# The bright side and the dark side of top management support in Digital Transformaion –A hermeneutical reading

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## ABSTRACT

In information systems (IS) research, top management support is typically seen as an exclusively positive phenomenon that is key to any successful digital transformation including IS implementation and associated organizaational, operational and startegic chnage. . Surprisingly, this view contrasts with the findings of organization studies research, which reveal a "dark side" of top management support. We propose that this chasm in the research findings may result from: (1) IS research taking a single-sided view of a dialectic phenomenon; or (2) IS implementation being a phenomenon within which top management support can only ever play a positive role. This study examines these propositions by employing a hermeneutical analysis of a published case study on the implementation of an enterprise resource planning (ERP) system. The findings support the first proposition, revealing that senior management "hyperopia" and overconfidence could lead to significant operational confusion and a costly implementation. The study contributes to IS research by revealing that the style and approach of top management support are key to determining the impact of that support and whether it is positive and/or negative. It also extends management research on the dark side of top management to the domain of IS implementation and organizational change, in addition to providing a thorough application of hermeneutical analysis.

## 1. Introduction

It has long been a mantra in information systems (IS) research that top management support has an important, positive impact on digital transformation including systems implementation and associated organizational, operational and strategic change. Indeed, since the early work of Rockart (1979), gaining the support of an organization's top management has been considered critical for the successful realisation of any IS implementation. Consequently, the failure of a project or system is often unproblematically linked to a lack of such support (Hwang, 2014; Elbanna, 2013). IS research has considered the following dimensions of top management support: project financing and resource allocation (Lam, 2005; Holland & Light, 1999); actively mandating and coordinating implementation efforts (Cooper & Zmud, 1990); making organizational announcements to support a project and establish it as a "top organizational priority" (Nah & Lau, 2001; Wee, 2000); establishing reward systems and incentives for those involved in a project (Purvis et al., 2001; Moore & Benbasat, 1991); and encouraging the use of a newly implemented system and setting an organizational example of using it (Nandhakumar, 1996; Leonard-Barton & Deschamps, 1988). From the findings of these types of support, IS researchers established what became a "taken for granted" positive role of top management in systems implementation (Sarker & Lee, 2003; Akkermans & Helden, 2002).

The top management is "the primary human agency [that takes] managerial actions such as changing organizational structures and establishing policies" (Dubey et al., 2018). However, a strand of management research highlights that this role is not always positive; it may also have negative consequences, or a "dark side" (Vaughan, 1999; Vardi & Weitz, 2003). In this regard, leadership studies show that charismatic and even transformational leadership styles are not necessarily linked to positive outcomes and can even be disastrous for organizations (Khoo & Burch, 2008; Luthans et al., 1998; McIntosh & Samuel Sr, 2007; Hogan et al., 1990; Stashevsky et al., 2006). Burt et al. (2015) find that top management "hyperopia", where managers focus so much on the long term that they fail to consider the short term, is

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harmful to an organization. Another finding in management research is that higher positions in an organization and stronger decision-making power can lead to abusive supervision and catastrophic end results (Tepper et al., 2009; Hoobler & Brass, 2006). Importantly, this can also negatively affect creativity at all levels of an organization (Liu et al., 2012). Moreover, management research reveals that when a leader is highly confident, this may discourage others from participating in decision-making, even when the leader's opinions appear to be incorrect (Locke & Anderson, 2015). Indeed, Tourish (2013) argues that leadership is a "contested concept" and reveals that leaders' dysfunctional application of institutional power lies behind many of the high-profile corporate failures seen in recent years.

Against this backdrop, there appears to be a chasm between the IS literature, which conceptualises top management support as an exclusively positive phenomenon, and the management literature, which has repeatedly demonstrated the existence of a dark side of top management support that can lead to organizations becoming dysfunctional. We suggest that this chasm between the research propositions could be due to either: (1) IS research taking a single-sided view of a dialectic phenomenon,[1] which holds possibilities of positive and negative outcomes; or (2) top management support only ever being able to play a positive role in the context of IS implementation in organizations. This study examines these propositions and to this end, it adopts hermeneutics as a tool to re-analyze a published case study. Hermeneutics allows us to recover the meaning of text, and it opens up the possibility of uncovering hidden meanings and discovering new ones (Gibbons, 1987). Its continuous, iterative cycle of moving between the parts and the whole makes it possible for meanings to emerge from the data; hence, enabling us to uncover any meanings hidden behind the initially obvious.

Indeed, our detailed case analysis of a system implementation reveals that although strong support from the top management has a positive high-level impact (in terms of speeding up the implementation process and smoothing obstacles), it also simultaneously produces negative effects. In particular, top management hyperopia and overemphasizing the strategic and long-term impact of the system creates an unbalanced implementation that glosses over serious operational issues. This leaves the system successfully installed from a technical perspective but operationally difficult to use. These difficulties cause chaos in day-to-day operations, with major workarounds and lengthy post-implementation adjustments required. Overconfidence and stronger decision-making power amongst the top managers have a strong influence on organizational choices, discourage middle other managers and end users from participating in the decision-making, and reduce the involvement of end users to a tick-box ceremonial exercise that has little influence or impact on the implementation. Accordingly, the support and involvement of top management in IS implementation is a dialectic phenomenon; it can lean towards positive or negative impacts depending on the style and approach of the support and influence that is exhibited and the type of force that is exercised. Hyperopia, stronger decision-making power and overconfidence could tip the balance of top management support towards having a negative impact on IS implementation. In this regard, top management support has to be considered with care, in theory and in practice, because the style and approach of this support influences the impact it has.

The study contributes to IS and management research in three ways.

*First*, the paper unravels the dialectic nature of top management support in IS implementation and uncovers the possibility that it could have a negative impact in addition to a positive one. It identifies that the style and approach of top management support influence its impact. In doing so, it adds a critical perspective to IS research that enhances and sharpens the conceptualization of top management support and provides a more balanced account of its impact on systems implementation. *Second*, the study shows the strength and promise of hermeneutical analysis. It contributes to the application of hermeneutics in IS and management research by providing a detailed explanatory analysis. This provides practical support to other researchers who are attempting to adopt hermeneutics in their research. *Third*, it contributes to management research by extending the examination of the dark side of top management to the domain of IS implementation and organizational change.

This paper is organized as follows. Section two provides an overview of previous IS research on top management support. Section three presents the case study, data collection methods and the hermeneutical approach adopted for the data analysis. Section four provides a detailed analysis of the case study. In the final two sections, the findings and contributions of this study are discussed.

## 2. The role of top management in digital transformation

IS research holds exclusively positive views regarding the role of top management in systems implementation. These exclusively positive views have been advocated and adopted to different degrees of strength, ranging from strong blanket to situational perspectives. The *strong blanket* perspective "typically hypothesizes a simple main effect" between top management support and positive implementation outcomes (Sharma & Yetton, 2003). It finds that top management support is "predictive of ERP [enterprise resource planning] success" (Somers & Nelson, 2004) and that success "completely hinges on the strong, sustained commitment of the top management" (Bingi et al., 1999). On the basis of the assumption that top managers have an exclusively positive impact, this perspectivethis perspective goes as far as strongly advocating that "top management must be involved at "every step" (Al-Mudimigh et al., 2001) and in "all stages" of an ERP implementation (Akkermans & Helden, 2002; Plant & Willcocks, 2007).

However, a few studies take a weaker *situated* stance on the positive rolerole of top management support. These studies do not argue against its positive impact or reveal any negative impacts; rather, they qualify the critical aspects of the positive impact (Elbanna, 2006; Elbanna, 2010). For example, in a review of the literature on top management support, Hwang (2014, p. 20) concludes that "not all empirical evidence backs the critical role of top management support". Sharma and Yetton (2003, p. 545) find that top management support is a "relatively weak and probably not critical component when task interdependence is low"(Sharma & Yetton, 2003, p.545).[2] In a similar vein, Markus (1981, p. 1) observes that a system under study was "readily accepted in one plant and stanchly resisted in the other". They comment that it was "especially interesting that top management clearly supported the system" implementation in both cases, shedding doubt on the universally positive impact of top management support on a system's acceptance and use (Markus, 1981, p. 1). Somers and Nelson (2004, p. 270) also appear to be puzzled by their finding that project members' perception of the importance of top management support continuously declined over the course of a project, stating that "such behavior is not fully understood". Other studies find that top management support is *not* critical to the outcomes of a project and argue that the efficiency and flexibility of the development process are significant in their own right

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[1] Eller (1973) explains the meaning of dialectic phenomena through the image of ping-pong balls being blown into the air by a nozzle: they are caught between two opposing forces. Gravity pulls them down into the jet of air, which simultaneously has the effect of pushing them back up, where gravity pulls them down once again, resulting in their suspension between the two forces. Eller explains that "[t]hought or action that operate out of this sort of dynamic tension, giving attention to one truth in such a way that attention must then immediately be given to its counterpart" (Eller, 1973 as quoted in; Rappaport, 1986).

[2] Hwang and Schmidt (2011) criticise this study for erroneous statistical calculations and support the view that top management support is equally critical in low and high task interdependence.

without any influence from top management (Nah et al., 2007; Marble, 2003). Elbanna (2013) finds that information systems can be implemented successfully despite the withdrawal of top management attention, refuting the argument that this support needs to be constant and consistent during an implementation.

