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Achieving best for project success outcomes through optimal employee engagement – a proposal for organisations operating engineering alliances

Abstract
Whilst employee engagement continues to develop as an area of both academic and business interest, there remains paucity in theory that links employee engagement to engineering alliances and concomitant achievement of project success praxis. This research is situated within the private engineering sector and does not specifically address other sectors such as, for example, public sectors or healthcare, and the like. The research outlines key components of an employee engagement model within an engineering alliance. The research has novelty in that, to our knowledge, it is original in defining employee engagement in an engineering alliance context. It addresses the knowledge gap in this area and contributes to academic discourse pertaining to employee engagement as a developing approach to managing projects through three key psychological conditions of safety, availability and meaningfulness which are then weaved with organisational commitment to recognise that alliance participants bring different cultures to the alliance. These cultures will need to be blended to achieve project success through trust, interdependence, co-ordination and communication.

Key words: Employee engagement, strategic alliances, project success, optimisation

Introduction
This research investigates theory and praxis applied to engineering alliances and employee engagement affecting best for project success outcomes. It is contextualised within the engineering sector to narrow the breadth of what constitutes an alliance and to provide focus on solving the problem pertaining to the perception that alliances have a success rate of 9% (Steinhilber, 2008). According to Taylor (2005) alliances are a much studied phenomenon and have been within engineering sectors for more than 20 years (Morwood et al, 2008, Kanter, 2002). Yet best for project success outcomes of trust, interdependence, co-ordination and communication (Mohr and Spekeman, 1994) continue to receive mixed results (Taylor, 2005), resulting in organisations not always achieving their stated goals (Kale and Singh, 2009; Finlayson, 2011) of profit and turnover (Judge
and Dooley, 2006). Emerging theory states that organisations are entering into alliances as part of a centralised competitive growth strategy (Gulati et al, 2008; Kale and Singh, 2009) with number of alliances growing at more than 15% annually (Steinhilber, 2008) in terms of organisations choosing to deliver projects in this way. Organisations are choosing to engage in alliances to achieve superior project success (Taylor, 2005) such as meeting strategic objectives regarding profit and turnover (Judge and Dooley, 2006) through aligned goals (Jones et al, 2003; Walker and Johannes, 2003) – however, they have not always proven to be successful. With failure rates of upto 70% (Taylor, 2005) and only 9% considered to be a success (Steinhilber, 2008), engineering sector continues to persist with alliances regarding themselves as groups of companies that link together for a common purpose (Casseres-Gomes, 1994).

This form of engagement is lacking a systematic understanding of what best for project success outcomes for alliances are (Taylor, 2005); be they 'trust, interdependence, co-ordination and communication' (Mohr and Spekeman, 1994) or 'profit and turnover' (Judge and Dooley, 2006). This lack of systematic understanding is not surprising as alliances are a complex construct, comprising of two or more organisations working together to create competitive opportunities to achieve a common business objective (Albani and Dietz, 2009; Bignoux, 2006; Cimon, 2004; Connell and Voola, 2007; Huggins, 2010; Judge and Dooley, 2006; Mandal et al, 2003; Parkhe, 1993; Teng and Das, 2008) of profit and turnover (Judge and Dooley, 2006). Achieving this common objective of profit and turnover (Judge and Dooley, 2006) can result in ambiguity relating to best for project outcomes of 'trust, interdependence, co-ordination and communication' (Mohr and Spekeman, 1994) through a desire to maximise profit and turnover. Yet it can be argued that there is no ambiguity because if best for project success outcomes of 'trust, interdependence, co-ordination and communication' are achieved then profit and turnover will be achieved. To add to this complexity, it needs to be noted that some emergent research cites problems with measurement of best for project success outcomes and success they can deliver (Cravens et al, 2000). It is possible that best for project success outcomes may be measured through employee engagement (Gennard and Judge, 2010; Macleod and Clarke, 2009). It has been suggested that employee engagement predicts employee outcomes, organisational success and financial performance (Saks, 2006), which can be used to define superior project success (Taylor, 2005). Whilst current theory offers a number of definitions for employee engagement (Macleod and Clarke, 2009) it is possible to suggest a common themed definition that employee engagement is concerned with unlocking people's potential at work (Macleod and Clarke, 2009) by measuring an employee’s positive or negative emotional attachment to their job, their colleagues and their organisation (Vaijayanthi, et al, 2011; Mirvis, 2012).

There is a knowledge gap in both theoretical and practical nature that forms the focus of this research. The concept of employee engagement is considered within a collaborative environment such as an engineering alliance and is underpinned by theoretical contributions of extant theory. It is the examination and subsequent weaving of theory, focusing predominantly on grassroots practice and underpinning theoretical concepts, that contributes to originality of this research and the development of an outline employee engagement model, as a proxy for best for project success.

