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Critical success factors for employee suggestion schemes: a literature review

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Abstract

Purpose – Employee suggestion scheme (ESS) have existed for many years and many articles have been published over the past decades. They have been studied from many perspectives to illustrate their objectives, nature, content, process, significance and the benefits. Arguments have also been made with respect to success and failures of the suggestion schemes. Although the corporations widely use the suggestion schemes to elicit the creative ideas of their employees, sustaining a suggestion scheme is still a challenge. The purpose of this paper is to extract the critical success factors and critical success criteria to the suggestion scheme and to discuss the importance of these factors on sustainability of suggestion system. This is a literature review paper.

Design/methodology/approach – This is a literature review paper. The research used the university library to search for the relevant material. The university has an access for 25,000 journals. As the university had the subscription to main databases such as EBASCO, SCIENCE DIRECT, EMERALD, Google Scholar and WILEY, a search was performed on these databases using the key terms. The keywords used in the searches included: Suggestion System, Suggestion Scheme, Employee Participation, Employee Involvement, Innovation, Employee Creativity and Ideas Management. The Google Scholar citation tab was also searched further to identify any related articles. The citations of resulting articles were scrutinized further for further clues.

Findings – This paper identifies 23 critical success factors and 9 critical success criteria for suggestion schemes. It also discusses the interconnection between the critical success factors and the critical success criteria. Further, the frequency of each of the factors is also presented. It recognizes the lack of work on the assessment framework for sustainability of a suggestion scheme.

Practical implications – This paper should be of value to practitioners of suggestion schemes and to academics who are interested in knowing how this program has evolved and where it is today and what future it holds. It offers practical help to an individual starting out on research on the sustainability of suggestion schemes.

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Originality/value – The paper attempts to put together many factors discussed in the literature and proposed a definition to define the sustainability of the suggestion system and categorized them as critical success factors and critical success criteria.

Keywords Innovation, Sustainability, Creativity, Employee involvement, Suggestion schemes, Suggestion systems

Paper type Literature review

Introduction

An employee suggestion scheme (ESS) is the oldest form of an employee involvement tool and is widely used by organizations to elicit employees' creative ideas. It plays a pivotal role for organizations wishing to become more innovative (Buech *et al.*, 2010). It is described as a formalized mechanism that encourages employees to contribute constructive ideas for improving the organization in which they work (Milner *et al.*, 1995). Cooley *et al.* (2001) offer a simple explanation for a suggestion system. They explain that a suggestion scheme will elicit suggestions from employees, classify them and dispatch them to the "experts" for evaluation. After this, the suggestion might be adopted, in which case the suggestion may well be rewarded. But even if the suggestion is rejected, the employee may still be rewarded with a token gift. "Experts" are either managers or dedicated committees who evaluate the suggestions and implement those that work (Chaneski, 2006). The reward may range from a certificate to a reward commensurate with the savings generated by the suggestion. Some other forms of explanation for suggestion systems are:

- an untapped reservoir of effort and knowledge that could improve organizational processes and effectiveness (Arthur *et al.*, 2010);
- a means of facilitating the process of motivating employees to think more creatively, to share those creative thoughts and convert creative ideas into valuable innovations (Fairbank and Williams, 2001); and
- a tool that encourages employees to think innovatively and creatively about their work and work environment and to produce ideas which will benefit the organization for which the employee will receive recognition (Du Plessis *et al.*, 2008).

Suggestion schemes have existed for many years and numerous articles on the subject have been published over the past several decades (Arif *et al.*, 2010; Frese *et al.*, 1999). These schemes have been studied from many perspectives (Axtell *et al.*, 2000; Fairbank and Williams, 2001). Arguments have also been made with respect to their successes and failures (Carrier, 1998; Lloyd, 1999). Although corporations widely use suggestion schemes to elicit creative ideas from their employees, sustaining a suggestion scheme is still a challenge. There is little evidence of a framework or mechanism to assess suggestion scheme sustainability within organizations (Rapp and Eklund, 2007). Literature does provide some criteria, but it is very limited. Therefore, there is scope to explore and expand upon research in this area. The objective of this literature review is to extract the critical success drivers and barriers to the suggestion scheme and to discuss the importance of these factors on the sustainability of a suggestion system.

Research methodology

This is a literature review paper. This researcher used a university library, with access to 25,000 journals, to search for relevant material. As the library had subscriptions to main databases such as EBASCO, SCIENCE DIRECT, EMERALD, Google Scholar and WILEY, a search was performed on these databases using the key terms. To develop the key terms, a mind map was created as shown in Figure 1 (*Read from left to right*). The mind map used "suggestion systems" as a starting point. The brainstorming to analyze the synonyms resulted in the identification of two strings, such as "suggestion scheme" and "idea management system". Ideas are the results of employee creativity. Employee creativity has led to the development of employee-driven innovations. Suggestions are, thus, the output of employee creativity that results in employee-driven innovation. So to spur employee-driven innovations, employee participation and involvement is essential. This mapping led to the generation of key terms such as suggestion system, suggestion scheme, employee creativity, employee innovation, employee participation and employee involvement, which were then used for database searches. Journal articles were selected based on having at least one of the key terms in their title and if those articles then indicated any relevancy to ESSs. From these searches, 107 journal articles with relevance to suggestion schemes were selected; irrelevant journal articles were discarded at this stage. The selected journal articles were initially analyzed and categorized for detailed review based on the following criteria:

- Discusses the history, features, uses, benefits or scope of the suggestion scheme.
- Discusses the process or functions of the suggestion system.
- Discusses the implementation of the suggestion system.
- Discusses guidelines, advantages or disadvantages of the suggestion scheme.
- Discusses the impact of the suggestion scheme in organizations.
- Demonstrates the suggestion scheme cases of organizations.

