

Quality Success: Do Organisational Learning Attributes Make a Difference?

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Abstract

The purpose of the study is to investigate the learning attributes of organisations following a continuous improvement approach to operations. The focus will be on the examination of organisations with both successful and unsuccessful quality programs to identify organisational learning attributes that discriminate the organisations at either end of the success continuum. Data was collected through a survey sent to Australian organisations certified to quality standard ISO9000. The findings suggest that organisations that have a quality program that has exceeded expectations have been able to develop and encourage the attributes necessary for a learning organisation. It would appear that learning has been an important lever for these organisations to succeed in the quality endeavours. The findings of the study provides further empirical evidence of the role organisational learning has in improving organisational outcomes especially in relation to quality practices.

Keywords: organisational learning, learning organisation, continuous improvement, quality management

1. Introduction

Total quality management (TQM) has three core elements: meeting customers' expectations, continuous improvement of organisational processes, and accessing and using employee skills and knowledge (Dean and Bowen, 1994; Evans and Lindsay, 1996; Sitkin, Sutcliffe and Schroeder, 1994). It can be seen to operationalise by continuous improvement of business activities and thereby enables organisations to respond to changing demands from the business and operational environment (Nicolini and Mezner, 1995; Sambrook and Stewart, 2000). Therefore, TQM is a key capability for developing and sustaining a competitive advantage (Tranfield, Duberley, Smith and Musson, 2000). As there is no universal definition of quality, an organisation will need to develop its own working definition (Reeves and Bednar, 1994) which will evolve from an organisation establishing its quality philosophy, which will be sourced from the organisation's view of the future (Chapman, Murray and Mellor, 1997; Groth, 1995; Lau and Anderson, 1998; Sinclair and Zairi, 1995; Srinidhi, 1998).

Prior studies have shown that 60% - 80% of attempted TQM implementations failed to meet the organisations' objectives (Lau and Anderson, 1998, p.85). It is suggested that TQM success is dependent on an organisation's ability to learn, to absorb, to adapt and to apply conceptual changes and integrate these throughout the organisation (Ford, 1991, cited by Terziovski, Howell, Sohal and Morisson, 2000). Perhaps the underlying reason behind the lack of success of some quality programs is that the processes put in place lack the necessary cues for quality learning. The proposition put forth is that an organisation having a quality philosophy of continuous improvement will be more likely to raise its competitive position by improving either product or service performance. For this competitive advantage to be both realised and sustained the organisation must embed continuous improvement into its operations. Organisational learning will be the link that will enable the organisation to both sustain and improve its competitive position by helping to avoid repeating mistakes; building sensitivity to the business environment so that the organisation can better adapt; and improving operations by understanding weaknesses and then looking at how best to correct them (Lee, 1995). Therefore, learning may involve error, which, through reflection, should allow improved practices in the future, with learning seen to have occurred when an organisation performs in changed and better ways (Dodgson, 1993).

This empirical research may further contribute to an understanding of how organisational learning has supported quality programs. The focus will be on the examination of both successful and unsuccessful quality programs to identify organisational learning attributes that differentiate the two groups. Obviously this leads to the question

of how success is to be measured? In this study it is based on a subjective assessment made by the individual respondents about how their organisation has fared in its quality endeavours. As each organisation will have different benchmarks against which to measure success the response given will reflect each respondent's assessment of their organisation's achievement against the predetermined target.

2. Literature Review

By the adoption of a continuous improvement philosophy in its operations, an organisation sends a strong message that it wants to improve the way the business currently operates. Egan (1993, p.182-183) provides insight into the relationship between quality and learning by highlighting that both should co-exist within the organisation, and echoes the need for organisations to be aware that opportunities for improvement are possible:

“...quality ...is not a goal but an unending quest. Everything can always be done better; quality can always be improved. A sound strategy can always be fine-tuned. Work programs can always be more cost-effective and productive. Managers can always find better ways of hiring and developing people. Supervisors can always manage people better. Leadership can always be more deeply ingrained in the institution. Total quality and constant learning are inseparable...”

