SCHOOLS OF MANAGEMENT, *ISLĀMIC* MANAGEMENT AND SCIENCE

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ABSTRACT

This study starts with an ethical dilemma. A *Muslim* business leader wants to respect the spirit and the letter of *Islāmic* law on the one hand. On the other hand, he wants to maximize profits as profit maximization is the cornerstone of modern management. This study reviews the ideas of great thinker, the history of management, and the rise of multiple schools of management. At the same time, the rate of organizational failure is extremely high. A Foucault-type analysis shows how virtually all of the discourse on management is controlled by American scholars. This discourse depends a lot on "numbers", yet these numbers turn out to be quite subjective. Popper's analysis of the social sciences is then explored. The conclusion is that management theories can be best described as "useful myths." The dilemma for the *Muslim* business leader disappears.

1. INTRODUCTION

This study concerns *Islāmic* management. *Islāmic* management encourages *Muslim* business leaders to develop a corporate culture that allows *Muslim* employees to become better *Muslims*. At the same time, *Muslim* business leaders have been trained in

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management. Many management theories are developed after rigorous research. Such research gives management theories an almost scientific status. For most people, if something has been showed to be "scientific", it must be true and cannot be questioned. Sometimes, a contradiction appears between what business leaders ought to do from a *Qurʾānic* perspective and what they ought to do from a management perspective. This creates a dilemma.

To illustrate this point, consider the case of interest-based loans (*ribāʾ*). In the *Qurʾān*, Allāh ʿazza wa jalla makes it clear that interest-based loans are a major sin. Yet, experts in finance say that using interest-based loans reduces the cost of capital. Experts in strategic management tell us that business leaders ought to maximize profits and that reducing the cost of capital is critical to achieve this goal. This dilemma is shown in Table 1.

TABLE 1
The Dilemma

	Theory of Knowledge	Beliefs about the world	Prioritization of values	Behaviour
Qurʾānic worldview	Deontic logic – The *Qurʾān* is the word of God so it should be followed	Belief in the Day of Judgment. Disobeying injunctions from the *Qurʾān* will be punished on the Day of Judgment.	Actions and thoughts are pleasing or displeasing to God	Don't use interest-based loans.
Management worldview	Empirical logic – management is a science. A logical person must follow its precepts	Truth can be established by observing cause and effect.	Maximizing profits is the priority for CEOs	Use interest-based loans.

Yet, the dilemma presented in Table 1 only exists if one believes that management theories are "scientific." If management theories are not scientific, the dilemma disappears.

2. METHODOLOGY

The aim of this study is to assess the scientific status of management theories by reviewing the literature. Particular emphasis will be on the work of Karl Popper as Fontaine (2018) identified Popper's ideas as being potentially useful for the theoretical development of *Islāmic* management.

3. THE PHILOSOPHICAL ARGUMENT

Muslims are sometimes criticized because they only rely on *Islāmic* sources and they ignore other sources of knowledge. Fontaine (2018) therefore reviewed the history of Western philosophy and highlighted the similarities and differences between the ideas of Western philosophy and the teachings of *Islām*. A brief summary follows.

Over the centuries, philosophers and scientists have followed one of two approaches. One approach is to rely on reason. The rationalist argues that people have innate knowledge and that our senses can mislead us. People must therefore rely on their reason in order to know whether something is true or not. Proponents of this view include Descartes (1596-1650) and Kant (1724-1804). Rationalism makes sense when dealing with abstract concepts, such as love and justice. Everyone knows when one is being loved or one has been dealt with unfairly. Where does this knowledge come from? How can one measure love or justice? The second approach is to rely on empirical evidence. Empiricists argue that human beings do not have innate knowledge and they only learn from sensory data and experience. This view emerged in the 17th century and this view has profoundly impacted sciences like biology, physics, and so forth. Empiricism has shaped people's perceptions of science. Science is often defined as "the systematic study of the natural world through observations and experiments". Science often requires "reductionism, repeatability, and the refutation of hypotheses" (Checkland, 1993, 51). Scientific experiments must be repeated by other researchers, and the results must be measurable. Science is thus a public endeavour that depends on multiple researchers finding the same results. Typically, science works well in the hard sciences but it becomes more problematic in the social sciences, like management. This point will be discussed later in this study.

