

FROM MANAGEMENT INNOVATION TO MANAGEMENT PRACTICE

BARKA AMINU MAMMAN University of Manchester, UK aminu.mamman@manchester.ac.uk

Abstract

Organizations and their managers have been criticized for corrupting management innovation whenever they adopt them. Although some of the criticisms are justified, the critiques appear to neglect the reasons why organizations adopt and modify management ideas in the first place. This partly explains why we live in two "different worlds" - The world of theory and the world of practice. The goal of this paper is to stimulate research that would lead to the development of theory on modification of management innovation. Thus, propositions and typologies on modification of management innovation have been advanced in this paper. We believe this new knowledge will generate debate on the topic leading to a better understanding of the issues involved in the transfer of management theory to practice.

Keywords: Management Practice; Management Innovation; Modification of Management Innovation.

From Management Innovation to Management Practice

It is widely recognized that the management practices that exists in organizations are not the same as the ones written about in books and academic journals. Yet writings and commentaries continue to present management practices and management innovations (MI) as monoliths. When theories and practices differ, there is tendency in some quarters to criticize why organizational practices deviate from the theory. Although some of the criticisms are justified, the critiques appear to neglect the reasons why organizations adopt and modify management ideas in the first place. This has lead to the inadequate research and theorization on modification of MI by adopters. While the adoption of MI has received extensive attention from theorists and researchers (see Abrahamson, 1991; 1996; Abrahamson & Rosenkopf, 1993; Alvarez, 1997; Gill and Whittle, 1992; Huczynski, 1993a; 1993b; Micklethwait and Wooldridge, 1996; Noria and Berkely, 1994; Rogers, 1983; 1995), their modification has attracted extremely less attention from researchers and theorists. For example, the seminal work by Rogers (1983; 1995) dedicated not a chapter but a few pages on modification of innovation. In fact, while there are theories on the adoption and diffusion of MI (see Abrahamson, 1991; Arias & Guillen, 1997; Bolton, 1993; Colin, 2000; Donaldson & Hilmer, 1998; Gibson & Tesone, 2001; Lozeau; Langley; & Denis, 2002; McCabe, 2002; Mazza, 1997; Newell, Robertson & Swan, 1997), the same cannot be said, with confidence, about their modification. Extensive review of literature on organizational innovation by Rogers (1995) indicates that modification of innovations by organizations is very common. In fact Rogers (1995) reported that most organizational innovations go through some degree of modifications before or after implementation. However, there are arguments for and against the modification. For example, Hill and Wilkinson (1995, p.10) argued that "Companies seem to pick up bits and pieces of TQM and then report that they

are operating TQM when in reality most schemes appear an ill-matched mixture of quality circles, employee involvement, quality tools and long established quality assurance systems". Commenting on the 75% failure rate of TQM (see Choi & Behling, 1997; Eskildson, 1994; Mathews & Katel, 1992), proponents of TQM blame some organizations for radically altering the idea to the point that they can no longer claim to be operating within TQM paradigm. However, Wood and Caldas (2002, p. 20) pointed out that firms imposing MI without modification are taking a huge risk. Rogers (1995, p.177) also has seen the utility of modification when he argues that:

The choice available to potential adopter is not just adoption or rejection; modification of the innovation or selective rejection of some components of the innovation may also be options. Some implementation problems by an individual or an organization are unpredictable by nature, so changes in the originality planned innovation often should occur. Re-invention often is beneficial to the adopters of an innovation. Flexibility in the process of adopting an innovation may reduce mistakes and encourage customization of the innovation to fit it more appropriately to local situations or changing circumstances. As a result of re-invention, an innovation may be more appropriate in matching an adopter's preexisting problems and more responsive to new problems that arise during the innovation-decision process.

William Ouchi (1981) is one of the earlier researchers who advocated modification of MI when he came up with *Theory Z* or *Type Z* Organization. Professor Ouchi advocated modification (hybridization) of Japanese management to suit American context. Other writers who advocate modification of MI include Klein (1989), Young (1992) and Zipkin (1991). However, the fact that MI undergoes deliberate and unconscious modifications does not mean that the motives behind it are always rational. Just as organizations and individuals adopt MI for non-efficiency reasons (Abrahamson, 1996), so also their modification can be due to nonefficiency reasons. This is why modification of MI is sometimes viewed as undesirable interference that will destroy the credibility and efficacy of the innovation (Rogers, 1995).

This paper argues that modification of MI has not received theoretical attention it deserves. The state of theoretical development in the field deserves urgent attention given that most organizational innovations are modified during or after adoption (see Rogers, 1995). Another reason why the topic should be treated more seriously by researchers and theorists is because proper understanding of the process of modification and the factors influencing it will enable researchers to identify critical success factors in operating with MI. It will also help in guiding and advising practitioners on how to go about modification efficiently and effectively. Identifying the motives for modification might perhaps offer some explanation to why certain MI do not live up to expectation. Similarly, by understanding the type and degree of modification that has taken place on a particular MI, it will be possible to advice practitioners with what has gone wrong and how to fix it.

Goal of the Paper

The goal of this paper is to stimulate the development of theory on modification of management innovation. We pursue this goal in the following ways: First, we present the rationale for modification of MI. Second, we advance a novel approach for understanding the concept of MI. This novel approach is accomplished by describing and explaining the structure of MI with the view of appreciating how it can be manipulated by adopters. Third, we present typologies of modification of MI. Finally we advanced a series of research questions that will direct future research on the subject.