The learning organisation is seen as a metaphor for the ideal company which has the capability to adapt to changes in its environment and to respond to lessons of experience by altering organisational behaviour (DiBella and Nevis, 1998). This view is supported by Wick and León (1995, p.299) who consider a learning organisation “as one that continually improves by rapidly creating and refining the capabilities needed for future success”. Organisational learning can be practised in any organisation, but may vary in the magnitude of its application, and may only impact on a particular event or segment of the organisation. Therefore, organisational learning can be found in any organisation, but a learning organisation will embody organisational learning in all its actions and exemplifies the ideal application of organisational learning. Learning organisations are those that purposefully construct structures and strategies so as to enhance and maximise organisational learning (Dodgson 1993). On a continuum of learning, a learning organisation would display the highest level of organisational learning with other organisations moving towards this state by the adoption of the attributes to encourage organisational learning. Therefore, it could be expected that an organisation that has successfully embedded continuous improvement within its operations would display the attributes of a learning organisation.

To achieve the benefits learning brings to an organisation, Wick and León (1995) have identified five elements, which they consider are mandatory for creating a learning organisation. They suggest that the absence of any element may lead to an organisation either learning the wrong things or learning at a level less than full potential. The five elements are: (1) Leadership - a leader with a clearly defined vision; (2) Planning - a detailed measurable action plan; (3) Information dissemination - the rapid sharing of information; (4) Innovation - inventiveness in the approach to problem solving; and (5) Implementation - action taken to implement output of decision making. Also the making of the learning organisation will require the development of certain disciplines or skills. Senge (1990) has identified the following “pre-requisites”, which have also been supported by the work of others (Terziovski et al., 2000). Systems thinking - the notion that systems can only be understood by contemplating the whole rather than the individual parts. Personal mastery - relates to competency gained through a commitment to life-long learning. Mental models - the assumptions, generalisations or even pictures or images that influence how we understand the world and how we take action. These can also restrict our understanding to that which makes sense within the mental model, which may limit individuals to familiar ways of thinking and acting. Building a shared vision - providing goals, values and a mission - gives everyone a shared identity and future - important for management to provide direction. Team learning - when the collective intelligence of the team exceeds the intelligence of its individual members.

Bennett and O'Brien (1994) identified twelve key factors that influence an organisation's ability to learn and change, however, they note that not all firms will necessarily exhibit every characteristic. Table 1 outlines their twelve “building blocks” of the learning organisation and links them with the “mandatory elements” identified by Wick and León (1995) and the “pre-requisites” noted by Senge (1990).

Table 1. Attributes of the learning organisation

<u>Systems Thinking & Building a Shared Vision</u>	
<u>Leadership</u>	
1. Executive practices – management inspiring the rest of the organisation to follow them towards the vision	
2. Managerial practices – management supporting staff’s attempts to grow and develop.	
<u>Planning</u>	
3. Strategy/Vision – enables organisational members to anticipate what they need to learn.	
<u>Mental Models, Personal Mastery & Team Learning</u>	
<u>Information Dissemination</u>	
4. Information Flow – the use of systems to promote easy communication among employees and ensure that all workers get company data relevant to their jobs	
5. Individual and team practices – sharing of knowledge, an environment where mistakes are seen as learning opportunities	
<u>Innovation</u>	
6. Climate – a climate of openness and trust, where people are unafraid to share their ideas and speak their minds.	
7. Work processes – having employees able to use systematic problem-solving techniques, use of benchmarking	
8. Training and education – formal training programs which focus on helping people learn from their own and others’ experience.	
<u>Implementation</u>	
9. Organisation/job structure – flexibility to respond to the changing demands of the environment.	
10. Performance goals and feedback – providing employees with regular formal and informal feedback about how well they are meeting goals set.	
11. Individual/team developments – having empowered individuals and teams who are not required to wait for decisions and levels of approval.	
12. Rewards/recognition – the reward system supporting people for taking risks and developing themselves, by meeting challenges and solving problems, and not being viewed as a punishment device, or discouraging innovation.	

Adapted from Bennett and O’Brien (1994), Senge (1990), Wick and León (1995)

The attributes outlined in Table 1, are also seen in the work of Garvin (1993). Garvin identified five main activities that a learning organisation has to become good at performing to enable it to cope with the changing operating environment. These are: systematic problem solving; experimentation with new approaches; learning from organisation experience and history; learning from the experiences and best practices of others; and transferring knowledge quickly and efficiently throughout the organisation.