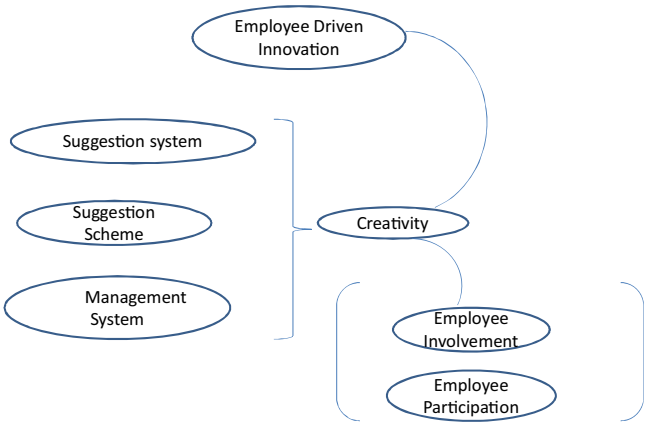

Figure 1.
Literature review process

A second screening resulted in the selection of 76 journal articles that highlighted features of suggestion schemes, criteria for suggestions schemes, purpose and uses of suggestion schemes and factors that contribute to the successful functioning of suggestion schemes. These articles date back to 1932.

The history, nature and significance of suggestion systems

The recorded history of suggestion systems points to these systems' origin as 1721, when Yoshimune Tokugawa, the 8th Shogun, placed a box called "Meyasubako" at the entrance of the Edo Castle for written suggestions from his subjects (Arif *et al.*, 2010). Industrial suggestion systems trace their origin back to the nineteenth century; in 1880, William Denny, a Scottish shipbuilder, asked his employees to offer suggestions to build ships in better ways (Islam, 2007). Following this, the Kodak company became a pioneer in ESSs with its program being introduced in 1896 (Carrier, 1998). So in the business world, formal and structured suggestion schemes were first introduced as a modern practice more than 100 years ago (Lloyd, 1999; McConville, 1990). Industry associations, such as the Employee Involvement Association (EIA), have come into existence and have contributed greatly to the increased formalization, objectivity and professionalism of suggestion programs. The EIA have instituted educational, statistical and professional development programs to raise the bar of best practices in the encouragement, evaluation, development and implementation of ideas that add value to their organizations. Ideas UK, the UK's foremost association for the promotion of employee involvement programs, was also founded in 1987. Its prime purpose is to assist organizations in both the public and private sector; it's now an organization with more than 100 members worldwide. Suggestion schemes have a considerable history and are now popular throughout the world, including the USA, Europe, Asia and the Middle East (Cooley *et al.*, 2001).

The trend of cost savings because of ESSs continues today. The research also reports that world class suggestion systems are exceeding 40 ideas per person annually, with greater than 80 per cent implementation rates and high levels of participation (Savageau, 1996). It has also been noted that the benefits gained in terms of greater morale and increased employee involvement is likely to outweigh, by far, the financial investment (Milner *et al.*, 1995). So suggestion systems are one of the popular ways of taking advantage of personnel creativity (Verdinejad *et al.*, 2010).

Moreover, suggestion schemes have come a long way (Arif *et al.*, 2010) from anonymous postboxes (Crail, 2006) or suggestion boxes to a sophisticated computer-based electronic suggestion system (Fairbank and Williams, 2001; Ahmed, 2009). Some of the common issues with traditional boxes have been the delay in processing of the suggestion and lack of feedback being given to employees. While suggestion schemes continue to retain many of the best elements of the original concept, now it is almost unrecognizable in terms of the style of operation, appeal and delivery of results (McConville, 1990).

The critical success factors and critical success criteria to suggestion schemes

In the field of project management, Westerveld (2003) has described critical success factors as "organizational areas" – management elements such as resources, leadership, teams, policy, strategy, publicity – and critical success criteria as "result areas" –

relating to project success as viewed by stakeholders. Adopting a similar taxonomy for ESSs, critical success criteria can be viewed as those results achieved by the organization based on suggestion scheme inputs and measured by pre-defined success criteria (cost savings, enhanced productivity, improved product quality, etc.); these criteria can also be broadly described as system benefits.

Critical success factors

Critical success factors can be viewed as those organizational areas where levers can be pulled to increase the effectiveness of the suggestion system (Westerveld, 2003). The critical success factors can be broadly categorized as individual attributes, system features, organizational and environmental factors and barriers to suggestion schemes. However, this categorization of success factors is not distinct, as it is possible, for example, that teamwork could be categorized as both a system feature and organizational factor. Likewise, publicity can be an organizational factor although it more closely relates to system features. Thus, it can be seen that these factors are interrelated. Each category of critical success factors and their interrelations to other factors and critical success criteria is discussed in the sections that follow.

Individual attributes

The effectiveness of any system for generating innovations depends on many things, one of which is the individuals who find, invent or propose useful innovations (Monge *et al.*, 1992). Individual characteristics are necessary to positively influence their creative performance (Muñoz-Doyague *et al.*, 2008). Having ideas and self-efficacy is of the foremost importance (Bell, 1997; Khairuzzaman *et al.*, 2007; Lipponen *et al.*, 2008; Verworn, 2009; Frese *et al.*, 1999; Axtell *et al.*, 2000). For example, individuals who identify with their organization but do not value openness to change are not motivated to make suggestions for improvement at work (Lipponen *et al.*, 2008). The human characteristics such as personality, attitude, perceptions, credibility and intrinsic motivation are mainly cited as necessary individual attributes that foster the success of suggestion schemes (Arthur *et al.*, 2010; Björklund, 2010). Individuals tend to exhibit high creativity when their jobs are complex, when their supervisors engage in supportive, non-controlling behaviors and when their work is evaluated in a developmental, non-judgmental fashion (Shalley *et al.*, 2004). They are more creative when they are interested in the task itself and enjoy the process of working on the task and when they feel motivated primarily by the interest, enjoyment, satisfaction and challenge of the work itself (Yuan and Zhou, 2008).

Thus, the importance of individual attributes in terms of their attitudes and behaviors contribute to the success of suggestion schemes (Arthur *et al.*, 2010; Axtell *et al.*, 2000; Binnewies *et al.*, 2007; Buech *et al.*, 2010; Yuan and Zhou, 2008; Lipponen *et al.*, 2008; Leach *et al.*, 2006; Rapp and Eklund, 2007; Verworn, 2009). Interestingly, this element has been cited in the latest literature of the past decade more frequently.

System features

An effective administrative system

The knowledge possessed by individual employees can only lead to a firm, competitive advantage if employees have the motivation and opportunity to share and utilize their individual knowledge in ways that benefit the organization (Arthur and Kim, 2005). This implies that a mechanism to elicit employee ideas is necessary through which

employees can make their suggestions. The main benefits of such schemes first of all enhances the number and the quality of ideas (Koc and Ceylan, 2007). Therefore, the development of an infrastructure (Marx, 1995) with simple methods (Hultgren, 2008) for submitting suggestions (McConville, 1990) is a key aspect of the suggestion schemes.