Even though the positive role of top management in systems implementation has been advocated and adopted to different degrees, the possible negative impact of such a role has not received much attention. This is with the exception of IS escalation studies (Keil, 1995; Keil et al., 2000). These studies show that top managers' continued support of a failing course of action, their disregard for signs of failure, and their sustained faith that "things do not look so bad and the continuation will eventually lead to success" has led to the significant drift and large-scale failure of projects (Keil, 1995, p.423). However, the possible negative role of top management in systems implementation has not been examined beyond the extreme cases of escalation.

## 3. Research methodology

### 3.1. Description of the organization

Our case study focuses on the 2004 merger of two universities (anonymously referred to in this paper as Vulcan and Umbra) into a single entity (anonymously referred to as Cornfield) and the subsequent implementation of an administrative ERP system. This system is based on a US software package that was designed to offer a "cradle to grave" system for student records and admissions together with new finance and HR/payroll systems. Both universities in the merger had long histories of more than 100 years. Since the merger, the new university has grown to have a combined graduate and undergraduate population of almost 50,000 students, making it one of the largest universities in Europe.

One of the stated goals of the merger and the introduction of the new ERP system was to modernize the administrative IT infrastructure in the form of a centralized system, which would allow the combined university to be "run as a complex business". The new software system, purchased from an ERP software house (referred to as "the ERP vendor" for anonymity), had to be heavily modified by the university's implementation partner. The system was implemented in a planned sequence, beginning with the admissions system and followed by student records. The project planning began before the merger (2003), and the implementation was completed in the final quarter of 2007. The system had to go through extensive and costly post-implementation modifications.

## 4. Data collection

In our case study, we used published data from Lyytinen and Newman (2015) and complemented it with unpublished interview scripts, documents, newspaper articles and participant observation notes. The original data was collected primarily through semi-structured and, in some cases, unstructured interviews between May and July 2007, with follow-up interviews in the academic year of 2014 - 2015 (Lyytinen & Newman, 2015) and participant observation in both periods. The interviews involved four key groups: end users (mainly administrative staff); external IT experts (the implementation partner); university top and middle management; and the university's internal system developers. The ERP vendor was not willing to participate in the interviews, despite repeated requests. At the end of the interview stage, we began to experience interview "saturation", when new insights diminished rapidly (Rubin & Rubin, 2005).

Although many problems and pitfalls are associated with qualitative interviews (Rubin & Rubin, 2005), the interview remains a powerful data-gathering technique. In this research, interviews were sought to confirm or contradict statements made in other interviews as a way of achieving social triangulation (Myers & Newman, 2007). No attempt was made to harmonize the interviewees' descriptions of events. All of the interviews were digitally recorded and transcribed verbatim.

All of the interviewees were given the opportunity to provide feedback on their interviews. They were also allowed to read the transcripts and correct or delete parts that they felt were incorrect or that they did not want to disclose. All of the interviewees were asked if we could contact them again if we needed to clarify any of the data. The details of the interviews and the position and title of each participant are presented in Appendix A. The interviews were followed by a number of follow-up communications: face to face, by phone or by email. To maintain neutral language and to avoid confusing the reader, we refer to a person holding a position as *he/she* and not *they*.

### 4.1. Data analysis–A hermeneutical approach

This research adopted an interpretive approach to enquiry and, in particular, to hermeneutics. The motivation behind the adoption of interpretive approaches for research is the ontological belief that knowledge about any phenomenon is gained through language, consciousness and shared meaning (Cole & Avison, 2007, p. 302; Klein & Myers, 1999). Hermeneutics is the interpretation of text or text surrogates (such as pictures, videos, social media and so on). The types of texts referred to include written texts and spoken texts that had been transcribed (Lacity & Janson, 1994). The written texts that were examined included meeting minutes, reports, emails, web pages, newsletters and newspaper articles. The spoken texts included verbal communications that were transcribed and which were generated from the semi-structured and unstructured interviews.

Previous application of hermeneutics in IS research is limited (Butler, 1998; Myers, 2004, 2013). Although interpretive approaches are traditionally seen as being based on hermeneutics in IS (Klein and Myers, 1999), detailed discussion of the actual application of hermeneutical principles and techniques in data analysis is scarce in the literature. Some researchers have applied hermeneutical principles to interpret data, but, at present, this application has mostly occurred without a detailed presentation of what is involved in such an analysis (Lee & Dennis, 2012; Boland et al., 1994; Lee, 1994; Orlikowski & Baroudi, 1991). In methodological terms, the art and technique of conducting interpretive research and applying hermeneutics as a means to interpret data are treated as less problematic, and consequently they have received comparatively little attention.

To provide a structured, thorough approach to a hermeneutical analysis, Boland et al. (2010) present a framework for hermeneutical exegesis that consists of six phased techniques (Boland et al., 2010). We adopted this framework as summarized in Table 1, because it emphasizes openness in the ongoing process of interpretation.

**Table 1**
Summary of the adopted analytical framework.

| Phase | Title | Technique | Realm |
|---|---|---|---|
| 1 | *Textual criticism* | Establishing an accurate version of the original text for subsequent analysis. | Textual |
| 2 | *Linguistic criticism* | Establishing the accepted meaning of words and phrases in the community in which the text was produced at the time of its production. | Textual |
| 3 | *Literary criticism* | Establishing how the meaning of a text is shaped by genre and literary devices, and how different ideologies used in reading the text yield different meanings. | Textual |
| 4 | *Historical criticism* | Establishing how the historical context at the time of writing affects the meaning, and what the historical meanings were. | Social |
| 5 | *Form criticism* | Establishing how the meaning is affected by local social practices and oral traditions up to the time of committing the text to writing. | Social |
| 6 | *Redaction criticism* | Establishing how the meaning is affected by the author's personal characteristics and actions in the creative act of writing. | Social |

We also applied the hermeneutic circle (moving back and forth between detail and a sense of the whole) during the process of interpretation as an analytical device that brings together two different realms: the textual realm and the social/organizational realm. Following Boland et al. (2010), we further propose that the six techniques of exegesis can be located in these two different realms of the hermeneutic circle. The first three techniques focus on the textual realm, within which writing and reading take place. The last three techniques focus on the social realm of a text's production and use. Fig. 1 in Appendix B depicts the hermeneutic circle and places each technique of exegesis in either the textual realm or the social realm of the interpretive space. The placement of the techniques indicates that they are each associated with a particular aspect of how the hermeneutic circle links detail and the whole in an interpretive reading. The first three techniques take us through the textual realm, including a concern with the accuracy of the textual record itself (textual criticism), a concern with the definition of words and grammatical conventions at the time of writing (linguistic criticism), and an appreciation of the literary genre that the author employed and the purpose for which the text was produced, in addition to our own approach to reading the text (literary criticism). The last three techniques take us through the social realm, including a study of the physical, cultural and political contexts in which the text was produced (historical criticism), a concern with how the local community's forms of practice shaped the text (form criticism), and a recognition that the author's personal history, world view, social setting and psychology also influenced the text (redaction criticism). In practice, there is no clear separation between text and society, language and culture, or myth and history; but posing these distinctions as an analytical device allows us to consider how each technique of exegesis plays a distinctive role in exploring the interpretive field in the process of analyzing a textual fragment.

It is recognized that different hermeneutic traditions approach interpretation as a process of *recovering* the author's original intended meaning, *uncovering* a hidden meaning operating behind the author, or *discovering* a meaning beyond its author or context of creation (Gibbons, 1987). However, regardless of which tradition we follow, the hermeneutic circle and the techniques of exegesis are the basic elements that guide the interpretive effort (Newman, 1988).

## 5. Analysis and findings

### 5.1. Top management's account

To understand the role of top management in the implementation of the ERP system, we began the analysis with the top management's account of the implementation and their role in the process. We then triangulated this with other sources of data following the analytical framework of Boland et al. (2010), as presented in section 3.3.

The following fragment of text from the interview with the Vice Principal served as a starting point for the analysis. This was complemented and triangulated with many other sources of data as the analysis progressed. We labeled each of the nine sentences in the interview transcripts– [s1], [s2], etc. – for the purpose of referring to them clearly in our analysis:

*"[ERP vendor] were involved already in the North American and Australasian higher education market, with products and services that had a good and well-proven track record [s1]. ERP vendor kept abreast with changes in the computing environment, and also issues like student funding etc., and they had an idea of the sort of issues that might arise in years to come with regards and coupled with their deep knowledge in the area of higher education, they were the best choice [s2]. There was already an existing partnership with Oracle in place at the University of [Vulcan]³...[s3]. The President of the*

*University of [Cornfield] came from the right environment and had experience of the implementation of large IT systems [s4]. He/she was the Vice Chancellor of the University of [Elsewhere], where they implemented a similar system [s5]. Therefore, he/she was aware of all the issues, pitfalls and expectations, which he/she was able to share and disseminate throughout the business [s6]. There was ample support from the board of governors also [s7]. The project was agreed at the highest level and was sensibly costed and resourced [s8]. Top management support is arguably a critical success factor for the overall success of the project [s9]." [Registrar].*

The sections that follow apply the different exegetical techniques in phases to show how we proceeded with the data analysis. We found these phases to be nonlinear, and the data analysis developed and improved as a result of applying the exegetical techniques in parallel and through a cycle of hermeneutical analysis. Indeed, we found that moving from the details to the whole and back could take place at any point in the hermeneutical cycle, and each of the presented phases could be an entry point to the interpretive cycle.

### 5.2. Textual criticism

One of the first issues we attempted to resolve was to determine the accuracy of the version of the original text that we possessed and which we continued to use for subsequent analysis. This was achieved by examining the context of the interview and ensuring the validity of the interviewing process. For the above text fragment, the interview setting was the Academic Registrar's office at Cornfield on 3 May 2007. The office was relatively plush, free from much extraneous noise. As stated previously, the questioning about the ERP project followed generally accepted principles in qualitative interviewing, which were designed to encourage the subject to reflect on specific events and contexts and to express his/her story in his/her own words (Myers & Newman, 2007; Rubin & Rubin, 2005).