The empirical approach assumes that cause and effects are real. David Hume (1711-1776) raised a logical problem that

empiricists have been dealing with ever since. First, Hume argued that it is impossible to prove a relationship between cause and effect. At best, we can assume a relationship, but we can never prove it. Second, empirical data gives us an indication of the past but it cannot help us to predict the future. Consider the case of a chicken raised in a farm. This chicken, relying on his experience, observes that the farmer feeds him every day. After 99 days, the chicken concludes that the farmer must love him very much. The chicken's belief is based on strong empirical evidence as he has accumulated 99 days of data. On the 100th day, the farmer kills the chicken. Empiricism relies on a very important assumption. If one is going to rely on historical data to predict the future, one must assume that the past is like the future.

The empirical approach was popular in the 18th but the 19th century and 20th century were marked by German idealism, phenomenology, and existentialism. Heidegger (1889-1976), for example, noted that individuals develop a meaning of themselves in time. Many individuals' actions depend on their expectations about the future. Expectations about the future make planning very difficult. For example, one can use forecasting tools to predict economic growth for the next year. However, forecasting tools will not help managers predict whether this economic growth will satisfy the expectations of potential consumers. If, for example, the forecast is that the economy is going to grow by 2% and the majority of consumers feel that this is very low, consumers might decide to delay their purchase of new goods. If consumers expected less than 2%, then a 2% economic growth might give them a sense that the economy is doing well and that buying goods now is justified. Planning thus involves predicting the future and predicting how people will feel about the future.

Karl Popper (1902-1994) offered a third way. Popper grew up in Vienna around a time where he was able to observe the work of Einstein, Freud and Adler. He observed that Einstein proposed tests that would invalidate his theory if his theory was wrong. Freud and Adler on the other proposed theories that could never be falsified. Popper (2002, 34) argued that instead of seeking proof, the best thing we can do is "detect and eliminate errors" by falsifying theories. With regards to the social sciences, Popper (2002) sees them as useful myths that have no scientific validity. If one accepts Popper's view, the dilemma for *Muslim* business leaders presented in Table 1 disappears.

By and large, many of the hard science remains firmly rooted in empiricism. However, the nature of the social sciences – including management – is more problematic. The history of management will first be reviewed.

4. THE HISTORY OF MANAGEMENT

To appreciate whether or not management is "scientific", one can gain some insights from the history of management.

Roth (1998) starts with the management practices of the Middle Ages in Europe. Businesses were relatively small, and this facilitated a participative management style. Profit was not seen as important. The aim was to gain salvation through unselfish acts. By the 13th century, money replaced wealth as the primary source of wealth, the banking industry became well established and businesses started to grow larger (Roth, 1998, 10). This was the beginning of capitalism – putting one's money to work in order to make more money –and expanding trade between Europe and the *Muslim* world. A split started to happen between the south of Europe (more community-centred and more focused on salvation) and central and northern Europe (more individualistic and more profit-orientated).

A critical development was the rise of the Protestant reformation. New religious doctrines meant that Christians shifted their focus on "gaining prosperity on the here and now" (Roth, 1998, 12). This encouraged the Protestant work ethics. It also created an environment where the "cooperation ethics" of the Middle Ages was replaced by a "conflict ethics'. Business owners started exploiting their employees. Employees became less and less involved in management. Many Protestants were persecuted in Europe, so they immigrated to the Americas and brought the protestant work ethic with them. This led to the early Industrial Revolution, the mechanisation of production, and a new form of work where many employees were told not to think. This era was marked with the rise of individual entrepreneurs. Later in the Industrial Revolution, corporations became more prominent (Roth, 1998, 24). The divide between owners and employees became more pronounced. This leads to a growing sense of social awareness and the beginning of trade-unions in the 19th century.

By the end of the 19th century, the industrial revolution had spread. New institutions – laboratories and universities – were created to accelerate economic growth. In 1881, John Wharton gave the University of Pennsylvania $100,000 to start a management

department. By 1911, 30 such departments were operating in the United States (Roth, 1998, 30). In the early 1900s, "scientific management" emerged. Scientific management is in fact a misnomer. A better expression could be "management by measurement". Taylor, the father of scientific management, calculated the fasted ways for employees to do their job. A major premise was that "employees should be extremely stupid and that they should not be allowed to think" (Roth, 1998, 31). The term "scientific management" was actually coined by a lawyer who used the term to win a court-case (Wren, 1994, 120).

