HOW THE PAST IS PRESENT(ED): A COMPARISON OF INFORMATION
ON THE HAWTHORNE STUDIES IN CANADIAN MANAGEMENT AND
ORGANIZATIONAL BEHAVIOUR TEXTBOOKS

The Hawthorne studies are widely acknowledged as being highly influential in the
development of the disciplines of management and organizational behaviour. This study
analyzes how the studies are presented in 14 Canadian textbooks and discusses the
implications of those presentations.

Introduction

The content of textbooks is a major indicator of what information is considered necessary
for students to assimilate in order to acquire adequate knowledge of a subject. “Although
knowledge dissemination and diffusion can occur in a variety of ways, textbooks in a field
constitute a primary route…If a given way of viewing phenomena associated with a field of
study has an impact, that should be visible in textbooks” (Dunn, 1988).

In many academic disciplines, analyses of textbook content have focused on what topics
or perspectives are considered worthy of inclusion, whether there is variation between different
textbooks in how topics are presented, and what differing presentations of information (such as
where a subject is located in the textbook’s ordering of topics, the length of discussion devoted to
a subject, and the wording used to convey the subject) communicate to the reader about the
information’s significance. Other research has investigated the process of textbook production to
understand how the choices of topics and decisions on the presentation of material are made.

There have been several analyses of business textbook content following these general
lines of inquiry. Aronoff (1975) combined content analysis and statistical analyses in tracing the
coverage of the behavioural perspective in management textbooks from 1910 to 1974, and found
that the frequency of terms associated with the perspective increased across time, as the influence
of this perspective on management thought and practice increased. Wright (1994) compared the
topic coverage of fifty human resource management textbooks from the United States and the
United Kingdom, and concluded that British texts gave more attention to organizational theory
while American texts focused on corporate strategy and industrial relations. Parmental (1988)
evaluated the content of eight business ethics textbooks, and observed that the majority of cases
in these books involved policy, with few or no examples of cases involving other functional areas
of business, and that over half of the cases were set in manufacturing firms, when “for many
years the United States economy has been dominated by service firms” (p. 533). Hackley (2003)
critically analyzed the use of rhetoric in the discourse of marketing management textbooks, and
noted that its effect was to “[promote] an unreflexive, normative, management consulting style of marketing management based on ‘core’ concepts and constructed for easy consumption in education and training settings” (p. 1335). Gibson and Glenn (1982) conducted an analysis across 24 years of how the topic of oral communication was presented in business textbooks, and found that the topic was presented primarily in the context of “theory directed to the corporate goals of control and performance” (p. 46) with only minimal increases across time in coverage of topics like feedback and horizontal communication.

Only one of these studies has looked at the issue of content in management textbooks, and none have looked at textbooks produced for use in Canadian post-secondary institutions. Thus, an analysis was conducted of how a significant historical event was presented in a sample of management and organizational behaviour textbooks produced for the Canadian market. The event chosen for study was the Hawthorne studies. “No other theory or set of experiments has stimulated more research and controversy nor contributed more to a change in management thinking than the Hawthorne studies and the human relations movement they spawned” (Adair, 1984, p. 334). In a recent survey of 95 Academy of Management presidents, journal reviewers, and journal editors, “conceptualizations derived from the Hawthorne studies” was rated as the most important theory in the development of the field of organizational behaviour (Miner, 2003). Because there is a considerable amount of material discussing the studies and their impact, the topic is an appropriate basis for comparisons of factual accuracy, amount of coverage, and presentation across different textbooks.

Methodology

The textbooks surveyed were seven management and seven organizational behaviour textbooks published in Canada between 1997 and 2003. In cases where more than one edition of a textbook was released during the six-year period covered by the analysis, only the most recent edition was included in the sample. The textbooks included in the analysis are referenced in the references list.

To some extent, this sample was a convenience sample, because it consisted of textbooks that were sent for review and possible adoption to faculty members at a single Western Canadian post-secondary institution. However, informal communication with employees of two Canadian textbook publishing companies indicated that the top two sellers in the management and organizational behaviour fields were included in the sample.

The following data were collected on the treatment of the Hawthorne studies for each of the 14 textbooks in the sample:

- the dates given for when the studies occurred
- the names of the researchers involved in the studies
- which parts of the studies were described
- whether controversies over the studies’ methodology or data interpretation were mentioned
- how the significance or contribution of the studies was portrayed
- the length of the discussion of the studies (measured in millimeters)
- whether there were any special features associated with the topic’s presentation (e.g. illustrations, definitions, tables or figures)
These data were all identified within the textbooks by locating indexed references to “Hawthorne studies”, “Hawthorne experiments”, or “Hawthorne effect”.