In some ways, this paper is responding to the call for more research in at least two areas of organizational innovation (Abrahamson, 1991, 1996; 1997; Cool; Dierikx & Szulanski, 1997; Cooper & Zmud, 1990; Damanpour, 1991; Dougherty, 1992; Downs & Mohr, 1976; Meyer & Goes, 1988; Teece, 1980; Wolfe, 1994). Firstly, Wolfe (1994: 406) pointed out, that because of

the complex and context-sensitive nature of innovation, researchers should investigate the stages of the innovation process upon which a study focuses. Therefore, in this paper, we are focusing on the implementation and operation stages. Secondly, it has been argued that inadequate attention has been paid to what happens to innovations after they have been implemented by organisations (Meyer & Goes, 1988; Kimberly, 1981). This paper addresses these two key areas of concern.

Modification of MI: Some Definitions

Organizational innovation theorists and researchers have long acknowledged the notion of modification of innovation. However, the phenomenon has been referred to using many terms. For example, Rogers (1995) used three terms to refer to the same phenomenon, i.e., reinvention, selective adoption and modification. However, the most consistent term used by Rogers was Reinvention. Rogers (1995)) defined reinvention as the "the degree to which an innovation is changed or modified by a user in the process of its adoption and implementation" (p. 174). Rogers rightly argued that although the majority of innovations are modified, researchers are reluctant to investigate the phenomenon. We believe the lack of conceptual basis on which to research the topic could be the reason why researchers have neglected the issue. The neglect of this phenomenon has hindered the theoretical advancement of the field. This point has been echoed by Wolfe (1994, p. 409) when he argued that the central criticism of organizational innovation literature has been the "invariant perspectives of innovation." Innovations are widely viewed as monolith in their conception, adoption and application.

Apart from Rogers (1995), some researchers used different terms to refer to modification of innovation. For example, the terms used are: reorientation and variation (Normann, 1971), adaptation (Bear & Ajami, 1996; Klein, 1989; Wood & Caldas, 2002; Young, 1992; Zipkin,

1991), alteration (Meyer & Goes, 1988; Pelz & Munson, 1982) levels of transfer of innovation (Lillrank, 1995; Westney, 1987), degree of transfer of innovation (Dolowitz & Marsh, 1996; 2000) alteration and optimization (Damanpour & Evans, 1984), reconfiguration (Henderson & Clark, 1990) and hybridization (Botti, 1997). Normann (1971) describes variation in innovation from the point of view of product innovation. - According to Normann (1971, p.205), variation is where an innovation is refined and modified while the sets of dimensions remain basically similar. Reorientation, on the other hand, is described by Normann (1971) as a modification that changes the system rather than keeping the basic dimensions of the innovation intact. Both Rogers' and Normann's conceptualization acknowledged the importance of attributes of innovation. The notion of attributes is important because no proper conceptualization and theorization of modification process can be complete without acknowledging the fact that the type and degree of changes made to an innovation will be influenced by its characteristics. This point is central to our conceptualization of modification of MI and the propositions to be advanced later.

It should be pointed out that the various terms highlighted above are sometimes used differently by researchers in order to emphasize specific issue. For example, the term adaptation is widely used to refer to changes made to organizational setting in order to accommodate an innovation (Bear & Ajami, 1996; Wood & Caldas, 2002). However, the same term is used to refer to changes made to the innovation itself so that it can fit the organizational settings (Mamman, 1998). In this paper, we use the term *modification* as a generic term to refer to alterations made to MI. The alteration can be in the form of addition, omission, substitution or hybridization. The four types of alterations will be explained later.

Why the Neglect of Modification of Management Innovation?

There are at least four reasons why researchers have relatively neglected the topic of modification of MI. Firstly, most of the theories and research on innovation are implicitly based on the idea that innovations are *indestructible monoliths*. Thus, when they are adopted, they are installed completely and remain intact until they are abandoned. Secondly, much of the earlier research and literature which currently dominate the thinking and approach to the field focused on innovations that are not easily amenable to modification (e.g., medical innovations, agricultural innovations, computers, software). Thirdly, few researchers and theorists on innovation have focused their attention on what happens after the innovation has been installed. This is because, rightly or wrongly, it is assumed that, after the adoption, the issue has become an operational matter best left to organizational change experts and researchers. Finally, there appears to be (in the earlier research at least) implicit assumption of homogeneity of innovations (Downs & Mohr, 1976; Meyer & Goes, 1988; Tornatzky & Klein, 1982). This assumption has inadvertently resulted in a theoretical bias against MI, hence the neglect of modification which is much more common to adopters of MI than technical innovations (Pelz & Munson, 1982).

Why is Management Innovation Modified?

Organizations or individuals may embark on modification of MI due to rational reasons or non-rational reasons. Rational reason is conceptualized in this paper as the modification of MI with the sole intention of achieving organizational objectives (directly or indirectly). Reason other than organizational is considered *non-rational*. The following sections discuss the reasons in detail.

Rational Reasons

From the rational point of view, the first and foremost reason why MI is modified is to achieve organizational objectives. For example, in the 1980's and 1990's, many organisations in the UK have adopted HRM practices while pursuing varying strategic objectives (Walton, 1985, Purcell, 1989). However, many of the organizations subsequently modified the practices to ensure that their specific objectives are achieved. The modification was necessary because each strategic objective requires specific HR strategy and practice. For example, the three generic business strategies of innovation, quality, and cost reduction each demands specific HRM policies that will generate specific employee behaviour (Schuler & Jackson, 1987). Given that organisational strategies are diverse, their interface with MI would lead to varying style and emphasis during implementation of the innovation. This will lead to different versions of the MI as well as different outcomes. Indeed, Rogers (1995) argued that innovations are more likely to be modified if they are adopted to solve wide rage of problems.