**Defining an Engineering Alliance**

**What is an alliance?**

With the term alliance being variously described (Baker et al, 2011), it is important to establish the term to progress this research. An alliance can be defined as a voluntary arrangement between two or
more organisations involving sharing of human-resources (Chung et al., 2006; Johnston and Staughton, 2009; Luo and Deng, 2009) to create competitive opportunities to achieve a common business objective (Albani and Dietz, 2009; Bignoux, 2006; Cimon, 2004; Connell and Voola, 2007; Huggins, 2010; Judge and Dooley, 2006; Mandal et al., 2003; Parkhe, 1993; Teng and Das, 2008). These voluntary informal arrangements are termed as ‘alliance-relationships’ which will include collaborative relationships, partnerships and joint-ventures (Taylor, 2005). Collaborative relationships are defined as two or more organisations working together to achieve something they could not achieve on their own, by operating as a form of inter-organisational co-operation (Baker et al., 2011; Solesvik and Encheva, 2010) and because few, if any, individual organisation no longer has depth and breadth of capabilities to compete on their own (BSI, 2010). This inter-organisation cooperation requires a degree of trust between organisations at the outset (Taylor, 2005) without need for a contract (Morwood et al., 2008). Where ‘voluntary arrangement’ is required to be formalised because risks associated with projects need to be formally owned, a contract is required, changing the definition of an alliance from a collaborative relationship to a partnership (Morwood et al., 2008). A partnership involves both parties working closely together in an environment of trust and openness, which places less of a focus on legal status of partnerships, instead focussing on desired behaviours of organisations (Morwood et al., 2008). Moreover, a joint-venture involves two or more organisations contributing human-resources to form a new separate jointly-owned subsidiary (Morwood et al., 2008; Teng and Das, 2008).

Theoretical Concepts Applying to Engineering Alliances?

An engineering alliance is a human centred construct (Pansiri, 2005) with established convergence across a number of theories. Given this human centred construct, it is possible to begin identifying the relevant theoretical concepts that apply to engineering alliances. The resource-based view (Barney, 1991; Peteraf, 1993) is a theoretical perspective that postulates prediction and explanation of how engineering alliances can achieve a sustainable competitive advantage through acquisition and control of human-resources (Rungtusanatham et al., 2003), such that they are controlled to achieve efficiency and effectiveness of best for project success outcomes (Andersen, 2010; Miller and Ross, 2003; Clardy, 2008). Resource-based view may infer a unitarist approach to understanding human-resources within engineering alliances. This assumption is based upon the idea that all employees are working together for the good (Audi, 2007) of the alliance in achieving best for project success outcomes. However, resource-based view can also be considered as a pluralist approach, with acknowledgment that various groups of employees have different requirements and demands, especially where given such terms as ‘acquisition and control of human-resources’ (Rungtusanatham et al., 2003) and ‘controlled to achieve efficiency and effectiveness’ (Andersen, 2010; Miller and Ross, 2003; Clardy, 2008).

Whilst engineering alliances bridge a gap in knowledge and capacity between current human-resources and expected future requirements (Hoffmann, 2001), resource-based view also supports acquiring human-resources that cannot be hired from labour markets in a short period of time (Pitelis and Pseiridis, 1999). This suggests justification of engineering alliance’s existence and sharing of human-resources (Chung, Luo and Wagner, 2006; Johnston and Staughton, 2009; Luo and Deng, 2009). However, these resources will have their own costs to be borne to secure human-resources commitment to engineering alliances. This cost can be related to transaction cost theory, a theoretical perspective that postulates a mandatory exchange of human-resources governed by a contract that occurs on open market (Rahman and Korn, 2010; Bignoux, 2006). An engineering alliance will seek to minimise these costs (Hoffmann, 2001) through inter-organisation co-operation.
(Baker et al, 2011; Solesvik and Encheva, 2010) through relationships of trust (Chiaburu et al, 2011); trust is considered an alliance behavioural antecedent (Mohr and Spekeman, 1994). Transaction cost theory is a pluralist approach, focusing on a mandatory exchange of resources to deliver best for project success outcomes.

Best for Project Success Outcomes for Engineering Alliances?