A suggestion system designed with usability in mind will improve innovation among employees and, hence, increase participation (Arif *et al.*, 2010). The more comfortable employees are with the format, the more suggestions will be received and the more money will be saved (Mishra, 1994). The goal should be to completely process a suggestion in about 30 days – and in no more than 60 days. Therefore, suggestion systems must be expertly administered and the ideas gathered must be promptly and rapidly processed (Marx, 1995; Hultgren, 2008; Frese *et al.*, 1999; Van Dijk and Van Den Ende, 2002; Winter, 2009; Reuter, 1976).

Good ideas can come from anyone, at any level, anyplace and anytime (McConville, 1990; Madjar, 2005). As ideas can be received from every sphere of the organization irrespective of suggestors' roles and positions, employees often may not possess the skills necessary to put forward their suggestion. Dedicated and skilled administrators should guide employees in formalizing their suggestions (Marx, 1995). Such help would encourage employees to put forward their ideas and reduce hesitation to do so.

Traditional suggestion systems often fail because of their poor administration (Fairbank and Williams, 2001). Moreover, the use of an administrator/catalyst from the same line function, and with sufficient skills, is the program's vital ingredient; they become the sales arm, coordinator and trouble-shooter (Lloyd, 1996; Fairbank and Williams, 2001; Mishra, 1994; Winter, 2009; Prather and Turrell, 2002; Bigliardi and Dormio, 2009; Tatter, 1975). The administrator must be committed, planned and goal-oriented (Tatter, 1975). He must ensure that suggestions are processed within published timescales (Milner *et al.*, 1995).

The system should have a clear scope (Van Dijk and Van Den Ende, 2002; Arif *et al.*, 2010), be easy to use (Tatter, 1975; Arif *et al.*, 2010) and must have fair and consistent policies (Marx, 1995; Lloyd, 1999; Clark, 2009).

Publicity

It is important that everyone in the organization is aware of the benefits gained from implemented suggestions, so that they too may be encouraged to think about the ways in which they can contribute (McConville, 1990; Verespej, 1992). There must be constant, subtle "marketing" tied in with periodic contests or other splashes of recognition if employee interest is to be maintained (Tatter, 1975; Fairbank and Williams, 2001; Kudisch, 2006; Neagoe and Klein, 2009; Marx, 1995; Prather and Turrell, 2002; Lloyd, 1996; Winter, 2009; Rapp and Eklund, 2007; Islam and Zaki Hj. Ismail, 2008; Reuter, 1976). The most common problems that organizations encounter with suggestion schemes are that there are too few usable suggestions. One of the ways to overcome these challenges is to raise the profile of the scheme by publicizing it in new employee induction packs (Craig, 2006). They must be publicized at launch and at regular intervals throughout the year to ensure that everyone is aware of its existence. Moreover, if ideas are made public, then these ideas, good and bad, could have started other creative ideas elsewhere in the organization (Stenmark, 2000). So research has shown that publicity and awareness are crucial elements to the success of suggestion schemes.

Resources

The success of a suggestion system lies not only in generating the creative ideas but also in the implementation of these ideas. Indeed, resources support the idea realization process. If organizations lack the necessary resources, then even the best suggestions received will not be fruitful. Therefore, main influences for a successful implementation include management commitment and the resources allocated (Neagoe and Klein, 2009). Organizational support and committed resources are required at three stages of suggestion systems – idea generation, idea landing and idea follow-up. When these requirements are met, a transfer will take place from employee creativity to practicable ideas, giving organizations a large and constant supply of relevant project ideas (Van Dijk and Van den Ende, 2002). An approved budget to support the administrative costs such as promotional activity, technical support and the cost of the awards can boost creative performance (Alves *et al.*, 2007; Amabile *et al.*, 1996; Griffiths-Hemans, 2006; Klijn and Tomic, 2010; Mclean, 2005; McConville, 1990; Shalley and Gilson, 2004; Van Dijk and Van den Ende, 2002; Lloyd, 1996; Bigliardi and Dormio, 2009; Clark, 2009). So resources are also consistently cited in the literature and they are closely related to the implementation of suggestions.

Rewards

Rewards are another key element identified for the success of suggestion systems. A suggestion system clearly is a money saver in organizations (Mishra, 1994). So there needs to be various strategies in place to avoid employee boredom and to consider the life cycle of the system. Employees must be rewarded not only with tangible but also with intangible benefits (Ahmed, 2009). Incentives are important for employees to feel that the submission of their usable ideas will be rewarded (Du Plessis *et al.*, 2008). Employees should be financially rewarded and recognized both in-house and external to the organization in an appropriate way. The rewards should reflect the value of the suggestion to the company (Klijn and Tomic, 2010).

Feedback and evaluation

Feedback is important because having no feedback can lead to people feeling ignored and dissatisfied; it can also help in error discovery where staff can further improve the quality of their ideas based on the feedback they receive (Verdinejad *et al.*, 2010). If employees do not receive feedback, then they may feel that management is taking credit for their suggestions (Mishra, 1994). The feedback on non-implemented suggestions can keep employees motivated toward the scheme (Cho and Erdem, 2006; Bakker *et al.*, 2006; Buech *et al.*, 2010; Leach *et al.*, 2006; Powell, 2008; Rapp and Eklund, 2007; Arif *et al.*, 2010; Hultgren, 2008; Fairbank and Williams, 2001; Stranne, 1964; Van Dijk and Van den Ende, 2002; Du Plessis *et al.*, 2008). Finally, feedback should be detailed enough to aid personnel in knowing the status of their idea, how to receive the reward (if any) and if the suggestion was rejected (Verdinejad *et al.*, 2010). Moreover, providing feedback to employees on their ideas should demonstrate that the scheme is well run, thus facilitating sustained participation (Leach *et al.*, 2006). Employee engagement improves when job-related feedback from supervisors and managers focuses on the strengths – not the weaknesses – of employees (Attridge, 2009).