Modification of MI is likely when the innovation requires specific capabilities essential for the implementation (Henderson & Clark, 1990). In other words, given that organizational capabilities are difficult to create or acquire (Hannan & Freeman, 1984; Nelson & Winter, 1982), some organizations may be forced to modify the innovation to suit their existing capabilities. It can be argued that large scale modification is more likely to take place in developing countries or poorer organizations due to inadequacy of resources, know-how and infrastructure.

MI is likely to be subjected to modification because, unlike technical innovation, they have certain characteristics which make them amenable to misunderstanding. Henderson and Clark (1990) drew a distinction between product as a system and product as a set of components. They argue that consumers of *technical* products need to have knowledge of the two dimensions

of the product. The first is knowledge about each of the core design concepts and the way in which they are implemented in a particular component (component knowledge). The second is the knowledge about the ways in which the components are integrated and linked together as a whole (architectural knowledge). This paper argues that lack of knowledge of components and architecture of the MI is likely to affect the implementation of MI leading to unconscious modification. We believe, this is more likely to happen because, unlike technical innovation, MI is an abstract concept (Rogers, 1978) that has many social interfaces (Lillrank, 1995), which creates room for misunderstanding. In fact, many researchers have acknowledged that innovations that are more difficult to understand are more likely to be modified (Larsen & Argawala-Rogers, 1977; Rogers, 1983; 1995). Hence, modification of MI is more likely to be common in developing countries due to cultural and technological gaps between the source of the innovation and the destination (Lillrank, 1995). For similar reasons, modification is more likely to take place when MI produced specifically for one industry is adopted by organizations in another industry. For example, because TQM originated from manufacturing industry, its diffusion to service industry has resulted in some modifications.

Related to the point made above, is the issue of tacit knowledge inherent in most MI. Modification of MI can be caused by the degree of tacit knowledge embedded in the innovation and, the degree of sophistication of the innovation. Given that some innovations have high degree of tacit knowledge embedded in it (Lillrank, 1995), adopters are unlikely to adopt a complete innovation or/and implement it completely. Similarly, sophisticated innovations such as Lean Production System or TQM are likely to undergo modification through omission either by design or default. This is because the more sophisticated the innovation, the more likely that it will demand resources or/and know-how which many organizations do not have. The lack of

resources and know-how leads to improvisation and subsequent modification (Rogers, 1995). MI is modified deliberately or unconsciously. The unconscious modification of MI is usually caused by misunderstanding during transfer of innovation from its source to the organization. Rogers and Shoemaker (1971) argue that one of the most distinctive problems in the communication of innovations is that the source is usually quite hetrophilous to the receiver. The concept of hetrophilous refers to the degree to which pairs of individuals involved in social interaction are dissimilar in certain attributes, such as beliefs, values, education, social status etc. Hetrophily is responsible for the misunderstanding of the philosophy and assumptions underlying certain MI, hence, when such misunderstandings occur it usually leads to unconscious modification. This point is illustrated by Lillrank, (1995):

If you can build the best mousetrap, the world will beat a path to your door and return home with the best mousetrap available for action. If you figure out the best way to management a complex assembly operation, the world will still come to learn from you, but it is not at all clear what it will be able to bring back home.

The above statement clearly indicates that MI can undergo modification even before they are implemented. This is because the understanding of the innovation and the hidden knowledge embedded is always likely to differ between the adopter and the producer of the innovation.

Lillrank (1995) argued that because the transfer of innovation requires abstraction, "the larger the distance (*between the source and the adopter*) the more is lost due to misunderstanding, incomplete information and essential parts of the original context which are missed" (p. 974).

Although abstraction is necessary in the process of transfer, achieving optimum abstraction before implementation is not an easy task. Adopters can undertake too low or too high abstraction in the process of transfer. Lillrank (1995) illustrated this point:

Take a direct, unsophisticated observation, say, that Japanese workers sing a company song in the morning (*too low abstraction*). Transfer it as such, without any abstraction, to a German factory as the secret of high productivity and the result is a complete loss of

power of the original idea, which may be systematic building of organizational cohesion through face-to-face interaction. On the other hand, try making a high level abstraction of Japanese Labour market practices in terms of Buddhist cosmology (too high abstraction) and it will burn the fuses of an American executive struggling with high labour turnover.

The above statement indicates that modification of MI is not only inevitable but sometimes necessary. This is because adoption of MI without *localization* could result in the loss of efficacy of the idea. Therefore, when adopting innovation, there should be interpretation, reapplication over several learning cycles until the level of abstraction suits the local condition (Lillrank, 1995; Mamman, 1998).

Perhaps one of the strongest reasons why MI is modified is because many if not most, are not fully developed before they diffuse across organizations and industries. In fact research on technical innovations such as machine tools, software and consumer products has indicated that innovations do not emerged fully developed at the outset of their commercial lives (Abenathy & Utterback, 1978; Clark, 1985; Mansfield, 1977; Rosenberg, 1982; Sahal, 1985). Indeed the lack of philosophical development of many management techniques has been widely criticized (see Argyris, 2000; Burrell, 1989; Donaldson, 1995; Pascale, 1990). Thus, many MI can be considered as work-in-progress. This work-in-progress provides the adopters the opportunity to experiment, manipulate and finally modify innovations to their specific needs.

