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Farooq Ahmed, M. Muzamil Naqshbandi, Sharan Kaur, Boon Kwee Ng,

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Roles of leadership styles and relationship-based employee governance in open service innovation

Leadership styles and open service innovation

Evidence from Malaysian service sector

Farooq Ahmed

Institute of Graduate Studies, University of Malaya, Kuala Lumpur, Malaysia

M. Muzamil Naqshbandi

Dubai Business School, University of Dubai, Dubai, United Arab Emirates

Sharan Kaur

Faculty of Business and Accountancy, University of Malaya, Kuala Lumpur, Malaysia, and

Boon Kwee Ng

Faculty of Science, University of Malaya, Kuala Lumpur, Malaysia

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Abstract

Purpose – The purpose of this paper is to investigate the relationship of leadership styles (paternalistic, authentic and democratic) with relationship-based employee governance and open service innovation.

Design/methodology/approach – Data were collected using a structured questionnaire from 422 medical professionals working in the Malaysian healthcare sector.

Findings – Results of several statistical analyses showed that the three leadership styles positively influence relationship-based employee governance and open service innovation. Results also confirmed the mediating role of relationship-based employee governance in the relationships between the three leadership styles and open service innovation.

Research limitations/implications – This research used a cross-sectional study design; use of a longitudinal research design in future research can provide a better interpretation of the underlying causality. A policy insight can be drawn from this research to generate awareness about effective leadership styles and the role of relationship-based employee governance in the successful implementation of open service innovation in the Malaysian healthcare sector.

Originality/value – This paper contributes to leadership, open innovation, and organizational governance literature by highlighting how leadership styles affect relationship-based employee governance and open innovation. It also offers policy insights to practitioners in the Malaysian healthcare sector on how to enhance open service innovation outcomes.

Keywords Malaysia, Authentic leadership style, Democratic leadership style, Open service innovation, Paternalistic leadership style, Relationship-based employee governance

Paper type Research paper

Introduction

Recent research has shown that majority of the European and American organizations have embraced the open innovation model to build competitive advantage (von Briel and Recker, 2017). In this regard, the extant literature indicates that leadership plays a vital role in building a competitive advantage by creating organizational synergies and overcoming resistance to change when new initiatives are introduced (Lerner and Tirole, 2005).

Past research has examined the role of different leadership styles – transformational, transactional and participative – in making organizations innovative (see Engelen *et al.*, 2014; Kang *et al.*, 2015; Lee and Cavusgil, 2006; Sarros *et al.*, 2008). Evidently, leaders



stimulate followers' psychological processes for innovative behavior (Gong *et al.*, 2009; Lee, 2008), knowledge creation and sharing procedures (Goh, 2002; Von Krogh *et al.*, 2012) and intellectual capital (Putri, 2015). These elements are essential attributes of the open service innovation paradigm (Chesbrough, 2011). Many studies show that leaders play a key role in the deployment of open innovation as a source of competitive advantage (Chen *et al.*, 2016; Chesbrough, 2011; Fleming and Waguespack, 2007; Laursen and Salter, 2006). Despite these theoretical developments, the influence of leadership styles on the successful deployment of open service innovation is an area which has not received its due attention (Chesbrough, 2011; Lerner and Tirole, 2001; Perrone *et al.*, 2003). Against this backdrop, this paper aims to examine the role of leadership in open service innovation.

A majority of leadership research has focused on generic leadership styles such as transformational, transactional and laissez-faire leadership styles (see Engelen *et al.*, 2014; Kang *et al.*, 2015; Lee and Cavusgil, 2006; Sarros *et al.*, 2008). The advances in leadership theory in the last four decades have resulted in the emergence of new leadership styles such as paternalistic, democratic and authentic leadership styles (Aycan, 2006). This study thus focuses on the relationship of these leadership styles (paternalistic, democratic and authentic) with open service innovation. Additionally, this study examines the mechanism through which these leadership styles affect open service innovation. In this regard, governance is recognized as a mechanism used by organizations to support and control systems to gain competitive advantage.

Research has focused on the effective governance mechanism through which organizations mobilize their knowledge capital (i.e. employees) for knowledge sharing to gain competitive advantage (Makadok, 2003; Wallin and Von Krogh, 2010; Wang *et al.*, 2009). The governance theory has two distinct dimensions: stock ownership-based employee governance and relationship-based employee governance (Wang *et al.*, 2009). Lee and Cavusgil (2006) argued that the relationship-based employee governance structure is more efficient in building a trust-oriented relationship through the incorporation of specific policies, strengthening and stabilizing the relationship among employees and facilitating the knowledge sharing process. This mechanism provides a sense of belonging, security, and safety of long-term interests which ultimately helps in aligning the goals of an individual with the organizational goals (Ouchi, 1980; Wang *et al.*, 2009). Governance has also been studied in various management scenarios dealing with organizational performance and efficiency (Adler and Bernstein, 2005; Chenhall, 2003; Knill and Lehmkuhl, 2002; Wilkins and Ouchi, 1983). The leaders establish this mechanism to consolidate the knowledge resources in an organization to build competitive advantage (Gambardella *et al.*, 2015). Thus, as also endorsed by the transaction cost (Williamson, 1981) and resource dependence (Pfeffer and Salancik, 2003) theories, organizations require an effective governance mechanism to build competitive advantage. Recent research in the domain of leadership, governance, and open service innovation has recommended investigating the combination of these constructs to build competitive advantage for the organization (Chesbrough, 2011). This paper thus posits the mediating role of relationship-based employee governance in the relation of leadership styles and open service innovation.