Textual criticism can also be achieved by examining the validity of the transcription. In our study, all of the interviews were digitally recorded. Most of the subjects were still in the organization at the time of the transcription and analysis, so we could seek them out for further clarification if necessary. In some circumstances, the accuracy of the transcription could be a problem, because the transcriber could have introduced his/her interpretations or misunderstood the subject's comments (Boland et al. 2010). In our case, the interviewer and the transcriber were the same person, thus reducing this risk. Moreover, the transcripts were sent to the interviewees to confirm their accuracy, and no major problems were identified. In summary, we are confident that the text reflects the intended words spoken by the subject.

### 5.3. Linguistic criticism

Linguistic criticism attempts to clarify the definition of individual words and phrases in the text as used by the local community (Ladd, 1967).⁴ These definitions may vary between countries and even between regions in the same country. In our case, the interviewee was the Registrar at Cornfield and was therefore part of the senior management team. The chosen fragment contains elements of his/her understanding of what took place, the meaning he/she attached to those events, and suggests some of his/her causal map. amongst the words and phrases used, we selected the following for clarification: *ERP vendor; Oracle; Cornfield; Board of Governors; President; pitfalls and expectations; large IT systems, sensibly costed and resourced, top management support, and critical success factor* (Appendix C). Unsurprisingly, he/she focused on expressions and words that are congruent with a senior manager's world of presidents, boards, vendors, budgets and success. Throughout the

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³ The names have been changed because anonymity was a condition of access.

⁴ The semiotic square technique (Greimas, 1987) was applied by Corea (2006) in his analysis of IT-based customer service organizations and has strong similarities with linguistic criticism.
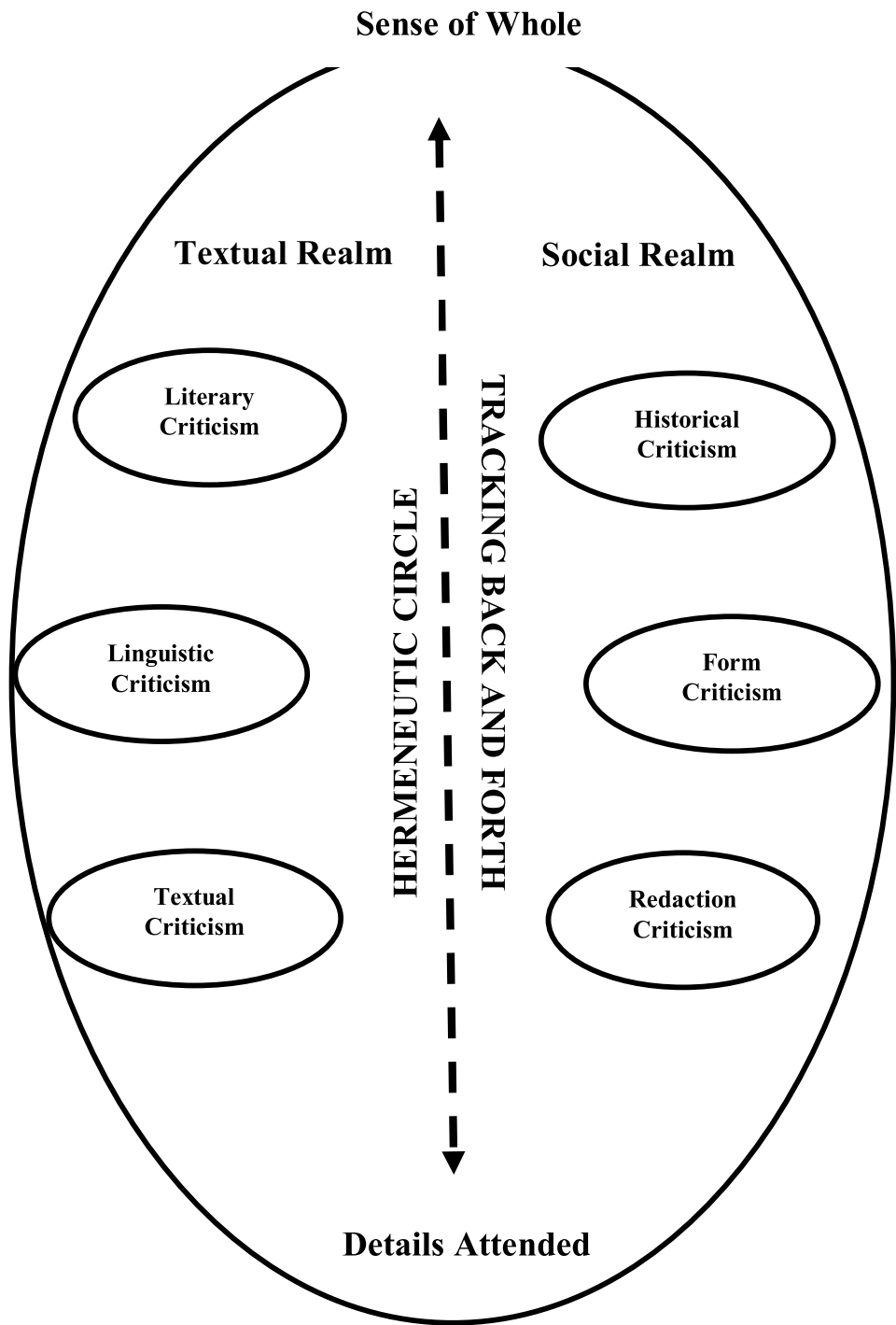
**Sense of Whole**

**Textual Realm**　　　　　　**Social Realm**

Literary
Criticism

Historical
Criticism

**HERMENEUTIC CIRCLE**　　**TRACKING BACK AND FORTH**

Linguistic
Criticism

Form
Criticism

Textual
Criticism

Redaction
Criticism

**Details Attended**

**Fig. 1.** Elements of the hermeneutic circle based on the techniques of exegesis (adapted from Boland et al., 2010).

interview, he/she made no mention of the word *merger* or the words *users, customers* or *clients*. This is despite the strategic focus of the role and despite the fact that, as the historical criticism reveals, this ERP implementation initiative was part of a major change: merging two universities to form Cornfield.

Our linguistic criticism demonstrated that a subject's omissions can be just as illuminating as what he/she articulates in words. We learned that the Registrar avoided talking about the main circumstance under which this ERP implementation became a necessity, and that users and clients were not part of the top management's focus at that time.

*5.4. Literary criticism*

Literary criticism completes the movement from specific words and phrases to a sense of the whole within the textual space of the hermeneutic circle (Fig. 1, Appendix B). It deals with questions concerning who wrote the text (the subject), for what purpose, and in what genre.

Answers to these questions help to locate the text within its author's larger body of work and within extant narrative forms and styles.[5] We considered genre and purpose together, because the author's purpose in a piece of writing is often inseparable from its genre. Genre provides what Kermode (1979) has called "a context of expectation" that guides interpretation (Kermode, 1979). For us as organizational analysts, subjects describing organizational events may also use a variety of literary devices within an interview or a conversation. These may include understatement, humour, irony, exaggeration, metaphor, allegory or sarcasm. We applied literary criticism by first exploring who the subject is and how the moment of this interview was situated for him/her. Subsequently, we explored how the genre, the literary devices found in the text, and the perspective that we took when reading it affected the kinds of meanings that we extracted from it.

In our case, the interviewee was the Academic Registrar at the University of Cornfield,[6] a post that he/she had held well before the merger of Vulcan and Umbra in 2004. He/she was formerly the Registrar at Vulcan, the larger of the two universities. He/she had also been a member of the Vice Chancellor's senior management team since 1994. This contextual analysis revealed that because the Registrar came from Vulcan, the larger entity in the merger and the one that had previously employed Oracle systems, he/she might have favored a similar system or preferred the adoption of Vulcan's business processes. We examined these issues further as we moved from the details to the whole as part of our hermeneutic approach.

To elucidate useful information from the text as part of a literary criticism approach, an important element to explore is the genre (the sort or type) of the text under study. Our text reads like a highly guarded confessional combined with shared insights from an IT expert. At the same time, it reveals the subject's highly logical approach and top-down understanding of how the ERP system was chosen and implemented successfully (as implied) at Cornfield. We suggest that it portrays the subject's causal map, and he/she described what occurred as if the events were part of a "critical success factors" research study in IS and related independent variables (top management support, resources, proven technology, presidential experience and support) to the dependent variable (successful implementation). Pictorially, we suggest that the causal map could be visualized as in Fig. 2, Appendix B.

This causal map could have been extracted from a popular textbook on management information systems (for example, Laudon & Laudon, 2007, p. 572–575), with one exception: the map does not include end-user involvement, which is often thought to be an essential ingredient of successful projects (see for example, Ives & Olson, 1984). We argue that this issue is likely to produce problems in the future, emanating from users who became what others have referred to as "angry orphans" in the implementation process (Hanseth & Ciborra, 2007, p.39). There is also a hint in the text that the President was appointed partially because of his/her experience of this specific brand of ERP at the University of Elsewhere, in addition to his/her experience of overseeing a merger at the University of Nearby. Once he/she delivered the merger of Vulcan and Umbria to create Cornfield, the President next turned his/her attention to implementing the same brand of ERP system, which is another thread revealed by the historical criticism.