The advent of MI such as Business Process Reengineering (BPR) Management by Objectives (MBO), Total Quality Management (TQM) and Quality Circles (QC) was occasioned by experimentation, manipulation and subsequent modification partly because the concept was "sold" to organizations by some consultants who did not fully understand or/and comprehend it. Also, some innovations are usually not fully articulated and communicated to the adopter. For example, Henderson and Clark (1990: 14) pointed out that, "The emergence of new technology is usually a period of considerable confusion. There is little agreement about what the major

subsystems of the product should be or how they should be put together". This statement applies to MI as well. Given their scope and complexity (Lillrank, 1995) MI such as TQM and BPR are more amenable to confusion than MI that is less complex such as Statistical Process Techniques. It is worth acknowledging that researchers on technical innovation have argued that it is possible for dominant innovation to emerge after the initial confusion (Abernathy & Utterback, 1978; Henderson & Clark, 1990; Sahal, 1986). However, this paper argues that, because most MIs provide room for interpretation and therefore more amenable to manipulation, it is not possible to have dominant version of most MI. In other words, strictly speaking, all MIs have versions in practice due to deliberate or unconscious modifications.

Another rational reason for modification of MI can be found in the contingency theory. According to the theory, changes to the organizational forms emanate from external environment (Lawrence & Lorsch, 1967) and changes in organizational forms usually necessitate changes in administrative and technical systems (Damanpour & Evan, 1984). The authors (Damanpour & Evan, 1984) provided evidence to show that the adoption of administrative technology tends to trigger the adoption of technical innovation. This is because 'fit' between the two systems is necessary for the organization to function effectively (Galbraith & Nathanson, 1978). Therefore, the need to find a fit between the two systems (administrative and Technical) will necessitate modification of MI in order to achieve optimum performance (Mamman, 1998).

The evolution of many versions of MI can be triggered by the existence of many components of the innovation (Von Hippel & Finkelstein, 1979). For example, in a survey of suppliers of U.K. automobile manufactures by Lascelles and Sale (1988), the authors found the use of 30 TQM techniques by the suppliers. However, the frequency of the use of the techniques varies from organisation to organisation. This variation can be described both in terms of

modification (e.g. omission of some techniques) as well as versions (i.e., some organisations emphasise the use of some techniques over others). For instance some organisations use JIT as part of their TQM programme while others omit it. Therefore it creates two versions of TQM one with JIT and the other without.

Writing on the transfer of public policy across countries, Dolowitz and Marsh (1996; 2000) argued that there are several factors that may serve as constraints to policy transfer, such as policy complexity, institutional constraints, structural constraints, feasibility constraints, past relationships, and language. The complexity of a programme affects the ease of transferability. In other words, the degree of transfer (modification) can be influenced by the factors highlighted above. For example, organizations would deliberately omit certain components of an innovation if they felt that it could not fit with its structural requirements. This is what Rogers (1995) referred to as selective adoption.

So far we have presented reason which can be described as *rational*. There are other reasons which can best be described as non-rational reasons. These are reasons associated with individual selfish interests or reasons that are not intentionally associated with the achievement of organizational objectives.

Non-rational Reasons

Many MI are modified as a result of political process in the organization. Evidence has shown that elite values, and political systems within an organization act as screening devices or/and influencing factor in the adoption of the innovation (Baldridge & Burnham, 1975; Hage & Dewar, 1973; Huzynski, 1993a; Kimberly & Evanisko, 1981 Normann, 1971). We argue that, rather than reject innovations that are incompatible with the values and power systems, the organization or its member(s) would adopt MI and proceed to modify it to fit with the value and

power systems. Individuals who have the psychological inclination to stamp their mark on everything they do would be tempted to modify MI. Similarly, individuals who wish to achieve specific political or selfish goals would modify MI to enable the achievement of the goals. Havelock (1974) reported that desire for local pride of ownership of innovation sometimes leads to modification.

Modification of MI: Structure and Typologies

Structure and Components

To understanding the concept of modification of MI, it is necessary to appreciate that management ideas have components. The components define the structure of the innovation and the degree to which it can be subjected to manipulation. As Rogers (1995: 178) pointed out:

A tightly bundled innovation is a collection of highly interdependent components; it is difficult to adopt one element without adopting the other elements. A loosely bundled innovation consists of elements that are not highly interrelated; such an innovation can be flexibly suited by adopters to their conditions.

Thus, some MI can be tightly bundled to the point that it cannot be radically or/and easily disentangled and modified, whereas, others can easily be subjected to manipulation and subsequent modification because of their structure. The following section provides a description of an illustrative structure of MI that sheds light on how MI can be amenable to modification and the areas that can be modified.

For illustrative purpose, MI can be viewed as an idea composed of concentric circles. At the core is the philosophy (i.e. the theory or way of thinking informing the idea). Next to the core are the principles that guide the implementation of the idea. The outer layer is composed of the practices which can be demonstrated and observed. The inner two layers cannot be easily observed, as a result, sometimes adopters unknowingly will adopt only the outer layers thinking

that they have adopted the whole package. Thus, within the context of MI, there are three building blocks. They are Philosophy, Principles, Practices (i.e., Techniques); the 3Ps in short.

Philosophy: This is a way of thinking or assumptions regarding how to manage an organization or tasks or how to solve organizational problem. Therefore, the philosophy of MI is the core foundation on which principles and techniques are built. Every MI, implicitly or explicitly, has underlying theory pertaining to the organizational issue or problem it is addressing. But as we will demonstrate shortly, the theory (i.e. way of thinking) might not be: (a) generally shared by adopters, (b) explicitly stated, (c) effectively communicated to adopters, and (d) properly understood by adopters. As a result, philosophies of MI are subject to modification. This is because, sometimes adopters will have their own assumption and predispositions about the problem or how organizations should operate. Their assumptions will influence their interpretation of the philosophy of the MI. As an example, the philosophy of Quality of Work Life (QWL) is based on the notion that employees will perform at their best when the full range of their needs are met (Certo, 1997). However, some managers believe that employees' problems outside the "factory gate" are not organizational matter. Hence, such managers' interpretation of QWL will be narrow.