By addressing several calls for research to test the mediating mechanism for better understanding of how leadership styles facilitate open service innovation (Lerner and Tirole, 2001; Rasiah *et al.*, 2011), this paper contributes to the body of knowledge by empirically testing the direct and mediated links between leadership styles and open service innovation in an Eastern context. Findings from diverse cultural settings could highlight variation in expected outcomes of leadership and open service innovation – areas mainly developed and tested in the Western context (Pellegrini *et al.*, 2010). This paper is a response to call for future research in the Eastern context, and in this case, the healthcare sector in Malaysia is focused. Emerging countries such as Malaysia are investing a significant

portion of their budgets in the healthcare sector to bring innovation as a source of competitive advantage (Hooker, 2010). With the aim to achieve the status of a developed nation by 2020, the Malaysian Government has identified healthcare industry among the 12 National Key Economic Areas in its Economic Transformation Program (ETP). The ETP is expected to contribute to the overall development of the economy by generating considerable revenue to compete in the global healthcare industry. In this connection, an investigation of open service innovation in health sector organizations in Malaysia seems crucial and is expected to bring key policy insights to policymakers. Further, with some exceptions (e.g. Evangelista, 2000; Tether, 2003), most of the open innovation research has focused on the manufacturing sector (Metcalfe and Miles, 2000; Tether, 2003, 2005). Therefore, ample room exists for empirical investigation into the theory of open service innovation (Mina *et al.*, 2014), and as such, this paper focuses on the services sector in Malaysia. The following sections present the theoretical background and hypothesis development, methods used, findings, their discussion and implications of the study.

Theoretical background and hypotheses

Organizations focus considerable attention on the ways through which they can attain, mobilize and share their knowledge required for open service innovation. Relying on the Transaction Cost Theory (TCT) (Williamson, 1981) and Resource Dependency Theory (RTD) (Pfeffer and Salancik, 2003), this study examines the effect of relationship-based employee governance mechanism on open service innovation. TCT is among the most important theories that explain the consequence of diverse organizational structures and environments (Hillman *et al.*, 2009). According to the TCT, organizations choose a specific governance system to reduce their transaction cost to the minimum level. One assumption of the TCT is that transaction cost increases as asset specificity increases. Dyer (1997, p. 539) argued that “while transaction costs may increase with asset specificity, they will also vary independently of asset specificity” due to the use of the appropriate governance structure. An organization can implement open service innovation by establishing the governance structures that focus on building the long-term relationships through formal socialization processes based on understanding and cooperation between external and internal partners. This cooperation among the different partners is not only based on minimizing the transaction cost but also optimizing the transaction value in terms of learning opportunities. Relationship-based employee governance encourages cooperation and builds strong bilateral relationship inside and outside the organizations (Poppo and Zenger, 2002). On the other hand, the RDT has become one of the most influential theories in strategic management (Hillman *et al.*, 2009). RTD extends the understanding of how organizations can utilize their intangible resources (e.g. knowledge) for attaining a competitive advantage over time. According to the RDT, “to understand the behavior of an organization you must understand the context of that behavior – that is, the ecology of the organization” (Pfeffer and Salancik, 1978, p. 1). A variety of research combining the RDT and relational perspective of the organization suggests that organizations try to minimize the dependence of resources on other organizations and find ways to secure and increase the resources they need. They manage their resource dependency through different alliances, cooperation, mergers and acquisitions (Pfeffer and Salancik, 1978).

Open service innovation

The open service innovation model offers an approach that shows how open innovation combined with a services approach to business can be an effective way to grow and compete in the services-based economy (Chesbrough, 2010). According to Chesbrough (2003a) “open innovation is a paradigm which assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as firms look to advance

their technology.” Thus, engaging with customers and collaborating with a firm’s external partners (e.g. suppliers) can be vital in sourcing external knowledge which firms can use to gain knowledge capital-based competitive advantage (Chesbrough, 2010; West and Bogers, 2014). Chesbrough *et al.* (2006) discussed the importance and relevance of open innovation in the services sector and highlighted how the open service innovation framework can help to identify, approach and use the knowledge capital available outside the boundaries of a firm (Kelleher *et al.*, 2012; Neyer *et al.*, 2009; Teece, 2007).

Leadership styles and open service innovation

Leaders who adopt the paternalistic leadership style combine strong discipline and authority with fatherly benevolence and moral integrity (Farh and Cheng, 2000). The paternalistic leadership style combines three dimensions: authoritarianism, benevolence and morality. Authoritarianism refers to the assertion of authority and control, benevolence refers to the behavior of leaders that show concern and well-being for their followers, while morality depicts the leader behavior that demonstrates superior personal virtues of the leader. The coexistence of benevolence, authority, and moral character in paternalistic leadership style reflects what Jackman (1994) called paternalism as “velvet glove” which is based on father-child relationship. According to Aycan (2006), the paternalistic leadership style is successful and effective in terms of outcomes particularly in the non-Western cultures.

Farh and Cheng (2000) argued that the benevolence attribute of paternalistic leadership encourages employees to express their ideas in the decision-making process and contributes to innovation. At the same time, positive emotional attachment and secure feeling among employees resulting from the caring attitude of a paternalistic leader could help initiate psychological resources of employees for better innovative outputs. A paternalistic leadership style also facilitates the process of adaptation and idea-sharing in a secure working atmosphere. Comfortable and safe work environment with enhanced affiliation may as well help employees in value co-creation with customers (Saputri and Mulyaningsih, 2016) which is an important attribute of open service innovation (Chesbrough, 2011). The paternalistic leaders also establish the moral standards for their followers that help them in establishing a supportive environment for open service innovation (Wang *et al.*, 2011). Along these lines, Fu *et al.* (2013) tested an integrated model of paternalistic leadership style and innovation and established the influential role of authoritarianism and benevolence in innovation. Based on this, a positive association is expected between paternalistic leadership style and open service innovation, which leads to the following hypothesis:

H1a. Paternalistic leadership style is positively related to open service innovation in an organization.

Leaders who adopt the democratic leadership style involve organizational members by encouraging them to take a more participative role in the decision-making process. Therefore, democratic leaders rely on the active involvement of the members, group decision-making, criticism and a certain degree of comradeship (Lewin and Lippitt, 1938). Democratic leaders display behaviors which are consistent with the basic democratic principles such as equal participation, inclusiveness, self-determination and deliberation (Dahl, 1991; Fishkin, 1991). Involving others to contribute to decision-making process promotes a sense of belongingness among the followers and they feel in control of their own destination. Followers’ involvement in the task, keeping them open for their suggestions, and continuous feedback on their performance, friendliness and positive attitude are considered to be the major dimensions of the democratic leadership style (Bass, 1991; Chemers, 1984; Choi, 2007; Dahl, 1991; Luthar, 1996). Democratic leadership is associated with greater employee satisfaction, enhanced commitment of followers and better performance (Foels *et al.*, 2000; Hackman and Johnson, 2013).