Apart from the Protestant work ethic, another factor was the arguments put forward by Charles Darwin. His theory on "natural selection" and the "survival of the fittest" seemed to justify the excesses of the industrial revolution (Roth, 1998, 36). During the 1920s, the Human Relations school evolved as a reaction to scientific management. The results of the Human Relation school were mixed. In retrospect, the main outcome was its redefinition of labor. Workers were now "more frequently seen as human beings" rather than machines (Roth, 1998, 39). Unfortunately, as organisations grew larger, bureaucracy emerged. Bureaucracy encouraged mechanistic processes, politics inside the organisation, stifle the flow of information and discourage innovation.

Throughout the industrial revolution, the main problem was production. By the 1960s, the nature of the problem changed. Increased competition meant that selling – meeting the needs of the marketplace – started to dominate the economic agenda. Since the 1980s, the beginning of the post-industrial revolution, technology has become the dominant issue in modern management (Roth, 1998). With the rise of big data, artificial intelligence, augmented reality and other new technologies, almost every aspect of management is being challenged and organizations are looking for new ways of planning, leading and controlling (Friedman, 2016). Almost everything about management will be turned upside down in a big data environment (Mayer-Schönbergerand Ramge, 2018).

Other authors offer a similar analysis (Wren and Bedeian, 2009; Wren, 1994). Pearson (2009) offers a slightly different interpretation. His explanation is similar to that of Roth (1998) but he stresses the influence of Milton Friedman in the 1960s. Friedman argued that businesses needed to make "as much money as possible" and that businesses should avoid any social responsibility (Pearson, 2009, 206). Friedman's view influenced government policies in the

1980s and 1990s. They also influenced the way universities taught management. Initially, management education was to "establish management as a profession alongside medicine and law". The aim was to combine efficiency, effectiveness and social responsibility (Pearson, 2009, 226). Initially, university-based education was taught by people with experience as management practitioners but limited academic standing. There was pressure for management faculty to achieve respectability through research (Pearson, 2009, 226). Around this time, business school faculty sought to establish management as a "scientific" subject by stressing on quantitative and rational management techniques. Having developed a scientific basis, management programmes became progressively less concerned with the realities of practices and more with the establishment of academic credibility (Pearson, 2009, 227). Pearson (2009, 227) notes, "business schools adopted Friedman's focus on maximizing shareholder wealth. It justified the priority given to short-term deal making ahead of long-term general management."

Another scholar with reservations about business education is Mintzberg. Mintzberg (2004, 1) writes, "the trouble with "management" education is that it is business education and leaves a distorted impression of management. Management is a practice that has to blend a good deal of craft (experience) with a certain amount of art (insight) and some science (analysis)." It is strange that Mintzberg equates "analysis" with "science". Due to an overemphasis on analysis, management becomes calculating. Sometimes, due to an overemphasis on art, it becomes heroic (Mintzberg, 2004, 1). He traces the history of management education in the United States. By the 1960s, MBAs had started to dominate the business of management education. Mintzberg complains that "management became strategy, managing became decision making, and decision making became analysis" (Mintzberg, 2004, 33-38). Overall, management science is concerned with replicability whereas the craft of management is concerned with utility (Mintzberg, 2004, 93). The craft of management is a dynamic learning in a rich social environment that cannot be taught in the classroom. To prove his point, Mintzberg (2004, 113-118) provides statistical evidence, including the dismal failure of some of the best MBA graduates from Harvard. In a paragraph entitled "A Society Out of Balance", he writes,

> "In recent years, we have seen a glorification of self-interest perhaps unequalled since the 1920s. Greed had been raised to

some sort of high calling, corporations are urged to ignore broader social responsibility in favour of narrow shareholder value, chief executives are regarded as if they alone create economic performance. A society devoid of selfishness may be difficult to imagine, but a society that glorifies selfishness can be imagined as only cynical and corrupt." (Mintzberg, 2004, 147)

Overall, management and management education seems to be influenced by Protestantism ("making money is good"), Darwinism ("survival of the fittest"), and Friedmanism ("make as much profit as possible), and uses empirical research as a tool to justify these ideological underpinnings. From these common sources, the theory of management is split up in multiple schools. This was explored in detail by Koontz (1980).