The literary criticism, with its attention to genre and literary devices, opened up a new realm of interpretive possibilities within this text fragment. Our brief exploration of the text as a guarded confessional portrays the subject revealing his/her plans to the interviewer and how these plans unfolded in a logical and successful manner. Other critics might approach the text with a different reading, thereby opening up further possibilities for interpreting its meaning. The movement back and forth between the detail (text) and a greater sense of the whole (linguistic and literary criticism) leads to deeper insights in recovering the subject's meaning and subsequently appropriating the text for our own purposes in a process of revelation and discovery.

### 5.5. Historical criticism

In analyzing our text fragment, we then emphasized the social space of the hermeneutic circle (Fig. 1 in Appendix B) and considered the whole economic and organizational context in which the text was produced (historical criticism) through the social practices of the local community that produced it (form criticism) to the details of its author and situated moment of production (redaction criticism).

Data from an organizational field study arise in the historical, cultural and socio-political contexts of organizational events. These contexts and their importance for interpreting a text are the concern of historical criticism. It is this approach that organizational analysts will be most familiar with, and many elements of historical criticism have already been mentioned by earlier research. In light of the previously quoted text fragment, we can see that some of its features point to landmarks in the trajectory of the project over its life span. The subject reflects on past events (antecedent conditions), describes the successful process of implementation, and talks about the current situation (a successful system as an outcome). These main features are represented diagrammatically in Fig. 3 in Appendix B, and a summary of the text is mapped onto the diagram with links to the key events and dates.

### 5.6. Historical choices

In the following sections, we further examine the antecedent conditions of the ERP as portrayed in the text fragment. We focus on lines from the text fragment and details of their antecedent conditions as gathered from different sources of data, including documents and interviews.

### 5.7. Cornfield is the product of merging two major universities

Vulcan and Umbra universities were merged in October 2004. In the pre-merger universities, the IT governance was a devolved tripartite structure where responsibilities were delegated from the center to faculties and schools. After the merger, there was a need for – and a substantial drive towards – further decentralization. This could be seen as an attempt to facilitate the merger at a strategic level and gloss over possible operational obstacles. Hence, the operational differences were kept, and decisions relating to them were left to the faculties and schools. However, the strategy shifted back to a centralized approach once the merger had been carried out. This could be viewed as a desire to create a shared operational model once the ownership was stablized and the university had adapted to its new strategic post-merger structure. More plausibly, it could also be seen as top management taking greater control of the merged organization by centralizing the decision-making when the merger was complete *and* the opportunity arose (Bob-Jones et al., 2008).

To understand this issue further, we cross-examined another text fragment from the business case. In this text fragment, quoted below, operational integration surfaced as a key objective, thereby confirming our initial view:

*"the current system, whilst providing the functionality necessary to effect the basic functions of student administration, … and some external and internal statistical reporting, **lacks integrated functionality** to provide a 'cradle to grave' administration for all enquirers, applicants, students, graduates, alumni and life-long learners." [Student System Project – Business Case, Release 2.0 - October 2007 – emphasis added]*

"The President had implemented a similar system... [and] was aware of all the issues, pitfalls and expectations…" [s4–5]

The President came from the University of Elsewhere in October

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[5] Literary criticism is also concerned with how different assumptions in approaching a text (such as feminist, structuralist, reader-centred) yield different meanings.

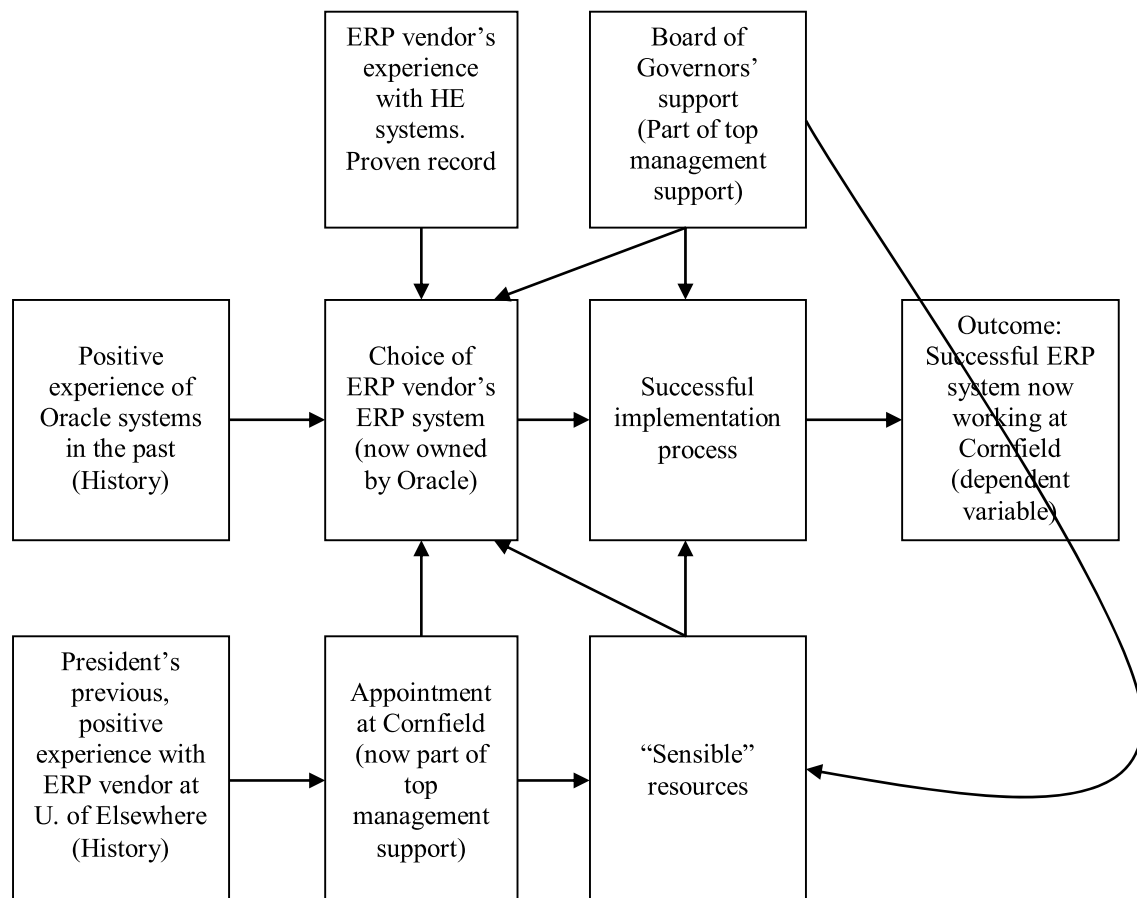[6] Some of this information was derived from the university's website.

**Fig. 2.** Uncovering a top manager's view of system implementation success at Cornfield (adapted from Boland et al., 2010).

2004 and was appointed to Cornfield as President and Vice Chancellor to plan for the launch of the single university. Prior to his/her appointment at Elsewhere, he/she was Vice Chancellor of the University of Nearby, where he oversaw a merger with that university's main competitor, the Nearby Institute of Technology. In the text fragment, there is a hint in the subject's sentences that there were problems at Elsewhere, when implementing a similar system, which the President was very much involved with and supported. The President's support would be seen as invaluable in the new project at Cornfield; therefore, his experience would have been a key feature in appointing him.

However, the new President was not without critics. A book by two authors from the University of Elsewhere claimed that during and after his/her tenure, Elsewhere had lost sight of its fundamental role as a public institution; that managers wielded too much power and did not understand the needs of academics; and that the democracy of the institution had been eroded (reference omitted to maintain the access condition of anonymity). The President played a key role in establishing and subsequently developing Elsewhere University Private Limited (EUP), a private university established to work alongside the University of Elsewhere in order to circumvent regulations limiting the money-making educational ventures of universities. Unfortunately, the venture was a financial disaster and the Governing Council borrowed $150 million from a bank and agreed to provide additional money from its investment reserves to rescue EUP.

"ERP vendor products and services had a good and well-proven track record" [s1–2]

We found that there was a rhetoric surrounding the implemented software. This rhetoric focused on the suitability of the ERP software in a university context, given the fierce criticism that it faced in the market. For example, it was reported that 8 out of 10 major US universities using this software were strongly dissatisfied and that the affected universities

had written to the CEO of the company "slamming the poor performance, poor quality and poor deployment" of the software.[7]

Moreover, the ERP vendor was acquired by another software house (Oracle) in December 2004[8] and the larger university in the merger, Vulcan, was already using the Oracle Education System (OES). Vulcan's OES was an old, terminal-based Oracle system developed through a partnership between Vulcan, Oracle and an accounting consultancy, with the university system being sponsored by the government. This project collapsed amidst some acrimony. However, some useful components were delivered and Vulcan was using these at the time of the merger. In addition to the OES, other legacy systems at Vulcan included Alta HR (HR/payroll) and Symmetry Financials (finance).

On the other hand, Umbra, the smaller university in the merger, had a program for changing all of their IT systems before the merger. By the time the merger occurred, they were using current and newly installed systems. These systems included Agresso (finance), SITS (student systems) and Alta HR (payroll). Table 2 compares the systems in use in the two universities. This evidence suggests that the connection with Oracle in the larger university in the merger played a significant role in the decision to an ERP vendor and system.

This suggestion was triangulated with another fragment of text from an interview with a senior technical manager:

*"A key meeting took place with regards to 'options' on the students' system … . In this meeting, there were four 'options' tabled, such as: Option 1: keep SITS for two years, then go back out to tender; Option 2: get rid of OES; Option 3: get rid of SITS and keep OES; Option 4: go out to tender for a brand*

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[7] http://www.cbronline.com/article_cg.asp?guid=87E9AF58-CDC4-4D23-95E8-7C9FB1CE3463 (accessed in 2008).