Two factors affecting the results emerged during the data collection process. First, it was initially planned to include human resource management textbooks in the sample, since the findings from the Hawthorne studies clearly have implications for human resource management practices. However, an examination of indexes of five randomly selected Canadian human resource management textbooks showed no references to the Hawthorne studies, so this category of analysis was eliminated. Second, two of the sampled organizational behaviour textbooks lacked any mention at all of the Hawthorne studies. Eliminating these textbooks from the sample was considered, but ultimately they were retained to fully illustrate the range of differences in how the studies were presented.

**Results**

The results of the comparison, subdivided into results for organizational behaviour texts and for management texts, are presented in Table 1.

**Dates**

Both the management and organizational behaviour textbooks gave a variety of dates for the studies, with differing degrees of accuracy. One organizational behaviour textbook gave accurate dates for the entire length of the study (1924-1932); another cited the dates as 1924 to the early 1930s, which, although not specific about the exact ending date, is not inaccurate. Two organizational behaviour textbooks and two management textbooks identified the studies as beginning in 1927; this was the year when the Harvard researchers responsible for most of the studies joined the in-house research team at the Western Electric Company, who had already commenced the first of the experiments. However, all four of these textbooks identified the experiments involving manipulation of illumination as part of the studies, and since these experiments were conducted prior to the involvement of the Harvard researchers, a starting date of 1924 would be more precise in this context. One organizational behaviour textbook and one management textbook each cited the 1920s and the 1930s as the range of dates for the studies, which is imprecise but not inaccurate; however, one management text cited the studies as occurring in the 1920s, and one organizational behaviour text and one management text cited the studies as occurring in the 1930s, neither of which are completely accurate.

**Length of Material**

The mean length of the material discussing the Hawthorne studies (measured in millimetres and excluding any special features such as sidebars or illustrations) was 14.357mm in the management textbooks (minimum 1mm, maximum 26mm) and 9.7857 mm (minimum 0mm, maximum 41mm) in the organizational behaviour textbooks. However, the mean for the organizational behaviour textbooks is skewed by the facts that two of these textbooks had no mention of the studies at all and that one had by far the longest discussion of any of the 14 textbooks surveyed (the next longest was 26mm). A two-tailed T-test comparing the means of the two groups indicated no statistically significant differences in length between coverage in the management and the organizational behaviour textbooks.
<table>
<thead>
<tr>
<th>TABLE 1 – Comparison of Information on the Hawthorne Studies</th>
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<tbody>
<tr>
<td>Management (n=7)</td>
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<tr>
<td>Dates</td>
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<tr>
<td>1924-1932 (1)</td>
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<tr>
<td>1920s &amp; 1930s (1)</td>
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<td>1927-1932 (2)</td>
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<td>1924-early 1930s (1)</td>
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<td>1927-onward (1)</td>
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<td>1930s (1)</td>
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<td>Length of Material</td>
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<td>0-5 mm (1)</td>
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<td>5-10 mm (1)</td>
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<td>10-15 mm (2)</td>
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<td>15-20 mm (2)</td>
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<tr>
<td>20+ mm (1)</td>
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<tr>
<td>Names of Researchers Mentioned</td>
</tr>
<tr>
<td>Elton Mayo (6)</td>
</tr>
<tr>
<td>None (1)</td>
</tr>
<tr>
<td>William Dickson (1)</td>
</tr>
<tr>
<td>Experiments Outlined</td>
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<tr>
<td>None (1)</td>
</tr>
<tr>
<td>Lighting (5)</td>
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<tr>
<td>Relay Room (3)</td>
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<tr>
<td>Bank Wiring (2)</td>
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<tr>
<td>Interviews (2)</td>
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<tr>
<td>Mention of Controversy Over Results</td>
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<tr>
<td>No (4)</td>
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<tr>
<td>Yes (3)</td>
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<tr>
<td>Significance of Studies</td>
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<tr>
<td>Impact of Groups on Work (4)</td>
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<tr>
<td>Behaviour and Attitudes Related (1)</td>
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<tr>
<td>Pay Not A Motivator (3)</td>
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<tr>
<td>Increased Research Interest in Human Factors (5)</td>
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<tr>
<td>None Mentioned (3)</td>
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<tr>
<td>Special Presentation Features</td>
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<td>Margin Definition (3)</td>
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<td>Sidebar (1)</td>
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<td>Picture (2)</td>
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<tr>
<td>Diagram (1)</td>
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<td>Direct Quote from Primary Source (1)</td>
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</table>
The bracketed numbers after each item indicate the number of times that item occurred. When all the bracketed numbers for a single topic total more than 7, this indicates that at least one of the textbooks had more than one item relating to that topic.