Perhaps it is worth noting that the philosophy of MI are not always fully thought through and articulated even by the producers of the innovations. This has attracted criticisms of observers of management innovation (Argysis, 2000; Burrell, 1989; Donaldson, 1995; Neal & Groat, 1984;; Pascale, 1990; Pierce & Newstrom, 1990; Zilbergeld, 1984). These critics attack the oversimplification of organizational reality or/and the lack of scientific basis or rigour of research upon which the management ideas are based. As a result, poorly developed management philosophies are produced (Jackson, 2001). For example, Zilbergeld (1984) and

Pascale (1990) were particularly critical of portrayal and oversimplification of how easily organizational problems can be solved by management gurus. They argue that such oversimplification leads to the production and consumption of MI without in-depth grasp of their underlying foundation. Writing on what he calls attack on *contingency theory* by U.S. academics Donaldson (1995:1) also weighed in:

Moreover, it shows that much of the academic work in the United States is scientifically wanting, lacking in theoretical coherence and often at odds with evidence from empirical studies of real organizations. The source of the increasing fragmentation in US organization theory is not genuine scientific development, but rather a push for novelty fuelled by individual academic career interests.

Principles. These are rules that guide the application of the philosophy. However, not all MI come with explicit principles. For example, some MI are theories of how an organization should think about a particular problem or issue ____a philosophy without principles. In fact, in academic circles, some view TQM as a set of -principles without philosophy while others view TQM as a philosophy guided by a set of principles (Dean &Bowen, 1994). When MI come in the form of *Philosophy* only, organizations can make up their own principles and techniques of how to put the philosophy into practice (Westney, 1987). Usually, the organization will package existing principles and techniques to implement the philosophy. This is why there are many versions of MI. However, if MI has **3Ps**, distinct sets of principles will be outlined. For example, Dean and Bowen (1994) argued that TQM is a philosophy of management that is characterized by three principles: Customer focus; Continuous Improvement and; Teamwork. Obviously the principles are subject to interpretation. Therefore, the principles of MI can be modified (e.g., adding more principles or omitting some principles).

Practices/Techniques. This is a way of carrying out a particular task and executing it to the end within the context of the MI. It also pertains to what an organization and its members do

to demonstrate that they are actually operating with the MI. Like principles, not all MIs come with a set of to-do-list or techniques. Thus, sometimes adopters are left to their own devices to develop their own techniques to implement the philosophy. Some MIs like TOM come with specific package of techniques and practices such as: process analysis, plan/do/check/act, flowcharts, and fishbone diagram. The existence of such practices will be an indication that the organization has installed TQM. Modification of practices can take place in the form of adding more techniques or omitting some of the techniques. Thus, variation to MI across organizations can be attributed to the modification of practices. For example, the key practices for customer focus as a principle of TQM is characterized by (a) direct customer focus, (b) collecting information about customer needs, (c) using information to design and deliver product and services, (d) customer survey and focus groups (e) quality function deployment (Dean & Bowen, 1994). Hence, variation in the way TQM is operationalised can be accounted for by assessing the degree to which organizations include the five key practices in their operations.

However, as pointed out earlier, the **3Ps** in many, if not most MI are not well articulated and communicated to the adopters (Argyris, 2000; Burrell, 1989; Pascale, 1990). Similarly, the lines of demarcation between the **3Ps** are not always discernable to the *naked eye*. This is because sometimes it is only when the MI is put into practice that its complexity will be observed. For example, while some draw a distinction between practice and techniques (Dean & Bowen, 1994), we do think that this is always possible to determine. Similarly, some may view philosophy and principles as one and the same. Nevertheless, we believe that producers and consumers of MI have their own interpretation of the 3Ps based on their understanding and experiences. This helps them to determine whether and to what extent MI can be modified. As we shall demonstrate later, modification can take place at the three levels of the MI structure.

Also, the type and degree of modification will be influenced by the *intrinsic* and *perceived* attributes of the innovation to be presented shortly.

Types of Modification

Whether and how MI are modified will depend on the degree of critical reasoning. Wood and Caldas (2002) define critical reasoning as "the skill to carry out an objective and broad analysis that is at once connected to the context and dispassionate as regards the adoption of managerial expertise" (p. 24). These authors argue that "both unchecked admiration of imported models and complete denial thereof are examples of low critical reasoning. Managers with keen critical reasoning will neither accept nor reject a concept or model a priori; rather, they will analyze its entirety and its parts, its appropriateness, and its applicability" (p. #?). In a review of literature on the adoption of Japanese management practices by American manufacturing firms, Young (1992) found that the firms undertake three types of modification when adopting the Japanese management practices. The first type of modification is retaining all the characteristics of the imported practices while modifying the organizational and working environment (e.g., Reward System employee attitudes and behaviour). The second type of modification is modifying some or all of the imported practices while maintaining the organizational and work environment. The third and final type involves modifying some or all of the imported practices while at the same time modifying the organizational and work environment. Young (1992) argues that the third type is more likely to produce positive outcome than the first two.