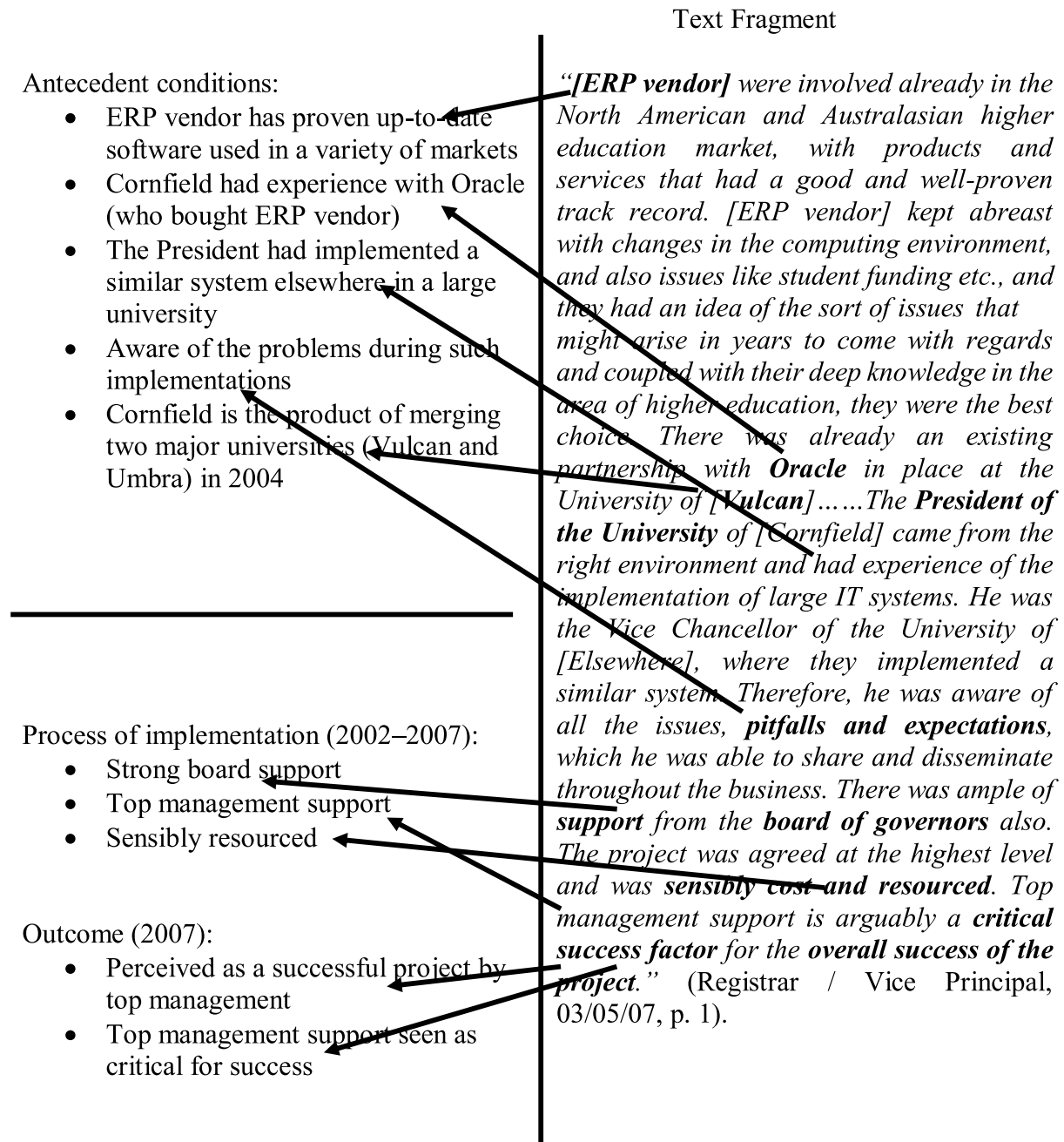[8] http://www.oracle.com/corporate/press/2004_dec/acquisition.html

Text Fragment

Antecedent conditions:
- ERP vendor has proven up-to-date software used in a variety of markets
- Cornfield had experience with Oracle (who bought ERP vendor)
- The President had implemented a similar system elsewhere in a large university
- Aware of the problems during such implementations
- Cornfield is the product of merging two major universities (Vulcan and Umbra) in 2004

Process of implementation (2002–2007):
- Strong board support
- Top management support
- Sensibly resourced

Outcome (2007):
- Perceived as a successful project by top management
- Top management support seen as critical for success

*"[ERP vendor]* were involved already in the North American and Australasian higher education market, with products and services that had a good and well-proven track record. [ERP vendor] kept abreast with changes in the computing environment, and also issues like student funding etc., and they had an idea of the sort of issues that might arise in years to come with regards and coupled with their deep knowledge in the area of higher education, they were the best choice. There was already an existing partnership with **Oracle** in place at the University of [**Vulcan**]……The **President of the University** of [**Cornfield**] came from the right environment and had experience of the implementation of large IT systems. He was the Vice Chancellor of the University of [Elsewhere], where they implemented a similar system. Therefore, he was aware of all the issues, **pitfalls and expectations**, which he was able to share and disseminate throughout the business. There was ample of **support** from the **board of governors** also. The project was agreed at the highest level and was **sensibly cost and resourced**. Top management support is arguably a **critical success factor** for the **overall success of the project**."* (Registrar / Vice Principal, 03/05/07, p. 1).

**Fig. 3.** Historical analysis of the text fragment (adapted from Newman & Pentland, 2010).

**Table 2**
Pre-merger systems in use.

| Organizational function | Vulcan | Umbra |
|---|---|---|
| Student management | Oracle Education System (OES) | SITS |
| HR/payroll | Alta HR | Alta HR |
| Finance | Symmetry financials | Agresso |

*new system, etc. … the case for each of those options for discussion. The majority of people (from Vulcan) would not accept that SITS would have been capable so the decision was made to go out to tender for a brand new system"…. [Vulcan]… exhibited a culture to have an expensive and very glossy system. [Senior Technical Manager]*

From the above text fragment, we concluded that the choice of system was strongly influenced by the choice of top management at the larger university and that their Oracle connection influenced the choice of that particular ERP vendor and system.

*5.8. Process of implementation*

Moving on from the historical choice of ERP system vendor we analyzed the process of implementing the new system. The text fragment from the Registrar's interview confirmed the strategic nature of the ERP implementation. We noticed that few details about the implementation process were mentioned, apart from the references to costing, resourcing and top management support. The subject's focus was mainly on the antecedents and outcomes. To draw out previously obscured meanings, we examined the text fragment on costing, resourcing and top management support. This examination was complemented with more details about the process found in other sources.

*5.9. "Sensibly costed and resourced" [s8]*

The student records system alone was budgeted at $21 m. The overall budget for the entire suite of systems purchased from the ERP vendor, including financials, was $85.6 m. However, the budget was not a limiting factor in this project. This became evident through our discovery that the university suffered from a serious financial deficit, which was offset through a voluntary redundancy scheme while the ERP project funding was kept intact.

*5.10. "Strong board support [s7]–Top management support [s8–9]–Top management support seen as critical for success" [s9]*

In general, this view was uncontested by management and users. Both sets of stakeholders felt that the support from the top management and the board was very strong and sustained throughout the project. The following two quotes from interviewees support this claim.

*"[The] Programme Board called IS Programme Board (ISPB) – consisted of senior management and YES there was definitely top management support for the project, and huge commitment." [Manager]*

*"Each project was charged with establishing its own goals. But these goals had to be aligned to the 2015 vision set out by the university, which is a separate document and campaign to become a world leader in higher education. Strong commitment was given from the highest level, otherwise the budget would not have been approved in the first place." [Student Systems Project Manager]*

The Registrar and other senior managers felt that the outcomes of the project and the technical installation of the new ERP system were successful in terms of producing standard documentation across the merged universities that could aid decision-making [s9]. However, many of the texts from the interviews with end users reflected feelings of being ignored and marginalized during the development period, and their involvement during the implementation period was perceived as a ceremony and tick-box exercise. The end users' texts revealed that they had highlighted key operational problems and deficiencies of the system in system configuration meetings and other meetings during the implementation process, but these issues were glossed over or ignored. This led to major and costly post-implementation adjustments and additions to the system. For example, one of the end users (also a functional trainer) laments:

*"Issues were brought up in meetings but astonishingly, they were not addressed prior to go-live. As a result, when the system was operational, these issues (mainly to do with postgraduates) started to appear on a regular basis and the users were subject to repeated logging and reporting of problems, which were initially addressed but were never incorporated into the system. A series of meetings with the project management team and implementation team were arranged as a result to devise a solution to addressing the problem, post system rollout." [End User and Functional Trainer]*

One of the end user expressed that some of what was implemented came as a surprise to them, because the implementation decisions had ignored the issues that they had raised at various meetings during the implementation process.[9] Another end user expressed this as follows:

*"…users were told of problems at the last minute and were informed that certain functionalities won't work when the system went live. There was no prior warning or period of notice to help prepare users for the setback to the system. It was simply dumped onto their laps and left to cope…" [End User and Functional Trainer]*

All of the end users we spoke to expressed similar opinions about the events as they perceived them. Although some had been consulted, most of their requests for changes and comments concerning the workings of the new system were ignored, and staff were left to devise workarounds to cope with the system's failings:

*"There is a general feeling of non-involvement in the system design, and it doesn't incorporate users' needs. Manual 'paper-based' systems and indeed spreadsheets have been used frequently as a supplement to the new system when doing certain procedures. This could be because of the steep learning curve of a brand new system and is probably a step backwards!" [End User 2, Postgraduate]*

Deficiencies in the system's functionality, and difficulties for end users in coping with them, also surfaced in the text. Users highlighted problems with the postgraduate administrative processes and mentioned the inability of the technical staff to embed those processes into the system. One of the users reported: "[t]he technical staff do not seem to understand how the postgraduate students fit into the system" [End User and Functional Trainer 1].