Organizational and work environment factors

Communication and information sharing

Communication and information sharing in the form of periodic reports on the performance of the idea system are also considered to be necessary for the success of the suggestion schemes (Tatter, 1975). So many researchers cite communication as an important element for the success of the suggestion system (Arthur *et al.*, 2010; McConville, 1990; Monge *et al.*, 1992; Al-Alawi *et al.*, 2007; Björklund, 2010; Binnewies *et al.*, 2007; Shalley and Gilson, 2004). This element was cited as early as 1964 and its importance has been consistently recognized since then. There have been various trends noted in facilitating communication, including the need for face-to-face communication, facilitating cross-functional communication and support by family and friends. Also, vital is a free flow of information – both along the vertical axis and between units that belong to the same hierarchical level (Stranne, 1964; Aoki, 2008; Recht and Wilderom, 1998; Khairuzzaman *et al.*, 2007; Ahmed, 2009).

Networking

Creativity in an organizational context emerges from a process of sharing information with other people within the organization (Bakker *et al.*, 2006). Moreover, people need social, informational and economic support to be able to create something new (Madjar, 2005). It is also contended that creative ideas are more often the product of social interaction and influence, rather than periods of thinking in isolation (Yuan and Zhou, 2008). The information sharing from non-work-related individuals, who in general are not expected to possess domain-relevant knowledge, may influence creativity by facilitating remote associations and providing cognitive stimulation as well (Madjar, 2008). Moreover, there is a significant interrelationship between the idea providers' connectivity in the network and the quality of the innovation ideas generated (Björk, and Magnusson, 2009).

Job factors

There is also a considerable level of support for job-related factors, such as autonomy, time demands, challenging work, complexity and employee well-being as privy to creativity (Cruz *et al.*, 2009; de Jong and Den Hartog, 2007; Unsworth, 2005; Shalley and Gilson, 2004; Björklund, 2010; Shalley and Gilson, 2004; Amabile *et al.*, 1996; Hirst *et al.*, 2009; Anderson and Veillette, 2008; Buech *et al.*, 2010; Frese *et al.*, 1999; Axtell *et al.*, 2000; Powell, 2008). Notably, job factors have been cited in the recent years more frequently as this was not seen in the literature of past decades. Given today that employees seem to demand more involvement in decision-making and want to be better utilized across their full range of talents, job factors seem to be influential as noted in recent research (Axtell *et al.*, 2000; Griffiths-Hemans, 2006; Lipponen and Haapama, 2008; Fairbank *et al.*, 2003; Yuan and Zhou, 2008).

Employee participation

Employee participation is the foundation of the suggestion system (Stranne, 1964). Therefore, employees need to be motivated and encouraged for their involvement; such involvement can be increased if employees develop a sense of belonging to the organization (Cruz *et al.*, 2009). Employees' confidence in the organization also plays role in the success of the suggestion scheme (Bell, 1997; Islam, 2007; Lloyd, 1996; Carrier, 1998; Leach *et al.*, 2006; Janassen, 2004). When employees see their suggestions

considered and applied in the workplace, they feel they are valuable assets for the company and are more likely to show higher commitment (Cho and Erdem 2006; Carrier, 1998). Every member of the staff should be encouraged to participate in the scheme (McConville, 1990; Lloyd, 1996; Fairbank and Williams, 2001; Alves *et al.*, 2007; Neagoe and Klein, 2009). Over the years, employee participation has been consistently cited and it has remained as an important contributor.

Expertise

Employees who have the information, power and skill needed to make decisions on a wide range of issues are more creative (Lipponen *et al.*, 2008; McLean, 2005; Powell, 2008; Axtell *et al.*, 2000; de Jong and Den Hartog, 2007; Unsworth, 2005). Therefore, employee expertise is a significant factor in creativity (Griffiths-Hemans, 2006; Björklund, 2010; Klijn and Tomic, 2010; Madjar, 2008; Madjar, 2005; Verworn, 2009; Bigliardi and Dormio, 2009). For example, it was found that innovation was greater in banks headed by more educated managers who came from diverse functional backgrounds (Bantel and Jackson, 1989). There is mention of this element in suggestion scheme literature (Griffiths-Hemans, 2006), but not many researchers have emphasized this factor.

Suggestion implementation

Suggestion implementation and the subsequent creation of success stories are vital because implemented ideas demonstrate the continuing success of the scheme and implemented ideas provide the suggestor(s) with personal satisfaction at seeing their idea in operation (Milner *et al.*, 1995; McConville, 1990; Marx, 1995; Hultgren, 2008; Lloyd, 1996; Cho and Erdem, 2006). The importance of this element has been cited frequently in recent years as well as in the research of past decades. Regardless of the region, the success of suggestion schemes is owed to the implementation of the suggestions.

Empowerment

Suggestion schemes incur both transaction and implementation costs. Therefore, employees should be empowered and encouraged to evaluate their own ideas in terms of a cost-benefit analysis before submitting suggestions to reduce a number of ineffective ideas from congesting the system, causing delays and driving up the cost of administering the scheme (Wynder, 2008). This employee empowerment can be fostered by communication openness and employee long-term orientation (Recht and Wilderom, 1998). While empowerment can lead to obtaining more quality ideas, this element is not very frequently cited in the literature.

Organizational support

The effectiveness of employees' contributions toward new and useful knowledge for the company is dependent on their perception of the organization (Malaviya and Wadhwa, 2005). The perceived work environment does make a difference in the levels of creativity in organizations (Amabile *et al.*, 2004; 1996). So organizations should display an attitude toward employees of "putting people first" and making managers at different levels accountable for using the system (McConville, 1990; Prather and Turrell, 2002; Recht and Wilderom, 1998). They must encourage workers' self-initiative (Aoki, 2008). Every organization has its own culture and support should be tailored to it (Marx, 1995). Today's workforce is very demanding; employees expect to both be involved in an

organization's decision-making process and to be utilized to their full potential (Kesting and Ulhoi, 2010).

Further, the organizational support in the form of training programs have proved to have a positive impact on idea generation (Tatter, 1975; Baird and Wang, 2010; Stranne, 1964; Birdi, 2005). Although not widely cited, this element is referred to as important even in recent research.