3. The Research Question

To succeed in the pursuit of continuous improvement an organisation will need the commitment to structuring the organisation’s control systems, learning systems and learning values to be adaptable to the changing business environment. The lack of such systems to support the quality initiative may explain why quality benchmarks are not achieved and fall short of expectations. The key to success will be management ensuring that the “right” environment is created in order to achieve continuous improvement and encourage organisational learning. As noted by Berling (2000) “the task is not only to start the improvement process, but also to sustain it and to incorporate it into the normal part of everyday work”.

Overall the learning organisation is inventive, supple and responsive to change. It quickly identifies problem areas; is “hungry” for knowledge to aid decision making; values ideas regardless of the origin; has an organisational structure to speed the flow of internal information; and has an urgency to act (Wick and León, 1995). Organisational learning will be a key ingredient for quality management success. As noted in the Karpin Report (1995) “...the learning organisation will be the future standard philosophy for many Australian

enterprises and a major way in which they cope with change and turbulence” However, have Australian companies with a quality approach to operations adopted this “standard philosophy”, and has organisational learning been a lever for success? To address these issues the following research questions were formulated:

- RQ 1 - What are the learning attributes of organisations adopting a quality approach to operations?
- RQ 2 - Do organisations with a quality program that has exceeded expectations display more attributes of a learning organisation than organisations with a quality program that has fell short of expectations?

4. Methodology

The aim of this study is to evaluate organisations adopting a quality approach to operations and to identify the learning attributes of each organisation. Further this research will look at organisations at either end of the quality success continuum to find out whether the learning attributes differentiates these organisations. In order to meet these objectives it was considered necessary to explore more than one organisation as a larger number of responses will allow conclusions to be drawn with greater confidence. For this reason the decision was made to use the survey method, utilising a self-administered postal questionnaire.

As the focus of the research is on how learning attributes support continuous improvement it was considered necessary to survey organisations that have undertaken a commitment to a quality approach to operations. An independent third-party assessment was used to guide the selection of the organisations in the sample. As such organisations that have achieved ISO 9000 certification were selected as such organisations have implemented a quality approach to its operations, at least in terms of the requirements of the quality standard; and the use of such organisations is seen in the research of others (Claver, Tari and Molina2002; Hendricks and Singhal, 1997; Llopis and Tari, 2001). Potential respondents were sourced from the publicly available on-line Joint Accreditation System of Australia and New Zealand (JAS-ANZ) database of certified organisations. A random sample, from each state of Australia, was selected comprising 500 organisations.

Questionnaires were posted to a 1000 managers with a follow-up second mail out. In all, three hundred and three responses were received representing a 30.6% response rate, and of these two hundred and seventy seven represented usable responses, resulting in a usable response rate of 28.2%. A usable survey was deemed to be one in which the respondent answered all but a few questions. To test for non-response bias an independent sample t-test was conducted comparing early and late respondents. The null hypothesis was posed that the samples came from the same population and for all characteristics, except gender; the null hypothesis is not rejected at the .05% level of confidence. Further examination of this result shows that in the second mail out fewer males responded. However, this was not considered significant because of the high percentage of female responses overall.

5. Findings

A profile of respondents shows that 84.1% have more than 10 years experience in business; and 77.1% have post-secondary education. Such personal and work characteristics would enable the respondents to assess their organisation against the issues explored by the survey. To ascertain the size of respondents' organisations, the number of employees was used as a proxy. The findings indicate that the size ranged from: small to medium sized organisations (under 100 employees) (49.5%); medium sized organisations (101—500 employees) (31.5%); and large organisations (over 500 employees) (18.9%). For the majority of respondents' organisations (97.7%) the operating environment is considered competitive with 59.2% of respondents rating the operating environment as very competitive. When asked to compare their organisation to competitors only 57.7% of respondents rated their organisation's product/service to have superior quality to competitors, and a further 41.2% rated the product/service as similar to competitors. These findings suggest an opportunity for the majority of organisations to improve their position in the market by focusing on continuous improvement of business processes in order to provide a product/service that meets customers' expectations.