According to Anderson (1959), democratic leaders share and exchange the information and feedback with followers to keep their morale high for better productivity. The characteristics of democratic leaders such as participation, support and friendliness (Bass, 1991; Chemers, 1984; Luthar, 1996) promote the free flow of ideas throughout the organization and, as such, are expected to foster open service innovation. Specifically, when employees perceive that they are personally important, they put more efforts in helping the organization achieve its objectives. Kastalli and Van Looy (2013) argue that the traits of democratic leaders help them establish a service-oriented management style to transform the traditional model of business to open service innovation framework. Chesbrough (2003b) described open service innovation as an important mechanism to bring innovative concepts at both internal and external levels in the organization. In this regard, friendliness, better communication, positive attitude and inclusiveness are the major characteristics of democratic leaders (Anderson, 1959; Bass, 1991), which can help in establishing a climate to foster open service innovation. Based on this, the following hypothesis is suggested:

H1b. Democratic leadership style is positively related to open service innovation in an organization.

Based on the concept of authenticity originating from the Greek philosophy (Kaur and Naqshbandi, 2015), the authentic leadership style is defined as “a pattern of transparent and ethical leader behaviour that encourages openness in sharing information needed to make decisions while accepting input from those who follow” (Avolio *et al.*, 2009, p. 424). Leaders displaying this leadership style build an open and transparent relationship with their followers. Such leaders possess self-awareness that eventually influences employee behavior. Such leaders encourage information sharing, which in turn enables the employees to share their innovative ideas for implementation (Walumbwa *et al.*, 2010). Authentic leaders are known to influence their followers’ effectiveness by setting high ethical and moral standards, and by reinforcing openness with others (relational transparency). Such leaders also consider opinions and suggestions of others before making final decisions (balanced processing) and demonstrate self-awareness by understanding their own strengths and weaknesses and how their actions affect others (Gardner *et al.*, 2005).

Authentic leaders support risk-taking among their followers and encourage finding innovative solutions to problems. Michie and Gooty (2005) noted that authentic leaders possess benevolent features, including tolerance for others, treating others with respect, going the extra mile for the group without any self-interests, and remaining open to other individuals’ ideas. These characteristic of authentic leaders motivate employees toward creative and innovative work (Shalley and Gilson, 2004). The extant research argues that authentic leadership supports productive workforce and behaviors which contribute to organizational performance (Avolio and Gardner, 2005; George and Bennis, 2008; Shalley and Gilson, 2004). According to Chesbrough (2003, p. 15), the presence of these resources (e.g. productive workforce, outlook and behaviors of a firm) are positively related to the open service innovation performance. In addition, the authentic leadership style features relate positively with the associated characteristics of the successful management of open innovation (Avolio and Gardner, 2005). Hence based on these arguments, the following hypothesis is proposed:

H1c. Authentic leadership style is positively related to open service innovation in an organization.

Leadership styles and relationship-based employee governance

Research has dwelled on the factors that drive or inhibit the implementation of open innovation and suggested the need for leaders who can drive changes through new processes,

mindsets, and structures within the firm to successfully implement open innovation (Kaur *et al.*, 2014). As past research shows, Malaysian culture is paternalistic in nature (Kennedy, 2002). This culture is known to influence the leadership styles of Malaysian leaders. Especially, the benevolent aspect of paternalistic leadership style is effective and critical in Malaysian business societies (Ansari *et al.*, 2004). Aycan (2006) argued that benevolence and authoritarianism are the main attributes of paternalistic leadership style. Researchers have confirmed the validity and applicability of the triad model of paternalistic leadership style in non-western culture (Cheng *et al.*, 2004; Pellegrini and Scandura, 2006). Based on the dimensional view of paternalistic leadership style, it is argued that authoritarian characteristic of paternalistic leaders helps in establishing and maintaining the process and procedures to build a long-term caring relationship with subordinates (Aycan, 2006; Cheng *et al.*, 2004). Besides, moral character is one of the important dimensions of paternalistic leadership, especially in the Asian context (Cheng *et al.*, 2004). Hence, paternalistic leaders are expected to act as a role model by following moral standards which enable followers to believe their benevolence and accept their authority. These attributes motivate the employees to increase their obedience of the leader (Niu *et al.*, 2009) and expect him/her to establish the sense of safety and security among the followers. On the other hand, relationship-based employee governance focuses on setting procedures and establishing norms and practices which can be helpful in developing a long-term trust-based relationship with the key employees within an organization (Wang *et al.*, 2009). Thus, the paternalistic leader is expected to promote and establish practices of relationship-based employee governance due to the natural match of this governance style with paternalistic leadership attributes. Hence a positive association is expected and hypothesized between paternalistic leadership style and relationship-based employee governance. This leads to the following hypothesis:

H2a. Paternalistic leadership style is positively related to relationship-based employee governance.

Democratic leadership is a leadership style which relies on the involvement of the group in decision making (Lewin and Lippitt, 1938). The special characteristics of democratic leadership which differentiate this style from other leadership styles include: involving the followers in the task, delivering the sense of ownership to them and always being open and available for discussion regarding the role played by individuals (Dahl, 1991; Fishkin, 1991). Additionally, better and effective communication including feedback, friendliness, positive attitude and inclusiveness are described as basic attributes of a democratic leadership style (Anderson, 1959; Bass, 1991; Chemers, 1984; Luthar, 1996). Individuals, when included in the overall decision making by the leader, feel more satisfied (Foels *et al.*, 2000). On the other hand, organizational governance is considered an important mechanism to achieve desired goals of the organization (Chenhall, 2003) and for the effectiveness of this governance mechanism, an appropriate leadership style is essential. Such a leadership style provides direction and motivation to the employees for the proper functioning of this mechanism to achieve innovative outputs (Alpkan *et al.*, 2010). Additionally, relationship-based employee governance is about ownership and more involvement of employees in organizational processes and decision-making (Wang *et al.*, 2009). Thus, a democratic leader, due to the characteristics of increased focus on employee involvement in decision making and sharing authority, is expected to prefer the establishment of relationship-based employee governance mechanism. The sense of involvement and empowerment helps the individuals overcome the resistance to change and support existing mechanism established by the democratic leader. Hence the following hypothesis is formulated:

H2b. Democratic leadership style is positively related to relationship-based employee governance.