5. HAROLD KOONTZ

In 1961, Koontz published an article entitled "The Management Theory Jungle". Originally, he identified six schools of management. These schools led to a "jungle of confusing thought, theory and advice giving to practitioners" (Koontz, 1980, 175). He writes, "the attempt to develop a body of organised knowledge – a science – underpinning practice …." (Koontz, 1980, 175) and "…. merely a way of distinguishing science and art – knowledge and practice" (Koontz, 1980,184). For Koontz, and presumably for many management scholars, management science simply means that management is a "body of organised knowledge." So far, there are four very different ways of thinking about science – a body of organised knowledge, "management by measurement", analysis or the focus on reductionism, repeatability and the refutation of hypotheses.

Koontz account is fascinating. He notes that the early writing on management was made by "alert practitioners" (Koontz, 1980, 176). Then in the early 1960s, two influential reports encouraged deans and administrators to recruit specialists from fields like mathematics, sociology, psychology and so forth. As a consequence, "these narrowly trained instructors know too little about the actual task of management" (Koontz, 1980, 176). As a consequence, the number of schools of management has grown to 11 (see Table 2).

New research reinforces the point made by Koontz (1980). Most schools of management assume that individuals are completely

rational. But in the interpersonal school, Kets de Vries (2001, 2006) has shown that many leaders are influenced by unconscious factors. Leaders often become better leaders after they have seen a therapist. Most schools of management still rely on linear cause and effect relationships. In the systems school, Sterman (2000) argues that cause and effect relationships are too simplistic. The system school emphasizes the importance of seeing the world through the eyes of reinforcing feedback and balancing feedback. The point is not that there are simply multiple schools of management. The point is that most schools assume that practitioners of other schools make fundamental mistakes about how they see management.

TABLE 2
Schools of Management According to Koontz (1980)

	Management School	Background
1	Interpersonal behaviour approach	Psychology
2	Group behaviour approach	Social psychology, sociology
3	Cooperative social systems approach	Political science
4	Sociotechnical systems	Industrial engineering
5	Systems approach	General systems theory
6	Rational choice approach	Decision theory, economic theory
7	Management science approach	Mathematics
8	Operational management approach	Mathematics
9	Managerial roles approach	Clinical experiences of practitioners
10	Case study approach	Clinical experiences of practitioners
11	Contingency or situational approach	Independent of any theory - based on experience

Source: Koontz (1980)

Mintzberg and two colleagues analysed the schools of strategic management (see Table 3). There is a lot of overlap between Koontz (1980) and Mintzberg, Lampel and Ahlstrand (1998).

TABLE 3
Schools of Strategic Management

No.	School	Strategy is a …..
1	Design	Process of conception
2	Planning	Formal process
3	Positioning	Analytical process
4	Entrepreneurial	Visionary process
5	Cognitive	Mental process
6	Learning	Emerging process
7	Power	Process of negotiation
8	Cultural	Collective process
9	Environmental	Reactive process
10	Configuration	Process of transformation

Source: Mintzberg, Lampel and Ahlstrand (1998)

They observe that one definition of strategic management cannot cover all 10 schools. Strategies can be plans, patterns (deliberate and emergent), positions, perspectives and ploys (Mintzberg, et al., 9-16). They conclude that one must keep in mind five definitions of strategic management. They note that strategic management in the classroom highlights the rational and prescriptive schools (design, planning and positioning) and this has heavily influenced the practice of strategic management in large corporations, consultancy firms and government agencies. They critique each school and a detailed review of these critiques lies outside the scope of this study. Generally, the points are that:

a. The first three schools are prescriptive. They state how strategic management ought to happen. These schools dominate the teaching of strategic management in universities. These schools rely heavily on forecasting and analysis. They assume that the future can be predicted accurately.

b. The next seven schools describe what really happens. When things go well, organizations learn and adapt (the learning school). When things go badly inside an organization, internal politics distorts the strategic management process. The strategy of the organization is not the best strategy possible, but the best strategy that the multiple factions inside the organization have been able to agree with.

They conclude that good strategy is not only about analysis but also about intuition and letting a strategy emerge as new facts come to light. Returning to the question of whether management is a science, that claims seem very problematic in light of the high rate of organisational failure.