To understand more about the motivation of adopting a quality approach to operations respondents were asked to identify the importance of a number of motivating factors, and the findings are summarized in Table 2 below. The responses suggest that quality related factors are considered the most important in assisting the organisation in gaining a competitive advantage (96.3% respondents). This is shown by reference to the highest rated factor in each category: customer satisfaction (mean 4.5); gaining a competitive advantage (mean 4.21); and to achieve higher levels of performance (mean 4.15). As mentioned earlier the majority of respondents (97.7%) note that their organisations are operating in a competitive environment and the responses suggest that the two key motivating factors are customer satisfaction and process improvement. Overall, the responses suggest that continuous improvement is considered to be an important enabler for organisations to gain a competitive

advantage over competitors. However, the success of the quality program in respondent organisations has been mixed with 16.1% of respondents stating that the program has exceeded expectations; 77.4% met expectations; and 5.1% fell short of expectations, with 4 respondents unable to rate at the time.

Table 2. Factors motivating a quality approach to operations

Factors	Extremely Important	Important	Not Important	Mean	Responses
<i>Panel A: Customer-related</i>					
To increase customer satisfaction	55.1%	44.9%	-	4.50	n=276
To reduce customer complaints	43.3%	56.0%	0.7%	4.30	n=275
To satisfy customer contractual requirements	42.4%	57.2%	.04%	4.22	n=276
<i>Panel B: Strategy-related</i>					
To gain a competitive advantage	39.4%	58.7%	1.8%	4.21	n=274
For business to survive	48.2%	48.6%	2.2%	4.15	n=274
To increase organisations profits	34.6%	63.2%	2.2%	4.11	n=272
To be adaptable to changes in the business environment	26.1%	70.3%	3.6%	3.99	n=276
To be innovative in product design/service delivery	27.2%	71.7%	1.1%	3.94	n=276
ISO9000 certification	32.2%	67.1%	0.7%	3.92	n=276
To increase market share	26.5%	69.1%	4.4%	3.81	n=275
To promote brand loyalty	24.6%	67.7%	7.7%	3.66	n=272
<i>Panel C: Process-improvement related</i>					
To achieve higher standards of performance	28.8%	70.8%	0.4%	4.15	n=274
To minimise costs	34.5%	64.7%	0.7%	4.05	n=275
To improve internal processes	22.1%	67.6%	0.4%	4.02	n=276

It is important for management to encourage the attributes of a learning organisation by building a shared vision within the organisation, that is, to give everyone a common purpose. An organisational culture embedding learning and continuous improvement is important to guide employees (Ahmed, Loh and Zairi, 1999). This can be achieved by the direction given in the organisation's mission statement and the performance goals selected to guide activities. By examining an organisation's learning orientation, that is, its values and practices, enables an assessment of whether the organisational environment encourages learning. To explore these factors respondents were asked about the organisational values (espoused theories) in their organisation. For the majority of respondents (93.5%) continuous improvement is an important goal for their organisation. This finding is supported by the 86.5% of respondents who agree that continuous improvement is important in the development of the strategic plan. As noted earlier, continuous improvement should imply a learning focus in the organisation, and this is supported as 87.0% of respondents note the value of continuous learning in their organisation, and 82.7% of respondents agree that their organisation is committed to building in-house expertise. Being able to respond and adapt to the changing business environment is noted by 93.4% of respondents.

In the majority of respondents' organisations employees review both current work practices (84.5%) and operating standards (80.2%). Employees are encouraged to explore alternatives (74.2%) and are given the responsibility to deal with problems relating to their specific work activities (70.7%). The ability of the organisation to be more adaptable to the environment and improve operating performance, is strengthened as the majority of respondents agree that employees in their organisation are encouraged to work smarter not harder (85%), to question current work practices and to find improved methods (84.5%). Also respondents (74.2%) note that managers do not punish mistakes but encourage employees to explore alternatives with systematic problem solving as opposed to short-term quick fixes (68.4%).

Sharing of knowledge and information in the work environment is encouraged in the majority of respondents' organisations (86.2%). This finding is supported by responses to other questions which show that 72.6% of respondents agree that employees share information and 80.3% of respondents who agree that learning from experience is shared. The majority of respondents (90.3%) agree that customers provide feedback on quality and delivery performance, which would enable corrective action to be focused within the organisation. To support this sharing of information the majority of respondents (80.6%) agree that regular team meetings are the preferred method for information dissemination.