As highlighted above, authentic leaders build a positive working environment and motivate their employees toward critical thinking. The key attributes of authentic leadership are “balanced processing, relational transparency and internal moral perspective” (Walumbwa *et al.*, 2008, p. 94). Balanced processing characteristic allows the authentic leaders to take the input from their employees before making any final decision. These leaders emphasize relational transparency by encouraging employee participation in decision-making processes. The moral perspective of authentic leaders sets them as a role model for high ethical and moral values. Walumbwa *et al.* (2008) highlighted the positive role of these leader traits in enhancing the self-development of followers. Similarly, relationship-based employee governance is associated with involvement of employees in decision-making and earning their trust for a long-term relationship (Wang *et al.*, 2009). As a result, an authentic leadership style can be expected to prefer relationship-based employee governance mechanism due to the natural match of their style attributes with this governance system. Since establishing a relationship-based employee governance mechanism can help in aligning the employee goals with the organizational goals, a positive association is expected between authentic leadership style and relationship-based employee governance. This leads to our next hypothesis:

H2c. Authentic leadership style is positively related to relationship-based employee governance.

Relationship-based employee governance and open service innovation

Many studies have highlighted the importance of organizational governance mechanisms and organizational structure in open innovation. For instance, Naqshbandi and Kaur (2013) argued that an informal organizational structure supports the deployment of open innovation more than the formal organizational structure. However, the role of employee governance has hardly been studied *vis-à-vis* open service innovation paradigm. According to the knowledge-based view, organizations possess limited tangible and intangible resources. Intangible resources are difficult to imitate and more likely to produce a competitive advantage for the organization (Hitt *et al.*, 2006). Among these resources, employee knowledge is the most important resource (Kogut and Zander, 1992). However, knowledge resources alone may not lead to superior economic performance since a governance mechanism is crucial to accrue the related benefits. Hence, a relationship-based employee governance mechanism is helpful in building trust and fostering the level of openness in the organization. Such a governance mechanism also helps in motivating the human capital to contribute ideas for the achievement of organizational goals (Wang *et al.*, 2009). Adler and Bernstein (2005) highlighted that a governance mechanism can help to build a strong trusting relationship with employees by aligning the individual goals with organizational goals. Thus, mutual trust among employees facilitates learning and accelerates knowledge transfer process (Kale *et al.*, 2000). In addition, Ouchi (1992) showed that relationship-based governance is associated with greater employee commitment and employee cooperation. It is argued that a relationship-based employee governance mechanism will foster openness in an organization by motivating the human capital to absorb and incorporate internal and external ideas toward the achievement of organizational goals. As per the attributes of open service innovation, value co-creation with the customers and adopting service-oriented management styles require the employees to go the extra mile. This extraordinary effort may only be expected from employees by delivering to them a message of safety, security and long-term orientation by establishing a relationship-based employee governance mechanism. Hence a positive association between

relationship-based employee governance mechanism and open service innovation is expected. Thus, the following hypothesis is suggested:

H3. Relationship-based employee governance is positively related to open service innovation in an organization.

Mediating roles of relationship-based employee governance in leadership styles and open service innovation

Extant literature shows that an effective governance mechanism and leadership positively influence employee performance which in turn leads to superior organizational performance (Lajili, 2015; Wang *et al.*, 2009). Paternalistic leaders use fatherly behaviors to motivate the followers to achieve innovative outcomes (Fu *et al.*, 2013). Aycan (2001) conducted a research in the Turkish context and found that paternalistic leadership is positively associated with several practices of human resource management. It was also reported that leaders having substantial care for their employees are capable of increasing their motivation level (Aycan, 2001). In this way, paternalistic leadership establish effective governance mechanisms to achieve organizational goals which could include enhanced open service innovation outcomes.

Moreover, a democratic leadership style is associated with sharing of innovative ideas by involving and empowering the followers in the process of governance (Chemers, 1984; Gastil, 1994; Luthar, 1996). Democratic leaders encourage knowledge sharing across organizational boundaries that can foster activities related to open service innovation (Kuczmariski and Kuczmariski, 1995). Organizations also gain and share their knowledge with associated external parties to enhance the firm's abilities for open service innovation and adjust their system requirements accordingly (Chesbrough and Crowther, 2006). In this context, a relationship-based employee governance mechanism enhances an organization's ability to acquire and disseminate the acquired knowledge for deployment of open service innovation (Vanhaverbeke and Cloodt, 2006). Several studies support the notion that relationship-based employee governance is an effective mechanism for positive organizational outcomes (Lee and Cavusgil, 2006; Vanhaverbeke and Cloodt, 2006). Thus, it is argued that democratic leaders influence and establish relationship-based employee governance structure which can lead to better open service innovation outcomes.

Furthermore, authentic leaders are effective in situations of change and ambiguity and such leaders inspire their followers' attitude/behaviors for the achievement of innovative outcomes (Patterson, 1999). This quality of authentic leaders helps them in establishing an effective governance mechanism for better innovative performance. Besides, authentic leaders' attributes of openness and providing positive and constructive feedback to the followers (Zhou and George, 2001) can make them successful in open service innovation. On the other hand, a relationship-based employee governance mechanism is effective in motivating the employees to handle any undesired events during open service innovation adoption. Such a governance mechanism also motivates employees to invest in key knowledge resources for the achievement of organizational objectives (Lee and Cavusgil, 2006; Wang *et al.*, 2009). The attributes of relationship-based employee governance mechanism can thus help in creating a conducive atmosphere for adoption of the open service innovation model in an organization. Therefore, it is expected that relationship-based employee governance is a mechanism through which authentic leaders can achieve better open service innovation outcomes. Based on these arguments, the following three hypotheses are suggested (Figure 1):

H4a. Relationship-based employee governance mechanism mediates the relationship between paternalistic leadership style and open service innovation.