6. ORGANIZATIONAL FAILURE

So far, this study has focused heavily on the fact that management claims to be a "science" and relies heavily on empirical research to justify this claim. One way to assess the merit of this claim is look at organizational failure. Organizational failure is explored in detail in Fontaine (2008), Fontaine and Ahmad (2013) and Fontaine, Ahmad and Oziev (2017). They found the following statistics.

- Deming (1994) says that 95% of changes made by management make no improvement.
- Beer and Nohria (2000) report that 70% of change initiatives in organizations fail.
- Fulmer (2000) quotes surveys that show that out of 400 executives in the United States, 79% described the rate of change in their industry as "rapid" or "extremely rapid" and 61% assumed that the rate of change will accelerate. Only 47% thought their company could cope with change.
- Pietersen (20020 calculated that in the 1920s, the turnover of companies listed on the stock exchange in the United States was 1.5%. On average, a company could expect to be listed for 65 years. By 1998, that turnover had reached 10%. A company can expect to stay listed for only ten years. Of the initial companies that made the S&P 500 when it was launched in 1957, 85% of them disappeared.
- Nutt (2004) found that managers in organizations have a 50% success rate when it comes to making decisions.
- Starkey, Tempest and McKinlay show that 62% of businesses in the United States do not survive more than five years. About 80% do not survive more than 10 years and 90% do not make it beyond 20 years.
- Mintzberg, et al. (1998) report a study that found that only 10% of strategies are implemented.
- Hurley (2006) reports that more than 50% of managers do not trust their leaders. He quotes research that indicates that 70%

of managers "don't know who to trust anymore" and 80% have "only some" or "hardly any" confidence in people running corporations.

- Morieux (2011) notes that most organizations are increasingly complex, making them more difficult to manage and to lead. The Boston Consulting Group has created an index of complicatedness. The Boston Consulting Group found that from 1995 to 2010, the complicatedness of organizations has increased between 50% and 350%. On average, the level of complicatedness has increased by 6.7% every year for the last 50 years. A symptom of this increasing complexity is that the key performance indicators for chief executive officers have jumped from seven in 1955 to between 25 and 40 today.

- Chan and Mauborgne (2014) note that 30% of employees in the United States are committed to their job, 50% of employees simply show-up and do little and 20% are engaged.

- Grant (2008, 213) notes that a major reason why organizations fail is "causal ambiguity". Modern organizations are so complex that leaders are unable to distinguish between those actions that will lead to higher returns and those actions that will lead to lower returns.

- Martin (2018) notes the current problems of General Electric (GE). For several decades, GE relied on debt to buy businesses in multiple business sectors. Having accumulated an unsustainable amount of debt, it is now selling these businesses – often at a lower price than they were purchased – in order to avoid bankruptcy. Often hailed as an example of "excellent management", GE is now an example of "terrible management".

An insightful analysis was made by Raynor (2007). Raynor (2007) relied on statistical data in Canada correlating rates of returns and rates of organizational failure. He shows that most organizations take on significant extra risk in order to generate superior profit margins. Very often, the desire to give shareholders higher returns leads to an earlier demise of the organization. Although the trade-off between risk and return is well understood in financial investing, it is strangely absent from the discussion on strategy (Raynor, 2007).

The argument so far has remained within the academic discipline of management. There are multiple schools of thought in management. Each tells a different story. Each is supported by

empirical evidence. Yet, the rate of organizational failure is extremely high – 90% and above. Another perspective can be gained by looking at the work of Michel Foucault.

7. MICHEL FOUCAULT

One of the prolific thinkers of the 20th century was Michel Foucault. A summary of his life's work is presented by Raffnsoe, Gudmand-Hoyer and Thaning (2016). Foucault started by looking at how language effects our perception of the truth – he called this public discourse. He later looked at how power is used in a society. In any relationship, there is a power structure. When three children play, one of them assumes a leadership role and uses his or her power to get the other two children to do what he or she wants. In a classroom, the teacher uses his or her power to shape the thoughts of his or her students. The same can be said of a family situation or within an organization. People with power can reinforce the current system or disrupt it. Generally, though, people with power control the public discourse to be effective. Later, Foucault started looking at the subject – individuals and how they see themselves. Foucault died before he could finish his project.