Team-based schemes and teamwork are also advantages to suggestion schemes (Amabile *et al.*, 1996; Aoki, 2008; Carrier, 1998; Darragh-Jeromos, 2005; McLean, 2005; Shalley and Gilson, 2004; Fairbank and Williams, 2001; Rapp and Eklund, 2007). If suggestions are encouraged from groups, then employees are more likely to generate creative ideas (Rapp and Eklund, 2007; Darragh-Jeromos, 2005; Aoki, 2008). So teamwork has been cited frequently in the literature as an important element.

Supervisor and co-worker support

Many employees withhold good ideas when they discover that their immediate supervisor feels threatened by their idea submissions. Moreover, suggestion systems used in isolation and with no close support from other managerial practices have very little chance of generating results that are profitable in the long term (Carrier, 1998). It is vital that first-line supervisors work closely with their people, helping them to come up with ideas, guiding their thinking and assisting them to get the ideas down on paper (Tatter, 1975). Likewise, supervisory support has been noted as crucial for suggestion scheme success since the earliest research on the subject (McLean, 2005; Marx, 1995; Frese *et al.*, 1999; Lloyd, 1996; Ohly *et al.*, 2006; Arif *et al.*, 2010; Hardin, 1964). It is also likely to have an impact on the other elements such as employee participation and implementation of the ideas.

Dissatisfied employees with high continuance commitment were more likely to be creative when their co-workers were helpful and supportive (Zhou and George, 2001). Commitment to work and accountability toward tasks also motivate employees to make suggestions (Carrier, 1998; Gorfin, 1969; Dickinson, 1932; Milner *et al.*, 1995).

Top management support

Finally, an often noted, an agreed upon factor for successful suggestion schemes is management support in terms of practice, commitment and leadership (Carrier, 1998; Alves *et al.*, 2007; Marx, 1995; Griffiths-Hemans, 2006; Klijn and Tomic, 2010; Ahmed, 1998; Malaviya and Wadhwa, 2005; Neagoe and Klein, 2009). It is claimed that senior management ought to demonstrate their faith in the scheme, promote and support it and encourage all managers to view it as a positive force for continuous improvement (McConville, 1990). Higher management can help ensure that the supervisor recognizes the importance of commitment by making it a factor in supervisors' job-performance evaluations (Tatter, 1975). So visible commitment from top management can encourage employees' active participation in the scheme (McConville, 1990; Bell, 1997; Leach *et al.*, 2006; Carrier, 1998; Du Plessis *et al.*, 2008; Egan, 2005; Mishra, 1994; Khairuzzaman *et al.*, 2007; Prather and Turrell, 2002; Ahmed, 2009; Birdi, 2005). Management has the responsibility to satisfy the need for employee participation and to create a culture which is supportive of employee involvement in the decisions which affect his or her work (Reychav and Sharkie, 2010).

Studies have shown that a traditional, autocratic management style results in low levels of employee engagement and motivation (Hayward, 2010). Leadership styles that include threats, intimidation and coercive tactics appear to universally discourage creative behavior on the part of employees (Anderson and Veillette, 2008). Employees need support in making suggestions to management because organizations seem to rarely rely upon bottom-up processes. When a top-down approach is deep rooted, employees are naturally reluctant to make suggestions fearing rejection or termination.

Critical success criteria

Suggestion schemes have potential benefits. They can lead to cost savings (Lloyd, 1996; Carrier, 1998; Khanna *et al.*, 2005; Leach *et al.*, 2006) and the generation of new revenues (Lloyd, 1996; Carrier, 1998; Khanna *et al.*, 2005; Leach *et al.*, 2006). They may be instrumental in triggering customer satisfaction (Arif *et al.*, 2010; Marx, 2008; Gupta *et al.*, 2005) and employee satisfaction (Bell, 1997; Islam, 2007; Lloyd, 1996; Carrier, 1998; Leach *et al.*, 2006; Janassen, 2004). The main benefits of suggestion schemes are to achieve employee commitment and accountability, employee confidence, sense of security, well-being and employee satisfaction. Gupta *et al.* (2005) explain that sustaining quality programs have a direct impact on improved business processes, improved quality service and improved customer satisfaction. Improved processes and services can lead to new revenue generation and cost savings. It is very evident that these above-mentioned factors play a large part in the success of suggestion systems; they can trigger the value and volume of the suggestions and are necessary for the sustainability of suggestion systems.

The interrelations among the critical success factors and the success criteria

Given the nature of the critical success criteria and critical success factors discussed above, they seem to be interrelated. Critical success factors mainly describe how the various factors can be utilized for the maximum benefit of the suggestion system. The critical success criteria explain what the organization has achieved from the suggestion scheme. Therefore, each of the critical success factors are linked to the critical success criteria. Furthermore, each of these critical success factors can also influence the others. Figure 2 shows the interrelationships between critical success factors and critical success criteria.

First, for example, new revenue or cost savings is hugely influenced by employee participation, empowerment and suggestion implementation on the one hand. On the other hand, factors such as training, team work, expertise, communication, publicity, rewards and resources can boost employee morale and trigger employee participation. The feedback, evaluation and job factors can leverage employees toward making more beneficial ideas. In fact, cost savings or new revenue generation may be hindered if employees work in isolated environments, where job conditions are not conducive for creativity. Second, employee commitment and accountability is another important outcome of suggestion schemes. Empowerment and organizational and work-environment factors such as top management support, organizational support, supervisor support and co-worker support can encourage employee participation in suggestion schemes resulting in increased employee commitment and accountability within the organization. At the same time, factors such as rewards, resources, publicity, feedback, evaluation, communication and networking would also influence