H4b. Relationship-based employee governance mechanism mediates the relationship between democratic leadership style and open service innovation.

H4c. Relationship-based employee governance mechanism mediates the relationship between authentic leadership and open service innovation.

Methods

Sample and descriptive statistics

This study was conducted in the healthcare sector in Malaysia. Malaysia is among those countries which are striving for the development of their healthcare sector to cater to the needs of the global patients and offer affordable and quality healthcare services to international medical tourists. This study used data collected from full-time medical doctors working in ten private, public and semi-government hospitals operating in Malaysia. The medical doctors working in Malaysian healthcare organizations directly deliver services to patients. Therefore, in this study, they were asked questions related to open service innovation in their organizations. They were also asked questions related to the leadership style of their leaders in their day-to-day activities. Due to the direct interaction of the doctors with the patient and the system incorporated in the surveyed organizations, doctors were also asked to rate their organizational practices related to governance mechanism established in their organizations.

The data were collected using a questionnaire survey and a cross-sectional field design was used. Before proceeding with data collection, the instrument used in this study was approved by the research ethics committee, and the dean of the Institute of Graduate Studies, University of Malaya in Kuala Lumpur. This research was also registered under the National Medical Research Register Ministry of Health (Malaysia) research registration program. A supporting letter from the university along with an approval letter from the ethics committee was furnished to the respondents to gain consent for their voluntary participation in this study. A cover letter was also attached to the survey which explained the scope of the study and ensured confidentiality and anonymity of the responses. The survey was personally administered by one of the researchers and the returned responses were checked for missing values and respondent disengagement (Hair *et al.*, 2010). After discarding 28 responses due to one or more preceding reasons, 422 complete and useable responses were used for further data analysis. A response rate of 93.7 percent was thus achieved. Out of 422 respondents, 327 were from the public sector and 22 from the private sector, while the remaining 73 were from semi-government organizations. Of all the respondents, 231 (54.7 percent) were male and 191 (45.3 percent) were female. The mean age of respondents was 29.8 years (SD = 5.49) and they had 4.82 years (SD = 4.69) of experience on average. The average number of specialist doctors reported in each organization was 51.

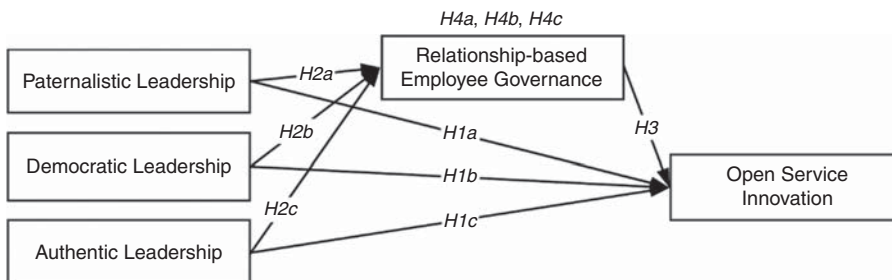


Figure 1.
Theoretical framework

Measures

Paternalistic leadership style. A five-item scale was used to measure paternalistic leadership (Aycan *et al.*, 2000). The responses were captured on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Some sample items are: "The ideal boss is like a parent" and "Managers should provide fatherly advice and directions to their subordinates." The reliability (Cronbach's α) of this scale was found to be 0.78.

Authentic leadership style. A 16-item scale for authentic leadership style was used in this study (Neider and Schriesheim, 2011). The responses were captured on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Sample items include: "My leader describes accurately the way that others view his/her abilities" and "My leader shows consistency between his/her beliefs and actions." The reliability (Cronbach's α) of the authentic leadership scale was found to be 0.91.

Democratic leadership style. A six-item scale developed by Neider and Schriesheim (2011) was used in this study. The responses were captured on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Sample measurement items include: "Leaders need to help subordinates accept responsibility for completing their work" and "It is the leader's job to help subordinates find their passion." The reliability (Cronbach's α) of the scale was found to be 0.76. A confirmatory factor analysis (CFA) was performed using all the items measuring the three leadership styles (i.e. paternalistic, authentic and democratic). We followed the guidelines of Hair *et al.* (2010) in conducting the CFA and accordingly report three fit indices: χ^2/df , comparative fit index (CFI) and root mean square error of approximation (RMSEA). The results of the CFA revealed an inadequate fit for the initial model: $\chi^2/df = 4.2$, CFI = 0.76, and RMSEA = 0.10. The initial model was thus modified by eliminating seven items with factor loadings of less than 0.5. The final model obtained demonstrated an adequate fit: $\chi^2/df = 3.4$, CFI = 0.9, and RMSEA = 0.07.

Open service innovation. To measure open service innovation, 25 items developed by Rangus *et al.* (2013) were used. The responses were captured on a seven-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree. In total, six dimensions of open service innovation were tapped covering different aspects of open service innovation. These six dimensions included: inward intellectual property (IP) licensing and external participation, outsourcing research and development and external networking, customer involvement, employee involvement, venturing, and outward IP licensing. Some sample items for these six dimensions included: "In our hospital, we believe the use of know-how/technology from the outside can significantly contribute to the innovation of our hospital," "In order to acquire new know-how/technology we cooperate with our patients," etc. A second-order CFA was conducted which included the six dimensions. Guidelines provided by Hair *et al.* (2010) were followed. Result of the CFA yielded a good fit with the data: $\chi^2/df = 3.09$, CFI = 0.93, and RMSEA = 0.07. This study used the average of all items to measure overall open service innovation such that a high score reflected high engagement in open service innovation. The reliability (Cronbach's α) of the open service innovation scale was found to be 0.95.