Best for project success outcomes through alliancing are perceived to be difficult to establish because of alliance complexity (Chan and Harget, 1993) and its construct as a business model (Morwood et al, 2008); complexity and form of an alliance refers to blending of employees from two or more cultures (Rahman and Korn, 2010) that forms a common project team. Whilst it can be argued that organisations enter into voluntary arrangements (Chung et al, 2006; Johnston and Staughton, 2009; Luo and Deng, 2009) to create competitive opportunities to achieve a common business objective (Albani and Dietz, 2009; Bignoux, 2006; Cimon, 2004; Connell and Voola, 2007; Huggins, 2010; Judge and Dooley, 2006; Mandal et al, 2003; Parkhe, 1993; Teng and Das, 2008), the risk of cooperating with each other is overshadowed by diverging and incompatible goals (Chan and Harget, 1993). Cooperating with each other is underpinned by transaction cost theory, whereby mandatory exchange of skills and knowledge is through employees. Cooperation is further underpinned by need for trust and that each alliance participant organisation is working towards common business objective. According to Sendjaya and Peketri (2010), trust is a fundamental factor for cooperation within organizations and in everyday interactions between employees. Cooperation is driven by need to communicate honestly and to share knowledge. It can be argued that sharing knowledge reduces competitive advantage of employee or organisation but it’s trade off should be increased competitive advantage through efficiency (Solesvik and Encheva, 2010) by working together across boundaries (Weiss and Hughes, 2005). Given this, we can argue that trust is a psychological state that compromises intention to accept vulnerability, which is based upon positive expectations surrounding intentions and behaviours of other employees (Solesvik and Encheva, 2010) or partner organisations. However, there is an overshadow of diverging and incompatible goals caused by potential competitive advantage that organisations can achieve individually rather than collectively (Vanpoucke and Vereecke, 2010), suggesting that trust is not always on agenda regarding best for project success outcomes; proffering the notion of problems of poor communication, cooperation and trust (Chan et al, 2007). According to Lajara et al (2003), employee problems can decide the success or failure of an alliance and that a good human-resources management approach identifying skills and positions that are required for greatest impact on alliance’s effectiveness. Muller (1999) describes human-resources management as a modern management technique, with values of human-resource management being unitarist in nature. Muller (1999) suggests actions of management within alliances are legitimate and rational and that employees who conflict with actions of management are bi-polar opposite (Aborisade, 2008).

Alliances are a complex business model (Morwood et al, 2008) between two or more organisations that involves sharing of human-resources (Chung et al, 2006; Johnston and Staughton, 2009; Luo and Deng, 2009) and it is plausible to suggest that unitary theory and alliances may not be wholly compatible. This assumption is defined by blending of two or more cultures (Rahman and Korn, 2010) that form business models of alliances. Aborisade (2008) suggests that pluralism theory can be used within an engineering alliance, proffering that an alliance is not a unitary organisation but a partnership between organisations. It is from a pluralist view and problems of poor communication, cooperation and trust (Chan et al, 2007) and thus best for project success outcomes may be summarised as constituting; trust, interdependence, co-ordination and communication
(Mohr and Spekeman, 1994). However there are noted problems with measurement of best for project success outcomes and successes they can deliver (Cravens et al, 2000), though arguably being possible to achieve through employee engagement (Macleod and Clarke, 2009).

Employee Engagement

Kumar et al (2011) undertook research that examined employee engagement from its historical roots and concluded that there is no single agreed definition other than it is a multi-faceted construct (Kahn, 1990). According to Kumar et al (2011), if there is no universal definition of employee engagement, then it cannot be managed, neither can it be measured to ascertain if improvements are needed or if it working as intended. Research by authors such as Kumar et al (2011), Sundaray (2011) and Kular et al (2008) suggests work of Kahn (1990) as seminal in this field. This influential work has been tested once by May et al (2004), which was underpinned by research of Lawler and Hall (1970). Kahn (1990) and Lawler and Hall (1970) focuses on psychology of employee with Khan (1990) identifying that that meaningfulness, availability and safety are significantly related to employee engagement. These conditions suggest a pluralist approach to employee engagement, recognising employees are individuals with differing needs and requirements, where as a unitarist approach would suggest that all employees would act same, which is not what Kahn (1990) proposed.

