McAdam).

relatively little development of inductive approaches in TQM research which inquire into more complex and dynamic phenomena associated with rapidly changing market conditions.

A number of writers suggest that the area of TQM most challenged by rapid environmental change and increased complexity is that of strategic TQM [1,3,5,6]. They contend that strategic TQM theory and practice must be developed in a contingent manner to address these challenges rather than relying on “universalistic statements” and models [3].

The primary aim of this paper is to develop strategic TQM models which are representative of the dynamic and complex elements of organisations and their environments. A secondary aim is to examine theory building in relation to TQM by using inductive Grounded Theory research methods to fulfil the primary aim of the paper.

The next sections cover strategic TQM; issues in theory and model building within strategic TQM; followed by sections on the research methodology and results and discussion. Finally, there is a section on conclusions.

## 2. Strategic TQM

In the literature strategic TQM is seen as covering: TQM approaches to assist organisations in formulating strategy [7,8] and translating strategy into business and operational plans [9,3]. In relation to formulating strategy the role of strategic TQM can include approaches for environmental scanning to aid strategic choice [10,1] and organisational capability assessment to determine if organisational strategies are viable and sustainable. Strategic TQM’s role in translating strategy is mainly focused on approaches for devolvement, involvement, empowerment and communication across different levels in an organisation [11,10].

Combe and Botschen [1] suggest that strategic TQM theory and practice is facing a considerable challenge from increased market and organisational dynamics and complexity. They contend that existing conceptions and models may be too predicated on the rationalist paradigm and that a broader multi-paradigm approach is needed. In supporting this view, Sousa [3] calls for a contingent approach for developing strategic TQM theory and practice that will address contextual and customer issues and which avoids universal quality models. Combe and Botschen [1] suggest that such contextual issues need inductive research approaches that address “*theory in use*”.

There is a need to develop strategic TQM theory and practice to focus more at the strategic level rather than

relying on operational TQM methods being extrapolated up to strategic levels [9]. Furthermore, Fehlmann [12] states that strategic TQM needs further development to address the increasing need for rapid strategy translation into operational and business plans and across different levels in organisations.

## 3. Limitation of existing strategic TQM models

Those working in the field of TQM need to further establish underpinning theories that are consistent with strategic TQM practice [8,3]. Existing large-scale quality models (e.g. Baldrige Model (mainly in the USA) and the BEM (mainly in Europe)) have attracted the attention of critical writers who question some of their underpinning philosophy in regard to TQM principles at a strategic level. For example, Grint [13]; Wilkinson and Willmott [14] and McAdam and Leonard [11] inquire if there is a coherent quality philosophy underpinning these models, beyond that of continuous improvement at an operational level. Chiles and Choi [15] refer to the conceptual ambiguity within existing strategic TQM models where TQM is effectively limited to that of an operations improvement method rather than that of a broader strategic business improvement philosophy.

Existing Quality models, such as the BEM and the Baldrige Model, have enabled many organisations to structure, measure and develop their TQM efforts [10]. However, such models have been shown to have a number of limitations from a number of operations management studies [16,10]. These models mainly emphasise the operational level improvements attributed to TQM in isolation from strategic influences. However, TQM is increasingly viewed as a holistic management strategy [7,3] involving strategic customer focus and competitive advantage [16]. Thus, there is lack of representation of TQM which systematically represents the combined and interrelated operational and strategic effects of TQM [17,7]. Hence, the representation of TQM in these models is limited at both operational and strategic levels and will ultimately lead to limited organisation applications. For example, the process of self-assessment in existing models, although taking some weeks to complete, on average, is a quasi-snapshot of the organisation. This static evaluation does not consider the complex dynamics of TQM that are likely to be present [18] and which will shape the future development of TQM at a strategic level in the organisation.

Martinsen and Dahlggaard [19] and Reppenning [20] in recognising the limitations of existing quality models in regard to TQM dynamics modeling have suggested incorporating new criteria based on the

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