Foucault's analysis of discourse – power – subject is relevant to management education and therefore the practice of management. The current global economy is estimated to be worth $74 trillion. Asian countries account for 33%, North America accounts for 27% and Europe accounts for 21% (Gramer, 2017). Yet, the United States controls virtually all the public discourse on management education. The vast majority of management textbooks are written by American academics, presenting mostly American ideas, and these ideas are presented as universal truths. The voices of powerful world economies – like China, Japan and Germany- are virtually unheard.

When analysing the discourse of management and management education, it is clear that much of it is related to numbers. Indeed, most management schools rely on empirical research – numbers – to claim legitimacy. Important decisions often involve on numbers. The assumption is of course that numbers are objective, whereas language is subjective. As the saying goes, "numbers speak for themselves" (Porter, 1996). In practice, some numbers are objective while others are not.

An objective number is one that everybody can agree with. For example, the amount of money in the company's bank account.

A subjective number is one where there is a difference of opinion. For example, employee A and B might be ranked using specific metrics but these metrics might not be accurate. Management might end up with information that is neither accurate nor true. This point has been made by numerous scholars over the decades. For example, Savage (2002) explains the "flaw of averages." When making decisions, most managers rely on averages, thereby ignoring variation. Plans based on assumptions about average conditions usually go wrong (Savage, 2002, 21). Even if empirical data can be measured objectively, it has to be communicated by people. In a study on accountants and bad audits, Bazerman, Lowenstien, and Moore (2002, 97) write,

> "The deeper, more pernicious problem with corporate auditing, as it's currently practiced, is its vulnerability to unconscious bias. Because of the often subjective nature of accounting and the tight relationships between accounting firms and their clients, even the most honest and meticulous of auditors can unintentionally distort the numbers in ways that mask a company's true financial status, thereby misleading investors, regulators, and sometimes management."

FIGURE 1
Objective and Subjective Data
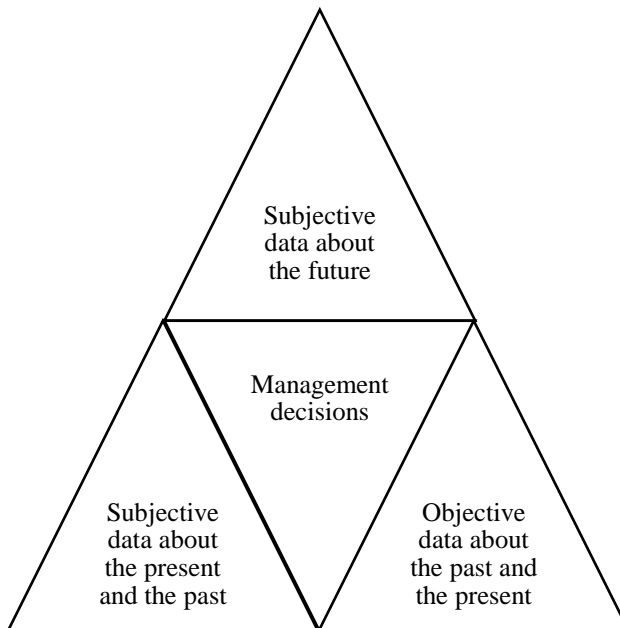
Similarly, Sterman (2004) notes that every management model includes "soft variables." These are very problematic. Most researchers only include data for which numerical data is available and that can be assessed statistically. They argue that including soft variables is equivalent to making up the values of parameters. Sterman (2004) says that ignoring soft variables guarantees that the model will be wrong. Sterman (2004, 525) concludes, "all decisions are based on models … and all models are wrong."

Trying to understand objectively what happened in the past is already difficult. Trying to predict the future seems like guesswork. For example, Morris (2009) report that out of 102 economic forecasts made by leading economists in the United States in 2007 and 2008, 101 were significantly wrong. The failure rate of economic experts in making a reasonable forecast is 99%.