**Names**

By far the most commonly mentioned name in discussions of the studies was that of Elton Mayo, identified in six of the seven management textbooks and two of the seven organizational behaviour textbooks. Fritz Roethlisberger and William Dickson were both mentioned in one organizational behaviour textbook (which also named Mayo), but this was the only mention of these two names in all of the 14 textbooks surveyed. One management textbook and two organizational behaviour textbooks did not mention any names in relation to the studies.

Of the textbooks that mentioned Mayo, three management textbooks and three organizational behaviour textbooks described his participation in ways that make it appear that he was solely or primarily responsible for creating and carrying out the studies. One management textbook describes Mayo as identifying the general outcomes of the studies, which is not completely inaccurate; however, Mayo acknowledged in both of his books (Mayo, 1933; Mayo, 1945) that his discussions of the study’s results were based on the outcomes identified by Roethlisberger and Dickson (Roethlisberger & Dickson, 1939). These two men were members of the research team at the Western Electric plant and were primarily responsible for experimental design, data collection, and data analysis. One management textbook describes Mayo’s role as that of a consultant, although it does not name anyone else associated with the studies.

While Mayo was undoubtedly influential in overseeing the studies and publicizing their results, his degree of involvement in actually conducting the studies is less clear. Landsberger (1958) refers to “these studies, and Mayo’s analyses of them” (p. 27): a wording which indicates that Mayo was not involved in the actual work of designing or conducting the studies. In Mayo’s books, his perspective is that of an observer commenting on the study results, not that of a participant reflecting on his experiences. Homans (1941) identifies Mayo as a member of a “committee” overseeing the research, and describes him as “intimately associated with the research” (p. 56). Gillespie (1991) describes Mayo as “only one of several interpreters of the experiments” (p. 96) but also mentions that he was involved in obtaining and maintaining funding which supported the research. Clearly, Mayo was involved with the studies to a greater degree than an impartial observer would be, but to describe him in a manner that suggests he should receive most of the credit for conducting the actual experiments and determining their results is misleading.

**Parts of the Studies Described**

There were six separate experiments conducted as part of the Hawthorne studies: the illumination experiments, the two Relay Assembly studies, the Mica Splitting Test Room study, the Bank Wiring Observation Room study, and an extensive program of employee interviews. Of these six experiments, by far the most commonly cited were the illumination experiments, which were mentioned in five of the management textbooks and four of the organizational behaviour textbooks. Three management textbooks and one organizational behaviour textbook mentioned the Relay Assembly studies. Two management textbooks and one organizational behaviour textbook mentioned the employee interviews. Two management textbooks and two organizational behaviour textbooks mentioned the Bank Wiring Observation Room study. One management textbook did not specifically describe any of the experiments.
Some of the textbooks discussed more than one part of the study. One management textbook described two of the experiments, and two described three of the experiments, while two organizational behaviour textbooks described three of the experiments. None of the 14 textbooks surveyed named all six parts of the studies.

Mention of Controversy Over Results

Only two of the seven management textbooks and two of the seven organizational behaviour textbooks made any mention of criticism involving the studies’ design or the interpretation of the results (such as those raised by e.g. Acker, J., & Van Houten, D. [1992], Braverman [1974], Carey [1975], Greenwood, Bolton, & Greenwood [1983], and Wren [1994]). Both management textbooks and one of the organizational behaviour textbooks mentioned concerns about flawed research design, poor empirical support for the findings, and overgeneralization of findings; the other organizational behaviour textbook only mentioned the experimenters’ failure to control for the effects of multiple variables.

Significance of Studies

It could be argued that simply including discussion of the Hawthorne studies in a textbook indicates that they were significant or influential. However, this analysis more specifically examined whether particular contributions or influences were identified. Four of the seven management textbooks identified the studies as being important in generating interest in the human factors in the workplace. Other textbooks identified the studies as being important in showing the impact of groups in the workplace, the relationships between behaviour and sentiments, and the lack of connection between money and motivation (a point contradicted by some subsequent re-examinations of documents relating to the studies). Only one management textbook mentioned more than one specific contribution or influence. Of the four organizational behaviour textbooks that named a specific contribution, one mentioned the connection between attitudes and processes, one mentioned the studies’ advancement of the field of management study, one mentioned the attention given to the impact of workplace groups, and one mentioned the identification of both formal and informal groups in the workplace.