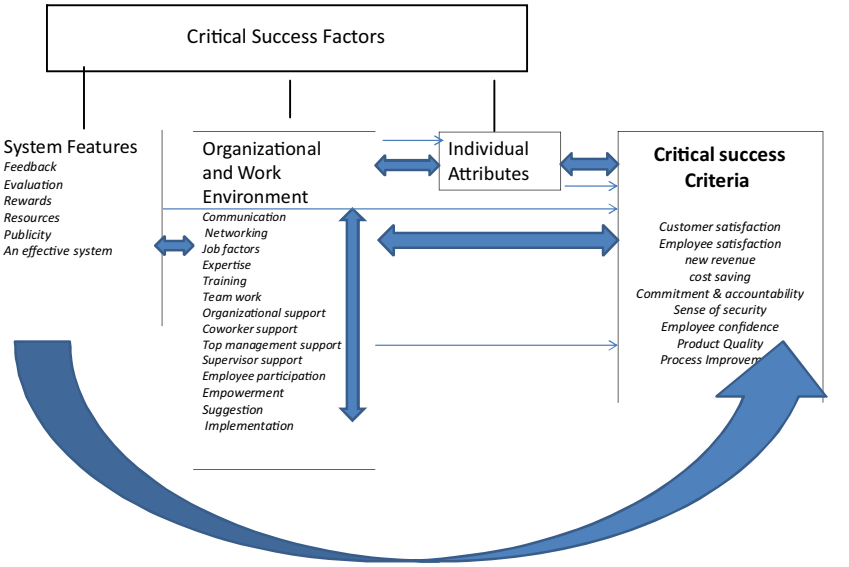

Figure 2.
Interrelationships between critical success factors and critical success criteria

participation in suggestion schemes; they would result in improved employee commitment and accountability as employees attempt to improve work-related issues and conditions. Job factors, in particular, can give employees freedom and flexibility to try out their suggested improvements. This in turn can influence employees' sense of security and confidence in the organization. If an opportunity exists to exercise their creativity at work place, then employees feel secure about their job role and increase their confidence in their organizations. They feel valued and empowered and are likely to remain with the organization for longer time. Because of the improved sense of security, employee productivity would also be enhanced.

Another important outcome of suggestion schemes is confident employees. Employee confidence is fostered when they see their suggestions accepted and implemented. As implemented suggestions result in timely rewards for employees, morale also increases. Other factors like feedback and evaluation also come into play to lift employee confidence, as they can refine their skills toward making better suggestions, thus increasing their suggestion approval rates. Simultaneously, employee confidence is also affected by the opportunity to implement their decisions, the freedom to try out new methods and the positive support received from the organization, top management, supervisors and co-workers. Empowered employees positively contribute to the workplace fostering improved product or service quality and, hence, increased customer satisfaction. Customer satisfaction, thus, depends on all other factors that trigger employee creativity and employee participation. Expertise and individual attributes also enhance employee creativity and lead to workplace improvements. Furthermore, customer satisfaction can be directly related to other suggestion scheme criteria, particularly new revenue generation, as increased satisfaction results in more purchases or recommendations to new customers.

Finally, product quality can be enhanced by empowered, motivated and productive employees. Empowered employees take the responsibility for their own actions and,

therefore, are invested in the quality of the organization's service or product. Such results are enabled mainly through adequate and timely resources, a supportive work environment, individuals' attributes and employee expertise. Teamwork, training and job factors also enhance motivation and productivity. Thus, every critical success criteria links to each of the critical success factors. This suggests that focused enhancement of each factor and criteria, as well as their interrelationships, will result in improved suggestion scheme effectiveness. While Figure 2 demonstrates a way in which this broad number of factors can be classified (i.e. individual attributes, system features, organizational and work environmental factors), these factors also appear to overlap. For example, teamwork can be a system feature as the suggestion can be elicited from a group, while it can also be assumed to be a work-environment-related factor. Therefore, this interrelation and categorization warrants further investigation.

The discussion

The literature review revealed 23 critical success factors and 9 critical success criteria as shown in Table I. Critical success criteria include things like cost savings or new revenue, profitability, customer satisfaction, employee satisfaction, sense of security, employee confidence, product quality, commitment, accountability and process improvement. Critical success factors mainly stem from individual, organizational, work environment and system perspectives as discussed earlier. Individual attributes invariably seem to have an impact on suggestion schemes at least in Western countries where the reviewed literature originated. Many behaviors and aspects of individuals have been researched over a period of time. The need for a formal, simple and effective system has also been expressed throughout the history of suggestion schemes. This need is connected to other important factors such as feedback, evaluation and employee participation. Publicity of the suggestion schemes has been a crucial success element ever since the early days of these systems; however, the extents to which publicity and awareness have developed differ from organization to organization and region to region. It can be said that rewards have also been central to success since the inception of suggestion schemes. Rewards given to the scheme participants can be classified as financial and non-financial. While financial rewards are much more in common, it is argued that monetary benefits on their own do not motivate employees to be creative. So there is an opportunity to explore the extent to which non-financial awards might outweigh or augment financial rewards. It may also be worthy to explore whether revenue-proportionate rewards have greater impact than static financial reward schemes.

Resources have been identified as a necessary factor throughout the research history of suggestion systems. Among these, senior management commitment and support are considered to be a top priority by most all researchers. There is also some reference to co-workers support, although this element is not very popular in most of the research. Communication, employee participation and teamwork are also cited frequently and have gained further importance in recent research. Finally, there are frequently cited barriers to suggestion schemes, as well as suggestion scheme benefits. While each factor and criterion prove necessary for the success of suggestion schemes, there is room to investigate if these elements are interrelated in any way and, if so, whether the effectiveness of suggestion systems can be further enhanced by improving the relationship or interaction between specific factors to reduce barriers to success.