As noted earlier 82.7% of respondents note the importance of their organisation's commitment to building in-house expertise. This is achieved by employees being encouraged to work smarter not harder (85%) and, through training activities (93.2%). Training is an important investment that will encourage the acquisition and development of new knowledge and skills and lend employees to be open to new ideas (Gomez, Lorente & Caberera, 2004). For the majority of respondents (70.7%) employees in their organisation are empowered through decision-making responsibilities in relation to their own specific work related tasks. The training and working smarter approach will enable employees to attain the necessary skills and knowledge to take on roles with higher responsibility. However, despite 82.7% of respondents noting their organisation's commitment to building in-house expertise a number of factors were highlighted that could be barriers to learning in some of the respondents' organisations. Only 57.9% of respondents note that their organisation rewards employees for learning new skills. Similar response rates were noted for employee training in teamwork (58.9%); employee training in problem solving (55.2% of respondents); use of cross-training within the organisation (56.9%); and use of mentoring schemes (49.1%). For learning to be achieved it must be encouraged by management (Abraham et al., 1997; Dunphy and Stace, 1990). The performance measurement system is an important control system within the organisation to encourage improvement (Bessant and Francis, 1999). The majority of respondents (80.0%) agree that all employees in their organisation are made aware of the performance measurements which will enable employees to link their own actions with their organisation's strategies.

To address the second research question further analysis of the findings was undertaken to examine organisations at either extreme of the success continuum to identify any attributes which may discriminate between the two groups.

6. Further Analysis of Findings

Further analysis of the findings was undertaken to examine if attributes of a learning organisation are more evident in organisations that have a quality program that has exceeded expectations than those organisations where the quality program fell short of expectations. The reason to focus on these groups was that if any differences exist, they are more likely to be found by comparing each extreme. This approach is in line with other studies (Lee, Lee and Rho, 2002, cited by O'Reagan and Ghobadian, 2004; O'Reagan and Ghobadian, 2004).

An ANOVA analysis was undertaken to identify significant difference in means between the two groups and this was then used to determine the best predictors of whether a respondent would perceive their organisation's quality initiative to be either successful (exceeded expectations) or unsuccessful (fell short of expectations). Discriminant analysis was then undertaken to identify variables which discriminate between the two groups with the emphasis on the identification of the characteristics/practices of the organisation that have the greatest power of predicting to which group a respondent will belong (Klecka, 1980). Variables with a correlation coefficient of less than .50 are not interpreted, as a loading below this would suggest low or negligible correlation (Franzblau, 1958). The null hypothesis posed in this analysis is that there is no statistically significant difference in the scores between the two groups on the discriminant function. If the null hypothesis is rejected it indicates that the variable is a discriminating variable between the two groups.

A series of discriminant analyses were undertaken due to the independence of the different aspects of business operations explored in the study. For example, an organisation may have shown little regard to employee education, yet have a strong performance measurement system. Table 3 provides a summary of the best predictor variables for each discriminant function. A review of the predictor variables suggests that the more successful organisations are able to create an environment that encourages learning. Many of the predictor variables relate to the organisation's philosophy and practice rather than the processes themselves.

Table 3. Summary of best predictor variables (canonical discriminant function coefficients)

Predictor Variables	Loading
Organisational Attributes	
Employees believe that quality is their responsibility	.863
Management ensure that employees are aware of what quality means to the organisation	.721
Top management is committed to the quality program	.686
The organisation environment is such that what gets said gets done	.523
Quality embedded in organisation culture	.515
Learning Attributes	
Standard Operating procedures are reviewed regularly	.746
Employees are focused on improving existing capabilities	.703
Employees are encouraged to work smarter not harder	.547
Managers support staff not by punishing mistakes but by encouraging staff to learn	.509
Employee Development	
Employee teams tackle problems	.642
Employees are trained in problem solving	.580
Employees are rewarded for learning new skills	.540
Performance Measurement	
Feedback gained from assessing performance against target enables the instigation of rapid corrective action	.600
Customer satisfaction as key performance indicator	.594
Clear and consistent goals	.544
Employee involvement in goal setting is important	.525
Employees receive regular appraisal and feedback about their work performance	.503
Knowledge management	
Regular briefings are held to enable management and employees to share experiences and progress on projects, best practices, success and failures	.648
Learning from experience is shared	.626
The organisation structure encourages ease of communication	.519

The findings suggest that the more successful organisations have been able to embed both a learning culture and a quality culture into the operations. This has been accomplished by management ensuring that all employees are aware of what quality means to the organisation and with management showing their own commitment to quality by ensuring that “what gets said gets done”. Employees are more focused on improving existing capabilities to support continuous improvement. Both single-loop and double-loop learning are supported by standard operating procedures being reviewed regularly together with employees being trained in problem solving techniques. Employees are encouraged to learn by working smarter not harder and not being “punished for mistakes”.