Special Presentation Features

Four of the management textbooks had features in addition to the discussion of the studies in the text itself. One had a margin definition of “behavioural school of management”. One had a margin definition of “Hawthorne studies” and additional discussion in a sidebar, while one had a margin definition of “Hawthorne effect” and a diagram outlining the relationship of the studies to other developments in the human relations field. One had a picture of a shop floor in the Hawthorne plant, and one had a direct quote from Roethlisberger and Dickson’s book. Among the organizational behaviour texts, one had a margin definition of “Hawthorne studies”, one had a cartoon illustrating a worker as a robot, accompanied by a caption relating this characterization of workers to early management theories of workers’ roles, and one had a diagram charting productivity under different work schedules in one of the Relay Assembly studies.

Discussion

As the above analysis shows, every one of the 14 textbooks surveyed had at least one example of omission, misleading wording or outright error in its discussion of the Hawthorne
studies. There was also a wide amount of variation in the length of the discussion or in the presentation of the topic, indicating a range of opinion on the importance of the studies as part of the historical development of the disciplines of management and organizational behaviour or as part of a comprehensive introduction to the disciplines.

This level of variation in the presentation of what should be fairly standardized material is not completely surprising. As Levitt & Nass (1989) note, “Imitation is clearly a widespread factor in the textbook publishing industry….but editors must balance the simplicity of imitation against the need for product differentiation” (p. 197-8). They argue that homogeneity in textbook publishing occurs primarily in the sequencing of topics, and variation occurs within the organization of material; this was also true of the textbooks surveyed in this analysis. In every textbook the discussion of the Hawthorne studies was part of a section that could broadly be described as “history of the subject” or “development of early knowledge about the subject”, and this section was in every case located within the first three or four chapters of the book.

What is more surprising, and perhaps more of a concern, is the lack of clarity or accuracy in the discussions of the studies. However, this finding, too, is in keeping with the results of earlier studies. Adair (1984) surveyed 15 introductory psychology textbooks and an equal number of educational research methods textbooks to examine how the “Hawthorne effect” was presented; in his words, “not one [of the psychology textbooks] had described the studies accurately, let alone shown agreement on what constituted the artifact….Errors [in the educational research methods textbooks] ranged, for example, from blurring the distinction between the manipulated variables…to introducing new variables which…were not in fact manipulated” (p. 335). In a similar experiment investigating accuracy of textbook material, Bluedorn, Keon & Carter (1985) examined 54 introductory management textbooks to compare how Frederick Taylor’s 1899 “Schmidt study” was presented. This study allegedly involved measuring a particular worker’s productivity in loading pig iron on a railway car, and determining whether his productivity varied when pay rates were changed and new work methods were introduced. In the 1970s, two researchers attempted to verify the truth of Taylor’s account by examining Taylor’s original accounts of the study, but they “uncovered so many errors of fact that [the researchers] were forced to conclude that the entire Schmidt story was a fabrication” (p. 130). (More recently, Wrege & Hodgetts (2000) re-examined the studies using material that was discovered after their original analysis, and reached the same conclusion.) An article by the researchers labelling the study a fraud was published in the Academy of Management Journal (Wrege & Perroni, 1974). However, despite this very public debunking of the study in a prominent academic journal, only two of the 54 textbooks surveyed (all of which were published more than ten years after the article containing the re-examination of the study) contained any mention of the allegations that the study was a fraud.

In comparison to these previous findings, it is apparent that the textbooks in this sample, in their presentation of the Hawthorne studies, are likely no worse or no better than other textbooks in their degree of historical accuracy. Since these books are all written by experienced researchers, it is worth considering how such errors might occur. One reason could be reliance on inaccurate secondary sources. In an undertaking as large as creating a textbook, it is entirely possible that inaccurate secondary sources could be unknowingly used; in all honesty, while I recognized that there must be some errors in the different accounts of the Hawthorne studies simply because there were inconsistencies between the different textbooks’ content, I was not able to identify the actual nature of the errors until I re-read the original reports of the studies and their results. A textbook author might not have the resources or the time to conduct such a detailed investigation for every topic a textbook covers. Another reason relevant to this particular sample might be that 10 of the 14 books surveyed were “Canadianized” editions of textbooks.
originally published in the United States. An author adopting a textbook for use in a new market—especially a textbook whose original author is a well-respected writer or researcher—might reasonably assume that material such as historical discussion would not need revision to be relevant to a different market. Thus, errors in the original version could appear unchanged in subsequent versions or revisions.