No.	Critical success factors	Critical success criteria	Source
1		Commitment and accountability	Carrier (1998), Gorfin (1969), Dickinson (1932), Milner *et al.* (1995), Bassaford and Martin (1996), Du Plessis *et al.* (2008)
2		Cost saving	Lloyd (1996), Carrier (1998), Khanna *et al.* (2005), Leach *et al.* (2006), Bassaford and Martin (1996)
3		Customer satisfaction	Arif *et al.* (2010), Marx (2008), Gupta *et al.* (2005), Bassaford and Martin (1996)
4		Improvement in process	Arthur *et al.* (2010), Marx (1995), Leach *et al.* (2006), Gorfin (1969), Bassaford and Martin (1996), Crail (2006), Verdinejad *et al.* (2010)
5		Job control	Sadi and Al-Dubaisi (2008), Anderson and Veillette (2008), Wong and Pang (2003), Neagoe and Klein (2009), McConville (1990)
6		New revenue	Lloyd (1996), Carrier (1998), Khanna *et al.* (2005), Leach *et al.* (2006), Bassaford and Martin (1996)
7		Product quality	Ahmed (2009), Islam (2007), Arif *et al.* (2010), Bassaford and Martin (1996), Crail (2006), Verdinejad *et al.* (2010)
8		Sense of security	Carrier (1998), Gorfin (1969), Dickinson (1932), Milner *et al.* (1995), Bassaford and Martin (1996), Fuller *et al.* (2002)
9		Employee satisfaction	Bell (1997), Islam (2007), Lloyd (1996), Carrier (1998), Leach *et al.* (2006), Basadur (1992)
10	Co-worker support		Arif *et al.* (2010), Binnewies *et al.* (2008)
11	Communication		Aoki (2008), Arthur *et al.* (2010), Binnewies *et al.* (2007), Björklund (2010), Klijn and Tomic (2010), Kudisch (2006), McConville (1990), Ahmed (2009), Recht and Wilderom (1998), Tatter (1975), Khairuzzaman *et al.* (2007), Fairbank and Williams (2001), Stranne (1964)
12	Competition		Bakker *et al.* (2006)
13	A simple and effective system		Reuter (1976), Lloyd (1996), 1999), Marx (1995), McConville (1990), Fairbank *et al.* (2003), Mishra (1994), Prather and Turrell (2002), Rapp and Eklund (2007), Tatter (1975), Van Dijk and Van Den Ende (2002), Arif *et al.* (2010), Frese *et al.* (1999), Hultgren (2008), Winter (2009), Fairbank and Williams (2001), Lloyd (1999), Basadur (1992), Hultgren (2008)
14	Employee confidence		Bell (1997), Islam (2007), Lloyd (1996), Carrier (1998), Leach *et al.* (2006), Janassen (2004), Bassaford and Martin (1996), Crail (2006), Du Plessis *et al.* (2008), Verdinejad *et al.* (2010)

Table I.
Critical success factors and criteria for suggestion schemes

(*continued*)

No.	Critical success factors	Critical success criteria	Source
15	Employee participation		McConville (1990), Lloyd (1996), Fairbank and Williams (2001), Neagoe and Klein (2009), Bassaford and Martin (1996)
16	Empowerment		Recht and Wilderom (1998), Lipponen *et al.* (2008), Mclean (2005), Axtell *et al.* (2000), Unsworth (2005)
17	Evaluation		Rietzschel *et al.* (2010), Neagoe and Klein (2009), Marx (1995), McConville (1990), Ahmed (2009), Tatter (1975), Van Dijk and Van den Ende (2002), Hultgren (2008), Lloyd (1996), Winter (2009), Fairbank and Williams (2001), Dean *et al.* (2006)
18	Expertise		Griffiths-Hemans and Grover (2006)
19	Feedback		Cho and Erdem (2006), Bakker *et al.* (2006), Buech *et al.* (2010), Leach *et al.* (2006), Mishra (1994), Rapp and Eklund (2007), Arif *et al.* (2010), Hultgren (2008), Fairbank and Williams (2001), Stranne (1964), Basadur (1992), Van Dijk and Van den Ende (2002), Du Plessis *et al.* (2008), Verdinejad *et al.* (2010)
20	Individual attributes		Lipponen *et al.* (2008), Verworn (2009), Frese *et al.* (1999), Axtell *et al.* (2000), Aoki (2008), Binnewies *et al.* (2007), Björklund (2010), Griffiths-Hemans and Grover (2006), Klijn and Tomic (2010), Arthur *et al.* (2010), Darragh-Jeromos (2005)
21	Job factors		Björklund (2010), Buech *et al.* (2010), Griffiths-Hemans and Grover (2006), Frese *et al.* (1999), Axtell *et al.* (2000)
22	Networking		Yuan and Zhou (2008), Madjar (2008), Björk and Mangusson (2009)
23	Organizational support		Fairbank and Williams (2001), Ahmed and Buhumaid (1998), Amabile *et al.* (1996), Björklund (2010), Darragh-Jeromos (2005), Griffiths-Hemans and Grover (2006), Klijn and Tomic (2010), Kudisch (2006), Neagoe and Klein (2009), Mclean (2005), McConville (1990), Prather and Turrell (2002), Recht and Wilderom (1998), Stranne (1964), Van Dijk and Van den Ende (2002), Bell (1997), Khairuzzaman *et al.* (2007), Vandenbosch and Saatcioglu (2006), Bakker *et al.* (2006)

(*continued*)

Table I.

No.	Critical success factors	Critical success criteria	Source
24	Organizational impediments		Stenmark (2000), Seidler-de AlwisAlwis and Hartmann (2008), Anderson and Veillette (2008), Wong and Pang (2003), Toubia (2006), Bakker *et al.* (2006), Lloyd (1999), Fairbank *et al.* (2003), Du Plessis *et al.* (2008), Carrier (1998), McConville (1990)
25	Publicity		Reuter (1976), Mishra (1994), Tatter (1975), Fairbank and Williams (2001), Kudisch (2006), Neagoe and Klein (2009), Leach *et al.* (2006), Marx (1995), McConville (1990), Prather and Turrell (2002), Lloyd (1996), Winter (2009), Crail (2006), Verespej (1992)
26	Resources		Griffiths-Hemans and Grover (2006), Klijn and Tomic (2010), Mclean, 2005, McConville (1990), Van Dijk and Van den Ende, 2002, Lloyd, 1996, Bakker *et al.*, 2006
27	Rewards		Lloyd (1996), Klijn and Tomic (2010), Arthur *et al.* (2010), Bartol and Srivastava (2002), Darragh-Jeromos (2005), Neagoe and Klein (2009), Leach *et al.* (2006), Lloyd (1999), Marx (1995), McConville (1990), Du Plessis *et al.* (2008), Ahmed (2009), Mishra (1994), Rapp and Eklund (2007), Tatter (1975), Van Dijk and Van Den Ende (2002), Arif *et al.* (2010), Bell (1997), Frese *et al.* (1999), Winter (2009), Crail (2010), Rietzschel *et al.* (2008), Lloyd (1999)
28	Suggestion implementation		Marx (1995), McConville (1990), Hultgren (2008), Lloyd (1996), Cho and Erdem (2006)
29	Supervisor support		Mclean (2005), Marx (1995), Tatter (1975), Frese *et al.* (1999), Lloyd (1996), Ohly *et al.* (2006), Arif *et al.* (2010), Hardin (1964)
30	Teamwork		Rapp and Eklund (2007), Amabile *et al.* (1996), Aoki (2008), Carrier (1998), Darragh-Jeromos (2005), Mclean (2005), McConville (1990), Fairbank and Williams (2001), Paulus and Yang (20000, Basadur (1992)
31	Leadership and top management support		Carrier (1998), de Jong and Den Hartog (2007), Marx (1995), McConville (1990), Du Plessis *et al.* (2008), Ahmed (2009), Mishra (1994), Prather and Turrell (2002), Khairuzzaman *et al.* (2007), Bell (1997), Unsworth (2005), Hayward (2010), Basadur (2004)
32	Training		Paulus (2008), Tatter (1975), Stranne (1964), Birdi (2005)

Table I.