Unfortunately, many practitioners fail to think critically about numbers. Many assume that if there is a number, it accurately represents reality. Porter's (1996) work is invaluable. It traces the history of quantification in the social sciences. A complete discussion of Porter (1996) is outside of the scope of this study but highlights include,

- Numbers cannot capture tacit knowledge (Porter, 1996, 13)
- Science is "demonstrated knowledge" (Porter, 1996, 14). This innocent definition seems harmless. However, Porter (1996) demonstrates that administrators and regulators determine international standards as these have to be negotiated through multiple stakeholders. In practice, international standards that everybody can agree to is more important than accuracy (Porter, 1996,29). In many cases, expediency is preferred over accuracy (Porter, 1996, 94).
- The above statements are true in the natural sciences. The political nature of numbers in management and accounting is even more obvious. In many cases, there are multiple ways to calculate the same thing but once a way of measuring has been chosen for administrative purposes, all other formulas (even those that are more accurate) are classified as "biased". Porter notes that "quantification is a social technology" (Porter, 1996, 49) that allows leaders to exercise power over people (Porter, 1996, 77).

In his preface, he writes,

"Numbers, graphs, and formulas, first of all, are strategies of communication. (…) Only a very few proportions of numbers (…) make any pretense of embodying the laws of nature. (…) Objectivity implies nothing about truth or judgment. Objectivity is an ability to reach a consensus."

Porter (1996) considers the history of the accounting profession. Accountants emerged in the 19th century. Generally, they were trusted so that their tacit knowledge was respected. In the 1930s, the Depression meant that new regulators, like the Securities and Exchange Commission, wanted a system that was easier to quantify and reduced the need for the tacit knowledge of accountants. They enforced regulations that simplified things. In doing so, it gave accounting a "false impression of accuracy" (Porter, 1996, 94). The SEC realised this but was more interested in "enforceable regulations rather than accounting truth" (Porter, 1996, 94).

The fact that numbers are somewhat subjective is not in itself a problem. However, management students are not taught this fact. They are not taught to think critically about the multiple schools in management or the objectivity of numbers. In most cases, they are not taught about the ideas of Karl Popper.

8. KARL POPPER

Karl Popper's work is seen as potentially very important for the future development of *Islāmic* management (Fontaine, 2018). In particular, Popper notes that the social sciences need to understand the unintended consequences of social interactions. Karl Popper's analysis of the social sciences can be broken down to several key points.

Popper started by criticising the main tenets of positivism. Positivists argue that science should be objective. Popper argued that this is impossible because "conjecture about the world always precedes observation" (Gorton, 2006, 26). Second, positivist argue that verification (i.e., using empirical data to confirm a theory) was essential to good science. Popper argued that falsification was the key. Rather than proving which theory was true, scientists should work on eliminating false theories (Gorton, 2006, 26). Third, positivists seem not to appreciate the logical consequences of their position. If, for example, one can develop a theoretical model which allows planner to accurately forecast future human behaviour, this

would necessitate determinism – the belief that individuals have no free will. Popper rejected this notion and insisted that people have free will (Gorton, 2006, 28). At best, scientists can develop insights into historical behaviour, but this remains simply a "point of view" (Gorton, 2006,28). Lastly, Popper rejected the positivists' instrumentalism (Gorton, 2006, 29). Popper believed that the aim of science was to produce better explanations of the world, not merely produce better predictive power (Gorton, 2006, 30). Typically, social theories fail because they are unable to identify the unintended consequences of social interactions (Popper, 2002, 167).

To develop this science, Popper proposed an ontology based on three worlds. World 1 represents the material world. World 2 represents the realm of subjective mental states. World 3 include "stories, exploratory myths, tools, scientific theories, scientific problems, social institutions and works of art" (Gorton, 2006, 33). Popper stressed that the future cannot be determined by the past (Gorton, 2006, 48) and that his approach (situational analysis) is not a causal explanation. It is simply an attempt to explain the situation (Gorton, 2006, 52).

Social science theories are necessary interpretive (Gorton, 2006, 55). At best, they can help us understand the past, but not make predictions about the future (Gorton, 2006, 71). Popper justifies his approach by showing the limitations of social science theories based on rational choice (Gorton, 2006, 73) and behavioural economics (Gorton, 2006, 80). His main argument is that neither theory explain the formation of desires and beliefs, yet human behaviour is driven by desire and beliefs (Gorton, 2006, 101).

In conclusion, Popper (2002) notes that many social science theories are myths. Myths are not to be dismissed or ignored. They can help individuals make sense of the world and allow individuals to act with more wisdom. But they need to be recognized as myths.

9. ANALYSIS

The literature review presented above is both frustrating and encouraging.