Some researchers use the term *level of transfer* to describe or explain the degree to which all components of innovations are adopted and implemented (Dolowitz & Marsh, 2000; Lillrank, 1995; Westney, 1987). For example, Westney (1987) describes emulation with innovation as the adoption of core abstract ideas of an innovation while building new applications to suit local

conditions. Lillrank (1995) also alluded to the idea that adoption of innovation can be at *copy*and-edit level, intelligent level or emulation with innovation level. As we will describe shortly, these are description of deliberate or unconscious modification of innovation. According to Dolowitz and Marsh (1996, 2000), policy transfer is not an all-or-nothing process. This is because consciously and unconsciously actors tend to copy bits and pieces of policy ideas rather than wholesale adoption. Thus, four different categories of transfer is possible. The first category is complete transfer where the whole idea and its content is transplanted. The second category according to the authors (Dolowitz & Marsh, 1996, 2000) involves only the transfer of the idea but not the whole components. The third category is hybridization where different policies are mixed to come up with one policy. The final category is where a particular policy idea is used as an inspiration for the development of totally new policy.

Using the literature reviewed so far, we advanced four typologies of modification of MI. This is shown in Table 1, below.

Based on the typologies presented in Table 1 above, we present our first research question.

Question 1: Are tightly bundled MIs less likely to be modified?

Attributes of MI as Moderating Factor

In this section we will demonstrate how the attribute of the innovation can influence its modification, albeit, indirectly. Literature on the classification of attributes of MI hardly exists at all. Downs and Mohr (1976), Rogers (1983;1995) are the few authors who made significant attempt to classify the attributes of innovation. According to Downs and Mohr (1976: 702),

Table 1: Typologies of Modification of Management Innovations

Typologies	Explanation	Examples
Addition	This is where some elements are added to the components (3Ps) of the MI to achieve specific objectives (i.e. To meet the organizational or individual goals for adopting the idea in the first place).	For example, many quality gurus, notably Deming (1986) argued against performance appraisal as part of TQM. However as an attempt to modify TQM through addition, many organisations have used performance appraisal as part of their TQM programme (Bowen & Lawler, 1992; Wilkinson et al 1993). In order to make it more palatable, employees are appraised on their adherence to quality standards and targets.
Omission	This is where some elements are omitted from the 3Ps of the MI to make it workable (i.e. To meet the organizational or individual goals for adopting the idea in the first place).	For example, due to lack of resources or know-how, an organization may decide not to apply certain techniques in its operationalization of a particular MI. Sophisticated MI such as Lean Production System are more likely to be operationalized with some of its practices and techniques missing.
Substitution	This is where some elements of the 3Ps are replaced with "new elements".	For example, due to limitation of resources or lack of proper understanding by adopters, an organization might find it more convenient to substitute its own tried and tested techniques for the original technique that came with the MI.
Hybridization	This is where elements of the 3Ps are combined with elements of 3Ps of another MI in order to achieve specific objective(s). Hybridization can involve <i>omission</i> or/and <i>addition</i> . The notion of hybridization has been widely advocated when adopting MI across cultures or sectors of the economy (Botti, 1998; Ouchi, 1981).	For example, TQM advocates the use of flexible and broad job description (Bowen & Lawler, 1992). This allows for teamwork and multifunctional work structure. However, many organizations adopting TQM combine multifunction team structure with detailed fixed job descriptions for most of their employees.

attributes of innovation can be classified into (a) primary attributes and (b) secondary attributes.

The former refers to the intrinsic characteristics of the innovation while the latter is in the eyes of

the beholder. Similar distinction was made by Rogers (1983; 1995). However, Rogers concentrated largely on the perceptual dimension of attributes because he believes that they have more power in explaining the diffusion of innovation. Using similar tradition, in this paper we classify attributes of MI into: Perceived attributes and Intrinsic attributes. The former is largely based on the adopters' perception and interpretation.

Intrinsic Attributes

It is important to note that although subjective understanding of the attributes of the innovation will provide the initial assessment of the feasibility of the type and degree of modification to be undertaken, the *intrinsic attributes* would ultimately determine whether any modification takes place at all. *Intrinsic attributes* are the objective characteristics and qualities of the innovation. They are overtly represented by the *principles* and *practices* (techniques) and covertly represented by the *Philosophy* of the MI. For example, intrinsic attributes of TQM are overtly represented by the importance attached to teamwork (principle) and Statistical Process Control (Practice/Technique) and, covertly represented by the belief in human capacity to continuously improve (*Philosophy*).

All management innovations have specific attributes which can influence the degree to which they can be tempered with. Several authors have assembled a number of attributes of management innovations (Beyer & Trice, 1978; Nord & Tucker, 1987; Pelz, 1985). A handful of attributes are considered most relevant to MI (Wolfe, 1995). The first attribute is the organisational focus of the innovation. This refers to the dimension of organisation to which the innovation is most relevant. According to Nord and Tucker (1987), the innovation could focus on technical or administrative aspects of the organisation. These paper agues that technical innovations are less likely to subject themselves to modification than administrative innovations.

This is because the degree of specificity is more likely to be higher in the former than in the later. Also, the degree of social interface is higher in administrative innovation than in a technical one (Lillrank, 1995).

Question 2: Are technically oriented MIs less likely to be modified?

The second attribute is the degree of uncertainty associated with the innovation. This specifically refers to the knowledge concerning the link between the innovation's inputs, processes, and outcomes (Pelz, 1985). Wolf (1995) argues that high degree of uncertainty pertaining MI can result in power and politics being important during its implementation. We argue that high degree of uncertainty will lead to modification. For example, when power and politics are involved in the adoption process, certain key individuals would modify the idea to suit their personal agenda. The ability of the individuals to modify the MI will be largely influenced by the degree of uncertainty inherent in the innovation. This is because high uncertainty will guarantee modification with minimum (if any) detection of hidden agenda. Conversely, low uncertainty will enable easier detection of hidden agenda associated with the modification.