Trends in suggestion schemes

A major notable shift in the operation of employee suggestion systems is the increased sophistication and use of technology that has moved these schemes from traditional suggestion boxes toward highly sophisticated electronic systems. As the technology continues to evolve, it would be interesting to see if the latest trends, such as mobile computing, can further foster employee participation and idea generation. Over the years, research has suggested that the usability of the suggestion systems affects their successful outcome; thus, it is worth pursuing further research on user interfaces within suggestion systems and the effect of trends in the media and communications industry toward improving employee usability. Increased usage of social networks sites and improved accessibility can have a huge impact on publicity and promoting employee interest in suggestion scheme participation. Such advanced modes of publicity not only improve individuals' ability to contribute to suggestion schemes but also trigger their creative talents and increase opportunities for discussion, collaboration and teamwork.

Most interestingly, these new technologies can boost teamwork to a new level through collaboration in a virtual environment. A further notable trend in research of the suggestion schemes is the focus on creativity. Suggestion schemes do not merely collect suggestions from employees but also trigger employee creativity. So research focused on exploring the key elements of suggestion schemes and their impact on employee creativity would also be valuable.

Sustainability is yet another focus area for successful suggestion systems. A question emerging from this review is whether the so-called "critical success factors" could be further enhanced in light of the advances in technology, communication and other industry trends. If the answer is yes, then how would these enhanced factors affect the sustainability of suggestion systems?

To help discern what factors and criteria are considered more important for suggestion systems, Figure 3 charts the frequency of appearance of critical success factors and criteria from Table I for the 107 articles analyzed in this review. As noted earlier, a good number of factors have been cited as early as 1960 and are consistently appearing in the literature thereafter. More interestingly, in the past decade, a significant number of factors seem to have gained importance as evidenced by their frequency of appearance. The most frequently cited factors include communication, teamwork, training, evaluation, feedback, improvement in process, organizational support, publicity, sense of security and simple and effective system.

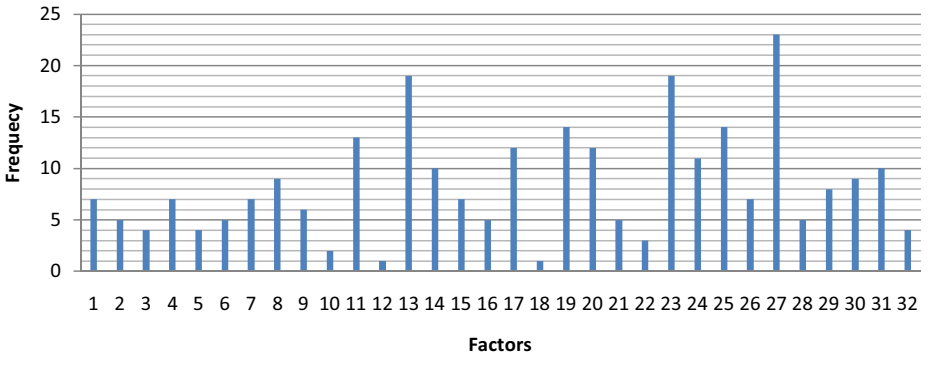

Figure 3.
Frequency of factor and criteria appearance

Finally, the literature, while extolling the many virtues of suggestion programs, makes it clear that achieving the expected results from these programs is quite challenging. Suggestion schemes will not yield results without the active involvement of everyone in the organization together with the required resources and support from top management. It is also evident that sustaining a suggestion scheme is not easy. A greater understanding of the determinants of suggestion system sustainability could help organizations adopt a successful system strategy. Accurate research will require a definition of suggestion system sustainability to avoid misunderstandings or differences in perception of the concept. Therefore, the following is proposed as a definition of suggestion system sustainability: "the achievement of stakeholders' stated goals involving competent management, profitability, employee productivity and continuous process improvement now and in the future". The sustainability of suggestion schemes is not just a binary state of sustaining or not sustaining, but rather it is influenced by many different factors producing varying degrees of sustainability. An interesting topic to pursue in this area would be to develop a mechanism for assessing the impact of various drivers and barriers upon the success and sustainability of suggestion schemes.

Conclusion

This literature review discussed the history and nature of employee suggestion systems. Suggestion schemes create a win-win situation in organizations by providing a mechanism for organizations to capture the creative ability of their employees. Traditionally, most studies on suggestion systems have examined their nature, content and processes. This paper identifies critical success factors and critical success criteria for employee suggestion systems based on a review of suggestion system literature. The frequency of the citation of these factors is also noted. Furthermore, this review also identified some typical pitfalls noted in the literature which would affect suggestion systems negatively. Organizations need to assess their schemes in light of these factors for its sustainability and to recognize whether the right conditions exist for their schemes to flourish. While there have been some previous studies that explore the sustainability of suggestion systems, there are opportunities for additional research to extend this body of knowledge and to potentially increase the effectiveness of employee suggestion systems within organizations.

Limitations and future research

This paper extracted critical success factors and criteria using a database search of academic papers and professional journals. The database search was limited to only key words relating to suggestion schemes. As such, there may be some practical examples of employee suggestion systems that would have fallen outside the data-gathering parameters.

In the next stage of this research, we will send out survey questionnaires to suggestion system practitioners to evaluate the degree of criticality and importance of the success factors identified in the literature. We are also interested in studying how these factors contribute to the sustainability of a suggestion system assessment framework.

It would also be an interesting area to pursue if all the success factors and success criteria cited would be relevant to determine the sustainability of the suggestion system. Does each of these factors carry same level of importance or would there be any impact in the order of their influence is some of the key areas for future research.

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