Nevertheless, there are implications of these findings which warrant further consideration. One implication is the message that such inaccuracies send to students. A student submitting an essay containing inaccurate dates for events or misattributing the authorship of a study would likely not receive a high grade for their work. However, this analysis shows that errors like these are not uncommon in textbooks, which presumably are intended to be reliable sources of information, and which, it might be argued, should be held to an even higher standard of accuracy because the intended readers lack the background to identify errors, omissions, or misattributions. Thus, it is worth considering what impression of academic standards, or of the sense of responsibility attached to conveying information accurately, is given to students when textbooks contain errors that would not be tolerated in other academic contexts.

However, another point of consideration is whether, ultimately, these particular inaccuracies, errors or omissions are important. The courses in which the surveyed textbooks are used introduce undergraduate students to general principles of management or organizational behaviour, and give them information to be applied in the workplace or to establish a foundation for more advanced study. If these textbooks adequately present important contemporary and essential information about management or organizational behaviour, does it really matter if there are errors in presenting the historical basis for this information—especially if the results of older research have been supplanted or replaced by results from more sophisticated or more recent studies? There might be greater reason for concern if, for example, textbooks displayed consistent inaccuracies in discussions of the principles of motivation or of group dynamics: principles that a beginning student of management or organizational behaviour should be able to describe or apply accurately. However, historians would likely argue that errors in historical accounts are flaws in the foundation underlying the presentation of more contemporary material, and that a flawed foundation brings the accuracy of the entire discussion into question. Adair (1984) calls errors in textbooks “bad scholarship—and these are the texts on which the training of future researchers is primarily based” (p. 336). Bluedorn, Keon & Carter (1985) argue that “greater efforts need to be made to produce a more professional usage of...materials from management history” (p. 132). And Miner (2003) adds, “A historical perspective should be incorporated [in MBA organizational behaviour courses] not because these concepts are currently of great value but because they indicate the multidisciplinary origins of organizational behaviour and point up the need for the scientific base that ultimately emerged” (p. 261); interestingly, however, Miner does not comment on the appropriateness of this perspective for undergraduate courses, despite the high ranking given to historical theories by the respondents to his study.

The results of this analysis, and the associated implications, indicate that further studies of textbook content, especially historical content, are warranted. Comparative analysis of common textbook topics in other business-related disciplines would indicate whether textbook material in management and organizational behaviour textbooks is more or less accurate than that in other disciplines; comparative analysis of textbooks for different markets but based in the same discipline would indicate whether there are significant differences in how different markets approach the same subject. Awareness of any such differences, and a heightened awareness of possible errors, omissions, or misattributions, can only serve to improve the accuracy of information and the standards of scholarship in any discipline.
References


HOW THE PAST IS PRESENT(ED): A COMPARISON OF INFORMATION ON THE HAWTHORNE STUDIES IN CANADIAN MANAGEMENT AND ORGANIZATIONAL BEHAVIOUR TEXTBOOKS

Textbooks are one of the major means through which information on a subject is disseminated. Several content analyses of business textbooks have indicated variations in how similar topics are presented and discussed; however, only a few of these studies have examined management and organizational behaviour textbooks, and none have examined textbooks produced for the Canadian market. Thus, a comparison was conducted of how Canadian management and organizational behaviour textbooks present information on the Hawthorne studies, which are widely acknowledged as being highly influential in the development of the disciplines of management and organizational behaviour.

Seven organizational behaviour textbooks and seven management textbooks published between 1997 and 2003 were selected for analysis. The following data were collected for each textbook:

- the dates given for when the studies occurred
- the names of the researchers involved in the studies
- which parts of the studies were described
- whether controversies over the studies’ methodology or data interpretation were mentioned
- how the significance or contribution of the studies was portrayed
- the length of the discussion of the studies (measured in millimeters)
- whether there were any special features associated with the topic’s presentation (e.g. illustrations, definitions, tables or figures)

The analysis of the collected data indicated that every textbook in the sample had at least one instance of omission, lack of clarity, or outright error. There are several reasons why these problems might occur, including unknowing reliance on inaccurate source material or, for American textbooks that are “Canadianized”, the not unreasonable assumption that historical material in the original text was accurate and did not need to be reworked for a new market. Nevertheless, these findings have some significant implications. First, in relation to academic standards, it should be questioned what message is being sent to students when textbooks contain material that likely would not be considered acceptable in other academic contexts; if anything, standards of accuracy should be higher in textbooks, because the intended audience does not have the knowledge or background to be able to identify errors or misleading information. Second, we should also consider whether accuracy of historical material is ultimately that important, if the majority of information in a textbook is accurate and conveys to students the knowledge and skills needed to function in a contemporary workplace. While the focus of an introductory management or organizational behaviour course is clearly to convey contemporary information, historians would likely argue that flaws in historical information which underlies more recent information constitute flaws in the foundation of a discussion, and thus weaken the entire discussion.