Relationship-based employee governance. A ten-item scale for relationship-based employee governance developed by Wang *et al.* (2009) was used. The responses were taken on a five-point Likert scale ranging from 0 = strongly disagree to 1 = strongly agree. A sample measurement item for relationship-based employee governance is: "The company has a history of notably strong union relations." The reliability (Cronbach's α) of the scale was 0.79.

Pilot-testing of instruments

Since the measurements used in this study have not been used together in the context of Malaysia, a pilot test was performed on a sample of 70 postgraduate students studying in a

Malaysian university. These postgraduate students were working full-time as doctors in hospitals while at the same time taking evening classes for further education. Several past research have also used postgraduate students successfully for pretests (e.g. Atuahene-Gima and Murray, 2004; Frels *et al.*, 2003; Sisodiya, 2008). The feedback received during the pilot study helped the researchers improve the linguistic aspects of the questionnaire for better understanding. The results of the pilot test revealed that all reliabilities were more than the acceptable threshold of 0.70. The content validity of the questionnaire was checked by two experts – a senior professor from medical faculty and a research fellow expert in the field of open innovation. Both experts worked for a reputed university in Kuala Lumpur, Malaysia. The feedback by these experts was incorporated to improve the content validity of the survey.

Common method biases

The researchers took measures from the questionnaire design stage to minimize any potential effects of common method bias. Therefore, survey items were mixed and a five-point Likert scale was used to measure responses to some variables while a seven-point Likert scale was used for others. In addition, to rule out common method bias, Harman's single factor test was conducted. EFA was conducted with all the items and the number of factors was constrained to 1. While analyzing the unrotated factor solution, no single factor (including the first factor extracted) explained the majority of the variance. Common method bias is evidenced if a single factor accounts for majority of the variance (usually more than 50 percent) in the model. This leads to the conclusion that the data are free from common method bias (Podsakoff *et al.*, 2003). This is a validated approach and has been used in recent open innovation studies (Naqshbandi and Kaur, 2014). Furthermore, CFA with a single latent factor was performed which showed a poor model fit: $\chi^2(87, df = 240) = GFI = 0.69$; $CFI = 0.48$; $IFI = 0.67$; and $RMSEA = 0.17$, confirming absence of common method bias.

Control variables

Prior research suggests that demographic variables can have a significant influence on the mediator and dependent variables of the study. One-way analysis of variance results revealed that hospital type (i.e. govt., private, semi-govt.), income, number of employees, total experience and length of tenure show significant differences with respect to relationship-based employee governance mechanism. Except for job tenure, all other demographic variables also showed significant differences for open service innovation. Thus, all the significant demographic variables were controlled for in further analysis.

Correlations and multicollinearity

A multicollinearity diagnostic test was conducted to ensure multicollinearity does not lead to spurious findings. The results showed that no multicollinearity exists between the three predictor variables (i.e. paternalistic, authentic and democratic leadership styles) since tolerance values for all the variables were more than 0.5 while variance inflation factor (VIF) ranged between 1.68 and 1.71 for all the variables (Tables I and II).

Hypothesis testing

To test hypotheses related to the direct effects, this study used hierarchical regression analysis (Cohen *et al.*, 2003). To test *H1a-H1c*, the three leadership styles were regressed on open service innovation. Table III shows the regression results which point to the positive effects of all leadership styles on open service innovation: paternalistic leadership style ($\beta = 0.32$, $p < 0.001$), democratic leadership style ($\beta = 0.35$, $p < 0.001$) and authentic

leadership style ($\beta = 0.38, p < 0.001$). Results summarized in Table III also indicate support for *H2a-H2c* which proposed a positive relationship of relationship-based employee governance with paternalistic leadership style ($\beta = 0.19, p < 0.001$), democratic leadership style ($\beta = 0.11, p < 0.05$) and authentic leadership style ($\beta = 0.22, p < 0.001$). Also, Table III shows regression results supporting *H3* that predicted a positive relationship between relationship-based employee governance and open service innovation ($\beta = 0.25, p < 0.001$).

Statistical analyses were also conducted to test the three hypotheses of this study which proposed the mediating roles of relationship-based employee governance in the relationships between the three leadership styles (paternalistic, democratic, and authentic) and open service innovation. It is observed that after introducing relationship-based employee governance as a mediator in the model, the direct relationship of open service innovation with paternalistic leadership ($\beta = 0.02, p > 0.05$) and democratic leadership style ($\beta = 0.07, p > 0.05$) is no longer significant while the main effect of authentic leadership style ($\beta = 0.21, p < 0.05$) is reduced but still significant. This implies full mediation of relationship-based employee governance between open service innovation and paternalistic and democratic leadership styles. For authentic leadership style, partial mediation is confirmed since the coefficient for authentic leadership-open service innovation link is reduced when the mediator is introduced in the model. Hence *H4a* and *H4b* are fully while *H4c* is partially supported (Table IV).

Discussion

This study was undertaken with the aim to understand how different leadership styles affect open service innovation outcomes. The first finding of this study shows that a paternalistic leadership style is positively related to open service innovation. Extant research suggests that paternalistic leaders facilitate the process of adaptation and knowledge sharing in a secure working environment (Farh and Cheng, 2000). As an important attribute of open service innovation, a secure and supportive environment developed by a paternalistic leader can help in creating innovation (Chesbrough, 2011; Saputri and Mulyaningsih, 2016). In line with this, Tian and Sanchez (2017) suggested that a paternalistic leadership style might support the innovative and knowledge sharing behavior of the employees. Fu *et al.* (2013) also confirmed the influential role of authoritarian and benevolence characteristics of paternalistic leadership on innovative practices.