The functionality of the ERP system with regard to collecting fees was also highlighted as inadequately addressed:

*"One of the main issues raised was to do with fees collection [bench fees[10]]. There was a genuine concern that the information that was previously inputted into the old legacy system regarding bench fees for students would appear in the new system. This reassurance was not upheld and in fact such information was missing. Therefore, some students have subsequently not been invoiced for bench fees totalling in the hundreds of thousands of [dollars]" [End User and Functional Trainer2]*

Another example of a deficiency of the system was the functionality relating to group marks:

*"To input group marks, you have to go into three or four screens and then make sure that the weighting [credits] of the course are correct, so that when everything is totaled up, the final total is correct. Once final checks of the marks are made, they are then exported out to a spreadsheet. However, the flaw with the system is that it only represents whole numbers and not decimals. So if a student did three pieces of coursework all worth equal marks out of a total weighting of 100% (33.33% each), the system cannot represent this. It can only recognize whole numbers such as 25%, 30% and 50%, etc. This means that marks generally cannot be broken down further in the system. This means that a lot of the time, it is the final group marks that have to be put into the system, as it cannot be broken down to show the individual student's marks." [End User 2, Postgraduate]*

Another administrator (end user) mentioned a deficiency in how the system displays and processes exam marks:

*"In terms of examination marks, the system cannot represent what questions were answered. It will only accept the final mark of the exam. Therefore, all of the work that goes into calculating the individual exam question marks has to be done using a spreadsheet. This is a very time-consuming task!" [End User 3]*

The effectiveness of the external consultants in the implementation of the ERP system was a contested subject, with radically different views held by different stakeholders. The senior management found handing control to the consultants to be more effective, but many middle managers found that the consultants fulfilled their role poorly and described a negative relationship. A manager of one of the sub-projects explained:

*"… a great deal of trust was given to the specialists [consultants] who were brought in and as a result, they were given full control of their area of expertise within the university context during implementation." [Student Systems Project Manager]*

Another manager described the consultants' role as a "nightmare", highlighting their deficiencies as follows:

*"The only real nightmare was the consultancy firm [CIBER], who were terrible. They lied on numerous occasions, especially during the tendering process, made poor decisions and were extremely expensive." [Technical Manager, IT Services]*

In addition, the program manager described the senior management's backing of the consultants, and the consultants' superior position in the relationship, as leading to a poor relationship with the

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[9] Top management had given consultants "full control" over the implementation.

[10] Bench fees are determined by the degree course a student is undertaking. The fees are normally paid to offset the use of equipment, chemicals and so on.

implementation team:

*"Bad relationships with the implementation partner CIBER, which required a lot of managerial involvement, time and effort. CIBER were poor, they did not deliver on their promises. The quality of the patches was bad and riddled with errors. General performance from CIBER was unsatisfactory."* [Programme Manager]

### 5.11. Outcomes

The senior management believed that the system had been implemented successfully. This is expressed as follows in the text fragment: "Perceived as a successful project by top management" [s9]. The managers felt that the system helped to achieve the strategic objective of stabilizing the merger and centralizing decision-making across the merged universities. In this regard, one manager expressed that the system provided "an air of centrality":

*"It's having a beneficial effect in that there were lots of areas in [Vulcan] that did not use any kind of centralised system for lots of things and now [the system] is bringing an air of centrality to processes and tasks, which was absent in the past. Therefore, [the system] is steadily driving the culture of change."* [Senior Technical Manager]

However, the end users described several shortcomings and deficiencies of the system, which required elaborate, time-consuming workarounds and laborious manual bridging to overcome. These views were expressed repeatedly, as represented by the following examples:

*"…certain workarounds are being used to address the deficiencies of the new system by administration staff for eGTP.[11] The eGTP system process follows a cycle from the point of student information being entered into the new system right through to students' enrolment onto WebCT courses. However, there are several 'breaks' in the cycle; therefore, the workaround involves troubleshooting checks to find out what the problem is, where it occurred in the process and highlight potential solutions. There are some processes that require a generic workaround to address common problems; but other more specific processes and problems require a manual individual workaround."* [End User 1, Postgraduate]

*"The interfacing properties are poor because there are so many screens which the user needs to access in order to get the information required."* [End User 3]

In their daily struggle to make use of the system and complement it with various workarounds and manual activities, some users attempted to use the old system as a solution to gaps in important functionality. This resulted in the outcome that "[c]ertain schools just didn't use [the new system]". The senior management's interpretation of this behavior was that users were resistant to change and that they would start to use the new system once the old one had been terminated:

*"Users kept using the old legacy system (OES) until it got switched off … . This was because the users didn't want to start getting acquainted with [the new system]. There was definite user resistance to adopting [the student system]."*

Later, extensive post-implementation amendments, additions and adjustments were made to the system to rectify the operational gaps, inconsistencies and deficiencies.

### 5.12. Form criticism

Form criticism is highly relevant to many organization studies because these studies are retrospective. If one is interviewing members of an organization and asking them to recall events from several years ago, form criticism may aid understanding of what sources were important to them and what influenced their perspective at the time. In this case, we were interested in the oral traditions of an organization, which our subjects drew upon. For example, there are often stories,

anecdotes and myths within an organization that are passed orally from one person to another (Boje, 1991; Morgan, 2020; Hirschheim & Newman, 1991). When describing events, an individual may use colorful language with origins in oral traditions amongst managers or in the workplace. In addition, oral traditions can eventually be recorded in a written document, as found by Boland et al. (2010) in an organization they examined.

According to Hardy (1991), the University of Cornfield would be categorized as a "professional bureaucracy", so there would be a combination of "forms" and media conveying information and understanding about past events. Some of these forms and media would be recorded (memoranda, emails, reports) and others would be transmitted orally (stories, anecdotes, myths, metaphors and sagas). These would combine to form mental traces and causal maps revealed in the interviews as part of the storytelling.

Returning to our text fragment, the Registrar revealed something of the causal map that he/she employed to understand how the world works, and this is likely to relate to managerial mythology[12] held at Cornfield at the time. As shown in Fig. 3 in Appendix B, our reading observed the following examples of this: "through a strong coalition of senior managers and the vendors (Software A/ ERP Software)" [s1 and s3]; "the President's experience and influence" [s4–s6]; "top management and the board's support" [s7–s9] and board-approved "sufficient funds" [s8]; and "we delivered a successful system" [s9] that "will provide up-to-date functionality well into the future" [s2].

However, informed by the historical criticism above, we also observed that several of these issues were contested by other stakeholders. As with most stories, there was more than one view of events. We accept that each individual was interpreting the events as he or she saw them, and by using multiple witnesses we attempted to triangulate common events. Furthermore, we accept that the same person may interpret events differently in different social settings. Form criticism helps us to begin to understand how an interviewee's report of events can be influenced by the oral traditions and social practices in an organization and the communities of practice that he/she draws upon, opening up possibilities for further interpretations. However, as shown the following sections, the managerial elite accepted the high cost of modifying a standard system extensively to suit the university's business model, and this had profound and ongoing implications for Cornfield and how the "complex business" of the university would be run. These modifications became Cornfield's management team's "redactions".

### 5.13. Redaction criticism

The final exegetical technique for shifting focus from the whole to the detail in the social realm is redaction criticism (Boland et al., 2010). Because form criticism emphasizes the role of the oral tradition in shaping a text before it is committed to writing, its adherents often portray the act of writing as a mechanical process of assembling and recording. In contrast, redaction criticism sees the writer as far more creative and active in shaping the text (Perrin, 2002, 1969). Redaction refers to the way in which an individual adapts material from an oral tradition and colors that material in their narration, and redaction criticism is the analysis of this process (Lee & Dennis, 2012; Tuckett, 1987, p. 117).

In the Registrar, we observed an actor with a developed and sophisticated causal map who was able to reflect on six or more years of history and make sense of it (as demonstrated above). He/she was a creative producer of his/her story (i.e. the text).[13] The Registrar made light work of the interview, offering a plausible explanation of why the project was successful and detailing the critical success factors [s9]. As

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[11] eGTP: electronic Graduate Training Programme.

[12] Mythology is used here in the sense of a commonly held view of causality.
[13] It is beyond the scope of this study to uncover how this creative process takes place. However, we can comment on the outcomes of the process.

noted previously, what was missing from the Registrar's story was the end users, who were never mentioned in the interview. This reflected a subtle change in how the university was to be run in the future (as a "complex business"). The users, just like the schools, were marginalized. The Registrar also seemed supremely confident that his/her explanation was correct: having identified that the system was a success, he/she offered reasons for that success. No scintilla of uncertainty was portrayed.

Cornfield's senior management did not implement the standard package supplied by the ERP vendor as an "off the shelf" solution, because they knew that it would not be a good fit with the nature of university business. Instead, they spent a significant proportion of the budget on tailoring the system to meet the university's new business model. The ERP system, in its modified form (or what we might now term the redaction) inscribes a centralized, top-down, business organization (Bob-Jones et al., 2008; Elbanna, 2007). Hence, the newly modified system enabled managerialism to replace the feudal "fiefdoms" of the past in the university's schools and departments (Heiskanen et al., 1998; Bob-Jones et al., 2008).