Question 3: How does the degree of uncertainty inherent to MIs influence the potential for modification?

The third attribute of MI is its degree of pervasiveness. This relates to the proportion of behaviours of members of the organisation that will be affected by the innovation (Beyer and Trice, 1978). Wolfe (1995) related this attribute to the concept of human Resource management innovations (HRMIs). He argues that "HRMIs with little pervasiveness/magnitude would tend to engender minimum resistance while HRMIs which imply considerable displacement of existing organisational procedures/behaviours can result in considerable perceived threat to the status quo and, thus, in resistance. These attributes, therefore, are relevant to whether power and politics are important determinants of HRMI implementation" (p.316). Central to Wolfe's argument appears to be that pervasiveness of MI can be threatening to organisational members' "natural behaviour" (p. #??). It can also be argued that certain MIs can threaten the values held by the members of the organization. Threat to behaviour and values not only engender resistance (which is sometimes fruitless) but trigger proactive effort to limit the pervasiveness. This will result in minor or major modification. Given that the degree of pervasiveness can either be high or low, the extent of modification would vary accordingly.

Question 4: Are pervasive MIs more likely to be modified?

The final intrinsic attribute of innovation considered in this paper is radicalness. This refers to the extent to which innovation is novel and represents change and demands change in behaviour (Nord & Tuckers, 1987). Wolfe (1995) contends that radical innovations are likely to contain high degree of uncertainty and, therefore, generate resistance from members of the organisation. As we have argued earlier, uncertainty represents threat to "natural" behaviour which would be countered by modification as a means of reducing the threat. It should be pointed out that the term threat is used to refer to threat to individual's goal as well as organisational goal. Thus, it can both be objective and subjective.

Question 5: Are radical MIs more likely to be modified?

We think the above characteristics still did not capture the whole intrinsic qualities of MIs. This is because, regardless of whether they are administrative, non-radical and nonpervasive, certain MIs may not be amenable to modification. Hence, the concept of modifiability is advanced in this paper.

Modifiability: This refers to the malleability and ductility of MI. If an idea is ductile, it means it can be extended vertically across organizational hierarchy. For example, MBO can be applied across organizational hierarchy. However, this extension could cause the idea to loose its core structure and identity. As a result it could render the idea unrecognizable. This is because when ideas are applied across organizational hierarchy, they are more likely to be subjected to radical interpretation or misinterpretation which will lead to systemic modification to suit the level in the hierarchy. For example, when quality assurance scheme was introduce across a particular hospital, doctors, nurses, and paramedics had different interpretation and application of the concept. As a result, quality assurance at lower level of the hospital does not resemble one another at higher level of the hospital. *Malleable* ideas can be extended horizontally to cover other areas of the organization. If an idea is Malleable, it can maintain its core structure and identity despite addition or omission of components (sub-ideas) of the idea. This is because if an idea is applied at the same level it is unlikely to be subject of radical modification. For example, some financial reward systems are malleable.

Question 6: How does malleability and ductility of MIs influence the potential for modification?

Perceived Attributes

The use of the concept of adopters interpretation of innovation is important because as Rogers (1995: 209) pointed out: "Receivers' perception of the attributes of an innovation, not the attributes as classified by experts or changes agents, affects its rate of adoption". Another significance of the concept of perceived attributes to innovation is that 49 to 87% of the rate of adoption is explained by its attributes (Rogers, 1995: 206). Rogers strongly argued that "subjective evaluations of an innovation, derived from individuals' personal experiences and perceptions and conveyed by interpersonal networks, derive the diffusion process". We also

argue that the perception of the attributes will play a moderating role in the determination of the type and degree of modification to be undertaken. The following five attributes of an innovation advanced by Rogers (1983; 1995) are presented within the context of modification of MIs. Relative Advantage: According to Rogers (1971, 1983), relative advantage of an innovation is the extent to which innovations are considered better than the one currently used. Thus, it refers to the degree to which MI is perceived as better than the status quo. Relative advantage of MI would be determined on the basis of its ability to meet the goal it was adopted for. A MI that has high relative advantage is less likely to be modified because to do so would defeat the objective of adopting the innovation in the first place.

Question 7: How does relative advantage influence modification of MIs?

Compatibility: Rogers (1971, 1983) regard this concept as the degree of fit between an innovation and organization's values and systems. Therefore, compatibility can be regarded as the degree to which MI is perceived to be consistent with existing culture, experience, strategy, resources and needs of the adopters. Compatibility can also refer to the degree of fit between the MI and the goal to be achieved. Given that institutional pressure can force organizations to adopt MI that are incompatible to their values and systems (Abrahamson, 1991), the innovation will be subjected to modification to fit the values and systems of the organization. For example, some components of the innovation would be omitted or hybridized.

Question 8: Is compatibility of MIs less likely to lead to modification?

Complexity: According to Rogers (1971, 1983), complex ideas are ideas that are difficult to understand. Therefore, complexity is the degree to which a MI is perceived as difficult to understand and use. Lillrank (1995) also pointed out that the level of abstraction during transfer of innovation is affected by the level of complexity of the innovation. Lillrank (1995) considers complexity of the idea as well as the number of and types of social interfaces. He argued that ideas or tools requiring little or no social interfaces do not need modification, whereas, ideas with high human components such as QC requires "careful packaging before being transferred". Another dimension of complexity acknowledged by Lillrank (1995) is the amount of tacit knowledge embedded in management innovations. He agues that the more the human component, the more tacit knowledge embedded in the innovation. Therefore, he concluded that high context management techniques (i.e., complex ideas) require high levels of abstraction for the transfer process to be successful.