The second finding confirmed the positive role of a democratic leadership style on open service innovation. This is logical since organizations require a free flow of knowledge from inside and outside of the organization to succeed in open service innovation (Chesbrough, 2003b). It is argued that democratic leaders encourage employee participation in decision-making process which creates a conducive working environment for knowledge exploration and exploitation. As a result, a cooperative and supportive behavior of democratic leaders promotes the free flow of information and knowledge and fosters open

Model		Collinearity statistics	
		Tolerance	VIF
1 ^a	Paternalistic leadership style	0.584	1.711
	Authentic leadership style	0.584	1.711
2 ^b	Paternalistic leadership style	0.595	1.681
	Democratic leadership style	0.595	1.681
3 ^c	Democratic leadership style	0.595	1.681
	Authentic leadership style	0.595	1.681

Notes: ^aDependent variable, DL; ^bdependent variable, AL; ^cdependent variable, PL

Table I.
Multicollinearity diagnostics

S.No.	Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Org age	51	10	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Hospital type	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	No Specialist	3.86	1.23	0.361**	0.218**	-	-	-	-	-	-	-	-	-	-	-
4	Gender	-	-	-0.03	-0.160**	-0.051	-	-	-	-	-	-	-	-	-	-
5	Length Tenure	2.99	3.90	0.054	0.043	0.1	-0.160**	0.467**	-	-	-	-	-	-	-	-
6	Experience	4.82	4.69	0.037	0.380**	0.132*	-0.267**	0.310**	0.689**	-	-	-	-	-	-	-
7	Income	-	-	-0.055	0.267**	-0.01	-0.240**	0.130**	0.130*	0.017	-	-	-	-	-	-
8	Employees	300	13	0.421**	0.058	0.578**	0.016	0.128*	0.130*	-	-	-	-	-	-	-
9	P leadership	3.64	0.72	-0.018	-0.309**	-0.291**	0.148**	-0.121*	-0.316**	-0.254**	-0.169**	(0.78)	-	-	-	-
10	ATH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leadership		3.48	0.62	-0.079	-0.292**	-0.359**	0.091	-0.092	-0.331**	-0.221**	-0.252**	0.641**	(0.91)	-	-	-
11	Dem Leadership	3.76	0.58	-0.027	-0.263**	-0.284**	0.152**	-0.197**	-0.319**	-0.201**	-0.112*	0.637**	0.649**	(0.76)	-	-
12	RBGov	2.98	2.21	-0.018	-0.243**	-0.179**	0.227**	-0.140**	-0.173**	-0.158**	-0.132*	0.338**	0.299**	0.261**	(0.79)	-
13	OSI	4.74	0.88	-0.135*	-0.253**	-0.359**	0.134*	-0.102	-0.288**	-0.156**	-0.284**	0.447**	0.507**	0.464**	0.370**	(0.95)

Notes: $n = 422$. Cronbach's α reliabilities are reported in parenthesis. P Leadership, paternalistic leadership; ATH leadership, authentic leadership; Dem leadership, democratic leadership; RBGov, relationship-based governance; OSI, open service innovation. * $p < 0.05$, ** $p < 0.01$

Leadership
styles and
open service
innovation

Table II.
Mean, standard
deviation, correlation
and reliabilities

service innovation. The finding is consistent with previous studies (e.g. Sart, 2014) that tested leadership models for innovation and confirmed that the democratic leadership style plays an encouraging role in fostering open innovation in organizations.

The third finding of this study shows that an authentic leadership style plays a positive role in open service innovation. This finding is, in general, consistent with the findings of studies which reported a positive association between the antecedents of open innovation and authentic leadership style (Den Hartog and De Hoogh, 2009; Rego *et al.*, 2011; Shamir and Eilam, 2005). Authentic leader behaviors relate to high moral and ethical values which inspire active employee participation in creativity and innovation (Avolio *et al.*, 2004; Černe *et al.*, 2013). An authentic leadership style is also characterized by being open to others, developing trust and adhering to moral values, factors that increase the self-esteem and confidence of employees (Avolio and Gardner, 2005; Michie and Gooty, 2005), and motivate them for innovation and knowledge sharing behavior (Edu-Valsania *et al.*, 2016).

This study also showed that a paternalistic leadership style relates positively to relationship-based employee governance. Prior research has suggested that organizations can enhance open innovation outcomes by establishing a supportive organizational structure (Kaur *et al.*, 2014). Paternalistic leaders establish and maintain a strong bonding with their followers which is based on care and mutual trust (Aycan, 2006). Building a strong relationship with employees and encouraging them for human capital investment serve as a mechanism for relationship-based employee governance. Paternalistic leadership shapes this socialized governance structure and establishes a strong leader-employee relationship. This finding is consistent with the findings of past studies which showed that a paternalistic leadership style relates positively to relationship-oriented and trust-based governance (Lau and Young, 2013).

This study also confirmed a significant positive association between a democratic leadership style and relationship-based employee governance. Prior research suggests that a relationship-based employee governance mechanism gives freedom and democratic participation to employees in organizational processes (Wang *et al.*, 2009). At the same time, the characteristics that differentiate democratic leaders from other leaders include sharing authority and delivering a sense of ownership to employees (Lewin and Lippitt, 1938). The link between the democratic leadership style and relationship-based employee governance is due to the natural match of the ideology of a democratic leader and attributes of relationship-based employee governance. The mental models of democratic leaders are

Table III.
Regression analysis

Relationships	Unstandardized β	Standardized β	SE	<i>P</i>
PL → OSI	0.39	0.32	0.063	0.001
DL → OSI	0.52	0.35	0.077	0.001
AL → OSI	0.59	0.38	0.075	0.001
PL → RBG	0.74	0.19	0.16	0.001
DL → RBG	0.62	0.11	0.21	0.05
AL → RBG	0.78	0.22	0.20	0.001
RBG → OSI	0.12	0.25	0.02	0.001

Table IV.
Mediation analysis

Relationship	Direct without mediator	Direct with mediator	Findings
PL → RBG → OSI	0.32(0.001)	0.02 (0.1)	Full mediation
DL → RBG → OSI	0.35(0.001)	0.072 (0.1)	Full mediation
AL → RBG → OSI	0.38(0.001)	0.21 (0.01)	Partial mediation

based on inclusiveness, trust and long-term relationship which are similar to attributes of relationship-based employee governance. Therefore, findings of the current study support the idea that democratic leaders tend to establish a relationship-based employee governance to give a sense of ownership and empowerment to achieve desired organizational goals.