### 5.14. Concluding remarks on the exegetic treatment of the text

Redaction criticism completes our use of the six exegetic techniques to open up new possibilities for interpreting the text fragment from Cornfield. We described these techniques sequentially as a didactic strategy for highlighting the unique contribution that each exegetic technique can make to an evolving interpretation. In practice, the techniques would more likely be used in combination, intertwined in a mutually informative way. In addition, as indicated in several places, any one exegetic technique can reinforce or modify a line of interpretation raised by another technique. This further promotes movement back and forth in the hermeneutic circle, and an alternating enquiry into details and a sense of the whole, which maintains openness in interpretation.

## 6. Discussion

This study provided a critical examination of the role of top management support in IS implementation. It applied hermeneutic analysis on the basis of the exegetical techniques of Boland et al. (2010). The reason for choosing hermeneutics is that this type of analysis created an opportunity to go beyond the dominating paradigm and its positive bias to provide an unbiased understanding (Gibbons, 1987). Hermeneutical interpretation allowed us to systematically move iteratively from the parts to the whole, thereby recovering, uncovering and discovering meaning (Gibbons, 1987). Indeed, "the harmony of all the details with the whole is the criterion of correct understanding" (Gadamer, 1996, p.117). In this section, we discuss the recovered, uncovered and discovered meanings of the top management's support in the studied case and situate it in the extant literature on IS implementation and top management support.

### 6.1. Recovering the author's original meaning

One of the first issues that we tried to resolve was to establish an accurate version of the original text for subsequent analysis. Textual criticism, together with linguistic and literary criticism, focused on the meaning of the words and phrases in our textual fragment. Our analysis confirmed that in our case, this was not as important an issue as it would be with, for example, ancient texts. At the same time, the textual criticism revealed that interviews cannot be seen as neutral, unbiased information swaps between two passively open participants with no subtext or agenda. As sentient human beings, researchers are inevitably influenced by factors such as the physical interview setting and their own expectations about each other and their interviewees. Other combinations of interview elements would open up possibilities for other

texts, and thereby other stories, to emerge.

To *recover* the essence of the original meaning of the text, we returned to the original published reading of the text to produce a new version. This rewriting emphasizes the traditionally held view that top management support plays a positive role in IS implementation. The text fragment, rewritten on the basis of recovering the original meaning of interviewee, is shown below:

This was a successful project in the eyes of senior managers at the University of Cornfield [s9]. It replaced legacy systems [not referred to] with a state-of-the-art … ERP system [s1–2]. The vendor was selected because Cornfield had a positive past experience with the vendor and the President had experience with implementing a similar system in another university [s3–6]. There was strong support for the change amongst the university's board and the top management team and this support was seen as critical to the success of the project [s7–9]. The project was well-resourced [s8].

### 6.2. Uncovering a hidden meaning: the dialectic of top management support

Our analysis of the text *uncovered* the Registrar's and senior management's understanding of the factors that produced what they believed to be a successful project and how those factors were related (see Fig. 2, Appendix B). This inferred mental causal model related independent variables (top management support, resources, technology, the President's experience and support) to the dependent variable (successful implementation) rather as if describing an IS textbook model for a successful project. However, there are exceptions: the model has no place for business processes, operations or end users. It is also likely that the subject was unaware of this causality. Two such issues were uncovered through our hermeneutic analysis of the texts, and these are discussed in the following sections.

### 6.3. Top management priorities and influence

Our hermeneutical analysis revealed an issue that was avoided and went unmentioned in our interview. Cornfield was in the process of a merger at the time of the implementation, and the ERP system was seen as an enabler of the financial and operational merging of the two universities; hence, it was a means to realize the strategic objectives of the merger. The hermeneutical analysis also showed that this organizational merger played an important role in the decision to adopt new systems and retire others. It showed that the previous experience of the vice chancellor and the previous relationship of between the larger entity in the merger (Vulcan) and the ERP vendor played a crucial role in the choice of the newly adopted system. Successful and contemporary systems were retired in the smaller entity of the merger (Umbra) to facilitate the strategic implementation of the chosen ERP. This is consistent with previous research findings that investment in successful systems could be dumped when organizations merge (Larsen & Myers, 1999; Elbanna, 2007). It also confirms that top management priorities of mergers channel information systems choices and use beyond IS considerations (Robbins & Stylianou, 1999; Giacomazzi et al., 1997). In this regard, top management hyperopia and an unbalanced focus on strategic objectives leads to overenthusiasm and fast-paced decision-making based on biased choices that impact the direction of the system implementation and its future.

### 6.4. The dark side of top management support in IS implementation

The hermeneutical analysis of the case study revealed that the top management was too forceful in pushing a strategic agenda and speeding up the implementation of the ERP. This stronger decision-making and overconfidence swept aside users' views and operational requirements for the implemented system, which discouraged middle managers and users from effective participation in decision-making. The

strong support from the top management pushed the implementation forwards at a faster pace than the organization's capacity to review, carefully consider and accommodate changes in its business processes. This resulted in business processes being inscribed in the system in a way that fell short of satisfying the organization's operational needs. This confirms previous findings that showed the importance of drift in digital transformation in order to respond to different stakeholders (Elbanna, 2008)

Therefore, after the implementation, users were left to fill the operational void in the system through workarounds, improvisation and use of old systems in order to make it work, as elucidated by our analysis. The impact of this "muddling through" was, in some cases, in stark opposition to the overall strategy of optimizing resources. Our analysis revealed, for example, that the organization had to waive irregular (bench) fees because the system was not configured to accept them, thereby losing hundreds of thousands of dollars in uncollected fees. Other examples include the long and costly period of settling the system in, the need to carry out various post-implementation adjustments and reworking, and the inability to conduct postgraduate administration tasks or record accurate group and exam marks.

*6.5. Discovering meaning beyond the text's author or the context of its creation*

Our analysis of the text also *discovered* new meanings beyond the text's author or the context of its creation. It shows that the positive elements of top management support can tip the balance towards producing negative impacts, where users are marginalized and the operational side of the work is left in a chaotic state for employees to cope with and muddle through as best they can while the organization loses important resources. This suggests that top management support is a dialectical phenomenon, where both positive and negative sides might exist in systems implementation. As Eller (1973) explains, a dialectical phenomenon contains the interplay between these two opposing forces and operates out of their dynamic tensions. In this regard, the top management's style and approach influence the relationship between the positive and negative sides of their support and involvement and consequently the outcome of their support (positive or negative) depends on them.

In the case studied, the top management envisaged the ERP technology as being an enabler. They spoke of a need to quicken the pace of work, the importance of communication across departmental lines, and the notion that Cornfield was a "complex business". However, in effect, they guided this enabling role away from the operational level of the business and the day-to-day business processes. This resulted in a slower pace of work, confusing communication within and across departments, and the loss of some irregular revenue streams, producing serious operational gaps that had to be addressed through lengthy and costly post-implementation adjustments, additions and amendments.

## 7. Conclusion and contributions

The positive role of top management support has become a mantra in IS research. It is widely accepted as a condition of successful IS implementation (Holland et al., 1999; Al-Mudimigh et al., 2001; Hong & Kim, 2002), and it is associated with achieving business benefits (Staehr, 2010). This view uncritically equates top management support with "good" support; it assumes that the top management will "do the right thing" and hence will always play a positive role. IS research on top management support could therefore be considered one-sided in the sense that it has a "tendency to become focused on one side of a dialectical problem, that is to pay attention to one side of the truth so as to fail to take into account an equally compelling opposite" (Rappaport, 1986). In management literature, leadership research tended to suffer from a similar positive bias (Kellerman, 2004) until several researchers revealed the dark side of leadership, which includes destructive

leadership behaviour (Einarsen et al., 2007), the negative influence of safety attitudes and consciousness in the workplace (Kelloway et al., 2006), and negative outcomes for the organization and individuals (Padilla et al., 2007). Therefore, we hope that our research will be a starting point for emerging research on the negative role, or dark side, of top management support in the field of IS and technology management.

Our findings show that although top management support can have a positive impact, hyperopia and an unbalanced focus on long-term objectives has the potential to sweep aside the needs of operational processes and end users during the configuration and implementation of systems, resulting in a configuration that does not support the operational needs of the organization. At Cornfield, even though the university was capable of producing a merged financial statement and it appeared (on a higher level) to be following standard business processes, this was made possible through improvisation, sacrifices (sometimes of a financial nature) and long processes. Indeed, hyperopia downplayed the operational problems and led to the implementation being unbalanced, strongly tipping it towards longer-term strategic objectives. In turn, this led to a long and costly period of settling the system in and the need to make various post-implementation adjustments and re-work. This is consistent with the finding of Burt et al. (2015, p. 134) that top management "favors the long term to the extent that the short term is marginalized". Our study also revealed that top management over confidence and stronger decision-making power can result in the organization drifting towards a series of decisions and choices while discouraging other managers (middle managers) from participating in the decision-making. This could drive a costly implementation, operational confusion and lengthy post-implementation adjustments. What appears to be effective at the strategic level can be inefficient at the operational level, costing the organization in time, complexity and loss of financial benefits. These findings are novel in that they flesh out two different views of success while emphasizing that the style and approach of top management support could determine its impact and whether that impact is positive or negative for the system implementation.