Performance measures are clear and consistent and support the strategic objectives. The learning environment is supported by performance goals which should encourage continuous improvement and learning. The relevance of the performance goals is strengthened by employee involvement in the goal setting process. Performance goals play an important role in assessing operational activities and employee performance.

Sharing of information is encouraged in those organisations where the outcomes of the quality program exceeded expectations. To encourage communication between employees, successful companies are more likely to have a

supportive organisational structure, coupled with regular meetings to disseminate information where employees discuss experiences and progress on projects, best practice, together with successes and failures.

Variables that discriminate the groups were aligned with Bennett and O'Brien's (1994) twelve "building blocks" of the learning organisation and linked with the "mandatory elements" identified by Wick and León (1995) and the "pre-requisites" noted by Senge (1990) (refer table 4). It can be seen that the variables that discriminate the more successful organisations are those attributes that facilitate learning and which have contributed to superior performance. These attributes assist in explaining why more success is being achieved and why higher-level learning outcomes will be possible for these organisations.

Table 4. Variables that discriminate successful organisations with the attributes of the learning organisation

Systems Thinking and Building a shared vision	
<i>Leadership</i>	• Top management commitment to quality program • espoused theories equal the theories in use – that is "what gets said gets done" • all within the organisation knows what quality means • quality is embedded in organisational culture • employees receive regular appraisal and feedback about their work performance • employees are rewarded for learning new skills • managers support staff not by punishing mistakes but by encouraging staff to learn
<i>Planning</i>	• employee involvement in goal setting • performance measurement system linked to strategic plan • clear and consistent performance goals •
Mental models, Personal Mastery & Team Learning	
<i>Information dissemination</i>	• Learning from experience is shared • Regular briefings are held to enable management and employees to share experiences and progress on projects, best practices, success and failures
<i>Innovation</i>	• Problem solving by employee teams • Feedback gained from assessing performance against target enables the instigation of rapid and corrective action • Standard operating procedures are reviewed regularly • Employees are focused on improving existing capabilities • Employees are encouraged to work smarter not harder
<i>Implementation</i>	• The organisation structure encourages ease of communication

Therefore, respondents who perceive their organisation's quality program as "exceeded expectations" consider that their organisation has a culture that encourages both continuous improvement and learning. It could be argued that such organisations have become, or are moving towards becoming, a learning organisation.

7. Conclusion

This research was motivated by the desire to learn more about organisations that have adopted a quality approach to operations, and in particular to investigate the role of learning in contributing to the success of the quality endeavours. The findings provide further empirical evidence of the importance of organisational learning to support quality programs. Analysis was undertaken to identify the variables which discriminate between the organisations at either end of the success continuum. The findings suggest that organisations that have a quality

program that has exceeded expectations have been able to develop and encourage the attributes necessary for a learning organisation. It would appear that learning has been an important lever for these organisations to succeed in the quality endeavours.

The findings will be of interest to practitioners as it provides further empirical evidence of the need to have the “right” environment to enhance and maximise learning to enable continuous improvement of operations. To achieve this success it is important for management to provide clear direction and motivation to all within the organisation. Such an environment will then allow employees to work together to achieve the goals set.

As with any research there are a number of limitations to this study that need to be noted. As the methodology of this study focused on the postal survey there will always be inherent problems associated with this type of research. Notably, the issues of the adequacy of the response rate, whether the questions are interpreted in the way intended, whether the intended recipient responds to the questionnaire, whether there are sufficient questions to expose the information sought. In this study pilot tests of the questionnaire were conducted to increase the clarity for the respondents and non-response testing indicated that there was no significant difference in responses between early and late responders. The study also relies on data collected from only the management level of the organisation and therefore the findings are based on their perceptions rather than available objective data. To reduce the self-reporting bias future research should focus on multiple responses from the same organisation, as seen in the work of Weldy and Gillis (2010).

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