It is frustrating because, as has been mentioned earlier, many management theories are based on empirical research. Many individuals therefore assume that these theories are "scientifically true". It turns out that the word "science" is used in many ways in the social science. It can be used in its general meaning of reductionism, repeatability, and refutation (Checkland, 1993). It can be used to

mean an "organized body of knowledge" (Koontz, 1980) or it can mean quantitative analysis (Mintzberg, 1993). Porter (1996) said that science was "demonstrated knowledge" that required a community of researchers to reach a common consensus. Popper believed that the aim of science was to produce better explanations of the world, not merely produce better predictive power (Gorton, 2006, 30). Similarly, the notion of "objective" is quite subjective (Porter, 1996). At best, one can gain some insights into the past, but one cannot predict the future. Any claim that management is a science must therefore be questioned.

This does not mean that management is useless. Planning, organizing, leading and controlling are essential functions and management theories based on sound management research are useful to help individuals manage better. Popper would say that such theories are useful myths. These theories help managers make sense of the world around and given them a sense of what they should do in the future. However, accurate predictions of the future are simply impossible.

The problem of the potential subjectivity numbers raises many issues related to social justice. Employees are often hired, promoted and fired based on subjective numbers. Although the numbers might not be a fair representation of the potential of employees, standardized numbers allow managers to be "unfair in a standardized manner". It's not a great system but it least it is consistent. How will such a system be evaluated by Allah on the Day of Judgment? The subjectivity of numbers is an issue that scholars of *Islāmic* management cannot address alone. They will probably need advice from scholars of *Islāmic* law.

On the flip side, the literature review is encouraging because any apparent contradiction between the *Qur'anic* worldview and the management worldview disappears (see Table 4).

This facilitates the case for sticking to *Sharīʿah* principles and promoting *Islāmic* management inside organisations. Whenever the argument is made that "*Islāmic* principles" contradict the "latest research in management", the reply should be that a) in the *Islāmic* worldview, *Islāmic* principles are more important than management research, and b) there are so many schools of thought in management and the rate of organisational failure is so high that the latest research might not be very useful anyway.

The author argues that the future of *Islāmic* management means that scholars of *Islāmic* management need to strike the right balance. Clearly, management theories are useful. But unlike the

hard sciences, the social sciences cannot develop theories that are objectively true. Due to the limitations of the social sciences, theories can only help people make sense of the world around them. But they remain subjective. *Islāmic* principles are however more important than management theories. If there is a clash between the two, priority should always be given to protecting *Islāmic* principles. Scholars and practitioners of *Islāmic* management though should always be able to explain to sceptical *Muslims* the limitations of existing theories of management.

TABLE 4
The Dilemma Disappears

	Theory of Knowledge	Beliefs about the world	Prioritization of values	Behavior
Qur'anic worldview	Deontic logic – The *Qurʾān* is the word of God so it should be followed	Belief in the Day of Judgment. Disobeying injunctions from the *Qurʾān* will be punished on the Day of Judgment.	Actions and thoughts are pleasing or displeasing to God	Don't use interest-based loans.
Management worldview	Management cannot be predictive and empirical data can be misleading. Managers need to make predictions and use data by these have to do so cautiously	Management tells stories about the world around us to help individuals make sense of the world. Different schools tell different stories.	Making sure the organization survives in turbulent times is the priority for CEOs	Don't use interest-based loans.

10. CONCLUSION

This study has shown that management science is a lot less scientific than is often presumed. This has positive and negative implications.

On the positive, when talking to sceptical *Muslims*, it makes it easy to argue in favor of *Islāmic* management. Some of the issues raised in this study include the multiple schools of management (who often contradict one another), the problem of organizational failure, and the subjectivity of measurement.

On the negative side, scholars of *Islamic* management still need to rely on management theories and principles. This means that *Islāmic* management becomes a necessarily subjective activity.

On balance though, a better understanding of the multiple schools of thought and of the limitations of conventional theories of management would *Muslim* managers to become more critical of their craft. Mintzberg argued that management is an art rather than a science. He meant that managers need to know some management theories, apply them at work, and then reflect on the gap between theory and practice. It is not clear yet to this author whether scholars of *Islāmic* management should be open to applying all of the schools of management or whether they should identify the "best" school and develop *Islāmic* management theories around the best school. This is an issue that future generations of *Muslim* scholars need to discuss.

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