Question 9: Is *complexity of* MI more likely to lead to modification?

Triability: This refers to the degree to which an innovation can be experimented with on piece meal basis (Rogers, 1971; 1983). Triability of MI can be considered as the degree to which the idea may be experimented with on a limited scale. This will help determine the degree of uncertainty inherent in the idea. The more triable the idea, the more the opportunity for modification. This is in spite of the motive for adopting the innovation in the first place.

Question 10: Is *triability of* MI more likely to lead to modification?

Observability: This refers to the degree to which the result of an innovation is observable (Rogers, 1971, 1983). The concept of observability is similar to what Rogers and Shoemaker (1971) refers to as consequences of innovation which can be categorized as (1) functional versus dysfunctional; (2) direct versus indirect; (3) manifest versus latent. Thus, observability of MI is the degree to which the results of MI are visible to others. The rate of imitation and mimicry within an industry will depend on observability. According to Lillrank (1995), observability generates demands for ideas that have low abstraction. He gave examples of quick fixes, slogans and practical tools as ideas will low abstraction generated by the observance of Japanese



manufacturing success in the early 1970s. Observability will influence the type and degree of modification of MI but in a multiple of ways. For example, when poor result is observed, to the extent that the organization has to adopt the innovation, it is likely to be modified to fit the objectives. Also, the less observable the idea the more likely it is to have many versions of the idea in operation because organizations would not have the opportunity to accurately benchmark, or would they be aware of the tacit knowledge embedded in the innovation. Thus, unconscious modification might take place.

Question 11: Are observable MIs less likely to be modified than those that cannot be observed? *Groups*: That formal and informal groups within and outside the organization can influence adoption of innovation is a phenomenon widely acknowledged. For example, evidence indicates that organizations tend to adopt innovations when specialist groups support the adoption (Bigoness & Perreault, 1981; Moch & Morse, 1977). Similarly, evidence indicates that when trade unions are not consulted before the adoption of an innovation, they tend not to support its implementation (Trice; Beyer & Coppess, 1981; Trice; Hunt & Beyer, 1977; Trice & Schornbrunn, 1981). In fact, Fennell (1984) reported partial support to the hypothesis that specialist groups will support or discourage the adoption of certain innovations in an organization. Certain aspects of MI can be perceived as threatening to trade unions. For example, TQM has the following features that some trade unions were suspicious of: TQM advocate participative structures such as QC, teamwork and shift towards removal of work demarcation through broader job description. In fact, some observers argued that TQM implicitly adopts *unitary* perspectives to employment relations. As a result, unions have expressed concern about the implementation of TQM in organisations and insisted on active involvement during implementation. In some cases the involvement leads to some form of modification

(Marchington, 1995). Thus, an important moderating factor in the modification of MI is the influence of groups within organizations. In particular, trade unions and professional/occupational groups within the organizations can act as filters in the implementation process. This action can result in the modification of the idea to satisfy sectional interests. Question 12: Is MI more likely to be modified in organizations that have strong trade unions or professional influence?

Conclusion

The central purpose of this paper is to stimulate research that would lead to the development of theory on modification of management innovation. It is intended to address the issue of why the management ideas written about in books and academic journals are not necessarily the same as the ones practiced by organizations. Indirectly, the paper is an attempt to answer the question of why and how management ideas are modified. Therefore, the paper's key objectives and contributions are: (a) advancing novel way for understanding MI, (b) presenting the rationale for modification of MI, (c) presenting typologies of modification of MI, and (d) identifying a set of testable propositions for future investigation.

From the review of literature, it is clear that organizational and individual reasons play important role in determining the future of MI when they are adopted. However, the characteristics of the MI itself (i.e., its Attributes) will play some part in determining the type and degree of modification undertaken. The paper advanced typologies and propositions to guide future research in the field. This is based on the belief that, although criticisms of organizations and their managers vis-à-vis modification of MI abound and are sometimes justified, research on why MI are *corrupted* or *modified* has not received the attention it deserves. We hope this paper will generate debate and research on the topic. We, therefore, call on fellow researchers and

theorists in the field to test some of the propositions advanced in the paper. Finally, perhaps the following questions will guide future research and help refine the propositions and typologies advanced in the paper. Within the context of this paper, the questions worth seeking answer to are: Which is the most common method of modification of MI? What are the evidences for the consequences of modification of MI? Which type of modification is likely to be most successful in delivering organizational objectives? What are the factors that influence modification of MI? Which element of the **3Ps** is more likely to be modified? What are the consequences of modifying each element of **3Ps**? Are some industries more prone to modifying MI than others? Evidence indicates that organizational characteristics such as structure, size and composition of the workforce can affect diffusion of MI (Damanpour, 1987). The logical question is, are some organizations more prone to modifying MI than others? Given that the economic cycle influences the adoption of MI (Abrahamson, 1997), how does it affect modification of MI, if at all? Finally, there may be other forms of modification which this paper did not address. For example, Division and Unification have been reported in product modification (Giffin & Mitchell, 2005). Do organizations undertake such modifications to MI? Perhaps research aimed at seeking answer to the above questions will help in the development of theory and body of knowledge in the field of modification of MI in particular and transfer of management theory to practice in general.

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