This study found that authentic leadership style is positively related to relationship-based employee governance mechanism. This finding is in line with previous studies. For instance, Walumbwa *et al.* (2011) argued that an authentic leadership style stimulates positive climate and psychological attitude among followers which enhances moral support, self-awareness and relational transparency. Authentic leaders also establish and support mechanisms which build trust and transparency among the followers and help in establishing relationship-based employee governance (Fikret Pasa *et al.*, 2001; Redding *et al.*, 1994).

Relationship-based employee governance was found to positively relate to open service innovation. This study posited that the characteristics of relationship-based employee governance mechanism result in feelings of trust, security, high motivation and long-term relationships with employees (Chesbrough, 2011; Wang *et al.*, 2009). Relationship-based employee governance enables a firm to perform better by strengthening the firm-employee relationship (Lee and Cavusgil, 2006). In the services sector in particular and consistent with the findings of this study, Brouthers and Brouthers (2003) argued that people-oriented structures and control mechanisms are required for better performance outcomes.

The findings of this study confirm that paternalistic leadership affects open service innovation through the intervention of relationship-based employee governance. Alpkan *et al.* (2010) argued that an appropriate leadership style is necessary for effective functioning of the governance mechanism for establishing open service innovation in an organization. Paternalistic leaders establish the organizational governance structures that support the free flow of information and knowledge, and effective utilization of human capital which benefits open service innovative practices. This finding is in line with Aycan (2001) who pointed toward a need of control system or structure between paternalistic leadership style and desired outcomes such as open service innovation.

The findings of this study also confirmed the mediating role of relationship-based employee governance in the relationship between democratic leadership style and open service innovation. This finding suggests that democratic leaders encourage knowledge sharing and innovation by building long-run relationships with their subordinates, empowering them in the decision-making process. Therefore, democratic leaders establish a relationship-based employee governance mechanism in their organization which ultimately enhances the organizational capabilities for deployment of open service innovation. Prominent research such as Vanhaverbeke and Cloudt (2006) have pointed toward the notion that establishing a suitable governance mode for building the relations and the network is crucial for establishing open innovation. The mediating role of relationship-based employee governance between democratic leadership style and open service innovation is thus logical as both the constructs are characterized by building long-term relationship, empowerment, and trust (Wang *et al.*, 2009).

Lastly, the findings of this study confirm that relationship-based employee governance partially mediates the relationship between authentic leadership and open service innovation. Past research has cited relationship-based employee governance as an important mechanism for gaining a competitive advantage (Wang *et al.*, 2009). This governance structure focuses on establishing bilateral relationships with external and internal partners (Poppo and Zenger, 2002). The cooperation achieved minimizes the transaction costs for establishing open service innovation. Additionally, authentic leaders also require a supportive governance structure that can provide a sense of fairness, absence of bias, and transparency to employees. Therefore, relationship-based employee governance as a mechanism helps authentic leaders achieve better open service innovation outcomes.

In general, this finding is supported by previous studies that point toward the mediating role of relationship-based employee governance in the relationship of outsourcing knowledge and innovative performance of firms (Bosch-Sijtsema and Postma, 2009; Mudambi and Tallman, 2010; Wu, 2016). Felin and Zenger (2014) discussed the cost and benefits of different governance modes that differently support open innovation. Similarly, Wang *et al.* (2009) argued that the higher the firm-specific knowledge resources, the greater the need for an employee-governance system to effectively utilize their knowledge for attaining competitive advantage (Wang *et al.*, 2009). In this study, however, since we found support for partial mediation only, this calls for further research in this area. The extant literature does not explain why the relationship-based employee governance would partially mediate the authentic leadership style-open service innovation link while fully mediating the links of the paternalistic and the democratic leadership styles with open service innovation.

Theoretical and managerial implications

Organizations are continuously going through phases of transformation and looking for better leadership styles to achieve the ultimate objective of building and sustaining competitive advantage. This study was undertaken to provide insights to leaders working in the Malaysian healthcare sector. The paper contributes to the literature on open service innovation and leadership by integrating the leadership theory with open service innovation literature. The importance of leadership styles in open service innovation (e.g. Fleming and Waguespack, 2007) is highlighted by extending prior research on leadership theory and incorporating the role of specific leadership styles (i.e. paternalistic, authentic and democratic) in open service innovation (Chesbrough, 2011). The study also contributes by highlighting how governance structure, especially relationship-based employee governance, support open service innovation. From a practitioner's point-of-view, the findings of this study suggest that the leaders seeking to benefit from the open service innovation model must not only adopt a favorable leadership style but also ensure existence of a supportive governance structure that helps in gaining a knowledge-based sustainable competitive advantage. The empirical evidence from this study highlights the essential role of relationship-based governance in successfully utilizing the knowledge resources for value creation. In other words, organizations do not only need leaders with the "right" leadership style only, but supporting relationship-based employee governance structure also. As a recommendation, it is suggested that inclusion of employees in decision-making and valuing their feedback through relationship-based employee governance mechanism may result in enhancing employee motivational levels and sense of ownership. This, in turn, can encourage employees to invest their key knowledge resources to achieve organizational objectives (Wang *et al.*, 2009) which could include enhanced open service innovation outcomes.

Limitations and future recommendations

This study has some limitations. First, cross-sectional data were used to test the hypotheses. Using such data may not be highly appropriate to test causal models (Naqshbandi *et al.*, 2015). Second, the setting of this study is Malaysian healthcare sector. As a result, generalizability of the findings is limited. It is thus recommended that the model developed in this study be tested in different industry/sector (e.g. manufacturing) and country settings. Also, the future research based on longitudinal data can provide a better understanding of the phenomenon investigated in this study. Additionally, this research reported partial mediation of relationship-based employee governance in the relationship between authentic leadership style and open service innovation. Hence, future research may address the possible moderators for this mediational framework to further explore and test for complete conceptualization. Theorizing and testing other possible predictors of open service innovation (e.g. other leadership styles such as empowering leadership style) may also be an interesting area of future research in this domain.

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Further reading

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Corresponding author

Dr M. Muzamil Naqshbandi can be contacted at: mnaqshbandi@ud.ac.ae; virkul@gmail.com