The study contributes to management and organization studies and, in particular, IS research in the following ways.

*First*, the study reveals a negative side of top management support in IS implementation that has hitherto been largely unrecognized by previous research. It uncovers the existence of a dark side linked to top management overconfidence, hyperopia and excessive backing and support of systems implementation. In the case studied, these negative aspects were manifested at the operational level of the organization, where day-to-day business processes became a constant struggle for the organization and strategic objectives were produced through costly, laborious and lengthier processes. On the other hand, it was the top management's backing and support that made the technical implementation of the system possible and accelerated its delivery (Lyytinen & Newman, 2014). This led us to discover the existence of a dialectic relationship between the positive and negative sides of top management support. As they refute the "taken for granted" notion that the impact of top management support is exclusively positive, the findings of this study invite an evaluation of the nature of the impact of top management support and propose that the style and approach of top management support impacts information systems implementation.

*Second*, the study contributes to IS and management research through its detailed application of hermeneutics. We applied the hermeneutical circle based on Gibbons' exegetical techniques to systematically and iteratively move from the parts to the whole, thereby recovering, uncovering and discovering meanings (Gibbons, 1987). In addition to revealing a largely unrecognised negative side of top management support in IS implementation, the hermeneutical cycle allowed for the cross-examination of outcomes. This provided a broader perspective that was not limited to a particular time-span or organizational level. Two distinct benefits of this hermeneutical approach led to deeper and more meaningful insights into the case study. First, it considered a timeline that was far broader than the immediate focus of

achieving the implementation, which made it possible to look at the operations and the system in use. On the one hand, this continuous timeline extended beyond that of typical implementation studies, which would examine a system under development up until the end of its implementation and hence might consider Cornfield's ERP implementation a success because the system was technically implemented. On the other hand, the timeline extended further back than most studies of use, which would typically look at how a system is used without paying much attention to the implementation process. Second, the analysis was not limited to a particular organizational level (strategic, operational, or individual user). This allowed us to look beyond the strategic perspective by examining operational and use issues, which provided an understanding of how they are all connected and influenced by strong support from the top management.

Furthermore, IS research that adopts hermeneutics as a systematic method of exploring and understanding information systems implementation and use in an organizational setting remains very limited (Boland et al., 2010). However, the hermeneutic circle has been discussed in IS as being part of interpretive research (Klein and Myers, 1999). This article contributes to our understanding of what is involved in adopting and applying hermeneutics, and what could be revealed that would otherwise have been hidden. It does so through a detailed hermeneutical analysis of a published case complemented by participant observations and reviews of documents and newspaper articles. It also shows that the analysis of texts, whether they are organizational documents or interview transcripts, cannot be separated from their context, other points of view or history. In doing so, this paper aims to support researchers in acquiring "the skill to let things speak which comes to us in a fixed, petrified form, that of the text" (Gadamer, 1996, p. 65). Analyzing the text itself and understanding the organization, triangulating with other points of view, and understanding the history of the text and its producers, are inseparable elements in applying hermeneutics. It is in this way that we can go beyond the interview. As this article shows, hermeneutics has significant analytical power, allowing us to reveal well-hidden and under-represented issues.[14]

However, readers should be aware that the new reading offered here is one of many possibilities and serves to show the essential openness of our approach to interpreting texts. Other readers may have different insights that recover, uncover or discover new meanings of our text or are relevant to situations and data that they are interpreting. This openness follows what Gadamer (1996) calls a "fusion of horizons". The horizon is the range of vision that includes everything that can be seen from a particular vantage point (Gadamer, 1996). It allows a dialogue-like interpretation of the text, where the researcher interrogates it until he/ she achieves satisfactory horizon for enquiry. This is achieved when all the details are in harmony with the whole; or, as Gadamer (1996, p. 117) puts it, "[t]he harmony of all the details with the whole is the criterion of correct understanding. The failure to achieve this harmony means that understanding has failed." By describing a detailed application of a hermeneutic approach to IS phenomena, we hope that we have encouraged other researchers to produce detailed studies themselves.

*Third*, the study contributes to management research in general by extending the examination of the dark side of top management from leadership research to technology and IS management. Finally, the study contributes to practice by showing that top management support of IT projects should not be viewed uncritically as a positive phenomenon. Indeed, it can be a double-edged sword and could be paradoxically positive *and* negative, depending on the nature of the support and the way it is exercised. For example, top management support of an IT project could be beneficial in terms of accelerating the project. Although this acceleration could be strategically beneficial in the long term, it also carries the risk of confusing the operational level of the organization resulting in negative financial and process outcomes in the short-term. Therefore, IT executives should be aware that the involvement of top management in projects could have adverse effects and they should manage this involvement carefully.

The success and failure of systems is a multi-dimensional construct, and evaluating an implementation as a success or a failure is complex and depends on which point of view the implementation is evaluated from (Hwang, 2014). Hence, we have not referred to failure in this paper; instead, we have explained the negative aspects, which include confused operations, major and costly post-implementation adjustments that took years to settle while producing surface merger documentation.

We hope that this research will encourage other researchers to critically examine the role played by top management in systems implementation and the impact of the different styles and approaches of support that they offer.

### Authors' Statement

Text Fragment

### Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.techfore.2021.121411.

### Appendix

**Appendix A**
Interview details.

| Title of interviewee | Number of interviews 2007 | Number of interviews 2014–2015 |
| --- | --- | --- |
| Deputy head IT services | 1 | 1 |
| Students systems project manager | 1 | |
| Senior technical manager | 1 | |
| University registrar / Vice principal | 1 | |
| Program manager | 1 | |
| Senior finance officer | 1 | |
| Financials project manager | 2 | |
| Faculty finance officer | 1 | |

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[14] Large integrated packaged software solutions based on modules and a single database.

**Appendix A** (*continued*)

| Title of interviewee | Number of interviews 2007 | Number of interviews 2014–2015 |
| --- | --- | --- |
| Project team member | 1 | |
| Senior user 1 school of computer science | 1 | 1 |
| Senior user 2 | 1 | 1 |
| End user and functional trainer 1 | 1 | 1 |
| End user and functional trainer 2 | 1 | 1 |
| End user 1 postgraduate | 1 | 1 |
| End user 2 postgraduate | 1 | 1 |
| End user 3 | 1 | 1 |
| End user 4 | 1 | 1 |
| End user 5 | 1 | 1 |
| Total | 19 | 10 |

**Appendix C**

Linguistic criticism of key terms in the text.

| | |
| --- | --- |
| ERP vendor | Large US software supplier specializing in supplying enterprise resource planning (ERP) systems to universities internationally. Bought by the Oracle Corporation (December 2004) |
| Oracle | Large US software supplier that bought ERP vendor. Vulcan had experience of Oracle systems before it bought the ERP vendor software, and this probably influenced Cornfield's purchase decision |
| Cornfield | A large top-ten university formed by the merger of two major universities (Vulcan and Umbra) in October 2004 |
| Board of Governors | Part of the governance structure common in most universities involving senior people from a variety of backgrounds. Their approval would be important in securing the funds for the project |
| President | The equivalent of the CEO of a company. He/she was hired in 2004 |
| Pitfalls and expectations | All new systems experience problems (pitfalls) and some raise unreasonable expectations. This phrase is probably an understatement of the President's experience during the implementation of a similar system elsewhere (another country), where, coincidentally, the same person oversaw a merger of two universities as Vice Chancellor (a similar position to President). These experiences were probably significant in his/her appointment at Cornfield in 2004 |
| Large IT systems | Large IT systems are particularly difficult to implement and are often subject to delays and budget overruns. Universities are especially problematic owing to their decentralised decision-making structure, which some have referred to as fiefdom-like |
| Sensibly costed and resourced | Again, this was probably an understatement. Resources were generous for this kind of project (approx. $27 m for the student system alone). Money was never going to be a deciding issue |
| Top management support | A small group of senior managers (the Registrar, President and others) who were active in negotiating with the supplier, selecting the software, promoting the systems development and providing sufficient resources until the system was delivered |
| Critical success factor | Received wisdom that top management support is essential (i.e. critical) for the delivery of a successful software system |
| Antecedent conditions:<br>ERP vendor has proven up-to-date software used in a variety of markets<br>Cornfield had experience with Oracle (who bought ERP vendor)<br>The President had implemented a similar system elsewhere in a large university<br>Aware of the problems during such implementations<br>Cornfield is the product of merging two major universities (Vulcan and Umbra) in 2004<br>Process of implementation (2002–2007):<br>Strong board support<br>Top management support<br>Sensibly resourced<br>Outcome (2007):<br>Perceived as a successful project by top management<br>Top management support seen as critical for success | "*[ERP vendor] were involved already in the North American and Australasian higher education market, with products and services that had a good and well-proven track record. [ERP vendor] kept abreast with changes in the computing environment, and also issues like student funding etc., and they had an idea of the sort of issues that might arise in years to come with regards and coupled with their deep knowledge in the area of higher education, they were the best choice. There was already an existing partnership with* **Oracle** *in place at the University of [Vulcan]……The* **President of the University** *of [Cornfield] came from the right environment and had experience of the implementation of large IT systems. He was the Vice Chancellor of the University of [Elsewhere], where they implemented a similar system. Therefore, he was aware of all the issues,* **pitfalls and expectations**, *which he was able to share and disseminate throughout the business. There was ample of* **support** *from the* **board of governors** *also. The project was agreed at the highest level and was* **sensibly cost and resourced**. *Top management support is arguably a* **critical success factor** *for the* **overall success of the project**." (Registrar / Vice Principal, 03/05/07, p. 1). |

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