Employee engagement has become a widely used term (Saks, 2006) with practitioners such as Macleod and Clarke (2009), Gennard and Judge (2010) and Chartered Institute of Personnel Development (2012). There is a convergence of opinion that employee engagement is a commitment to organisation by its employees to go that extra mile, to look beyond job satisfaction and feel a sense of fairness and trust in doing so (CIPD, 2012; Gennard and Judge, 2010; MacLeod and Clarke, 2009; Clarke, 2012). This convergence describes a unitarist approach to employee engagement, proffering all employees working together for good of organisation (Audi, 2007). However, closer inspection suggests that it is a pluralist approach; with each employee’s level of ‘extra mile’, they are prepared to go. Current thinking describes employee engagement as employees being psychologically present when occupying and performing a job role (Kahn, 1990) with outcome being job satisfaction, motivation and involvement (Lawler and Hall, 1970); whilst being delivered by energy, involvement and efficacy(Maslach and Leiter, 2008). Xu and Cooper-Thomas (2011) suggest that employee engagement is harnessing of employees to their jobs, physically, cognitively and emotionally. This definition is further underpinned by Sundaray (2011), who suggests that employee engagement is level of commitment and involvement of an employee to its organisation. Moreover, research may also suggest a pluralist approach is generally adopted within praxis literature rather than unitarist approaches often put forward; praxis approaches are founded upon concepts whereby employee engagement is not a singular construct (Robertson, 2012). Moreover, given seminal work of Kahn (1990) and confirmation of three psychological conditions, a pluralist approach will be adopted leading to a generalised definition of employee engagement as; level of commitment (CIPD, 2012; Gennard and Judge, 2010; MacLeod and Clarke, 2009) and involvement of an employee to his/her organisation (Sundaray, 2011), with employees demonstrating a passion for work that incorporates their cognitive, emotional and physical expressions (Kular et al, 2008) by means of ‘meaningfulness, safety and availability’ (Kahn, 1990). These definitions are based upon seminal works of Kahn (1990) and Lawler and Hall (1970) and weave praxis research of MacLeod and Clarke (2009), Gennard and Judge (2010) and CIPD (2012) with work of Sundaray (2011) and Kular et al (2008).
Employee Engagement Models and Theory

Models

Current theory suggests there has been little in way of development of models regarding employee engagement (Kumar et al, 2011; Kular et al, 2008; Saks, 2006). Paucity in development of models can be attributed to other constructs that employee engagement holds synergies with (Kumar et al, 2011). In particular, Kumar (2011) highlights that employee engagement can be viewed as both an individual and group phenomenon which will have an impact upon measurement of best for project success factors of ‘trust, interdependence, co-ordination and communication’ (Mohr and Spekeman, 1994).

Saks (2006) defines two strands of employee engagement models; positive and burnout. Table 1 depicts interpretation of work of Saks (2006) ‘positive engagement and burnout’.

Table 1: Positive coupling of positive and negative engagement

<table>
<thead>
<tr>
<th>Positive Engagement (Kahn, 1990)</th>
<th>Disengagement (Burnout) (Maslach and Leiter, 2008)</th>
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<tbody>
<tr>
<td>Meaningfulness</td>
<td>Workload</td>
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<td>Control</td>
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Table 1 depicts positive engagement through work of Kahn (1990), identifying three psychological conditions of meaningfulness, safety and availability. The model is built upon psychology of employees, suggesting that employees have a psychological meaning to be in work, (i.e. a purpose), leading to feeling psychologically safe in their work, (i.e. have job security) and therefore psychologically make themselves available for work (i.e. perform role). Antithesis to positive engagement is disengagement with Maslach and Leiter (2008) suggesting that disengagement is burnout. Saks (2006) describes burnout as erosion of positive engagement and in particular passion for work (Kular et al, 2008) will subside. This erosion is attributed to workload, control, rewards, recognition, community and fairness (Maslach and Leiter, 2008). Maslach and Leiter (2008) are suggesting that too much workload and employees self-control will lead to erosion of meaningfulness, whilst unfair practice, demeaning values and a lack of community spirit will erode safety. Erosion leads to lack of reward and recognition leading to erosion of employee availability as they withdraw themselves from work (Khan, 1990).

Yet these attributes can be defined as components of positive engagement if they are managed correctly by positively coupling meaningfulness with control and workload, safety with fairness, values and community and availability with recognition and reward. This can be further underpinned by Xu and Cooper-Thomas (2011) who suggest that meaningfulness is influenced by characteristics such as challenge and autonomy with safety influenced by employee interactions with one another and availability influenced by self-confidence, as shown in table 2.
Table 2: Incorporating leadership characteristics

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<tr>
<td>Meaningfulness</td>
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<td>Challenge</td>
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<td></td>
<td>Control</td>
<td>Autonomy</td>
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<td>Availability</td>
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Theory suggests that it is possible to build an employee engagement model based upon conditions and positive coupling of Kahn (1990), Maslach and Leiter (2008) and Xu and Cooper-Thomas (2011) which can then be used to underpin praxis literature, as depicted in table 3.

Table 3: Defining employee engagement with praxis

<table>
<thead>
<tr>
<th>Positive Engagement (Kahn, 1990)</th>
<th>Praxis View (Macleod and Clarke, 2009)</th>
<th>Engagement Style (Gennard and Judge, 2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meaningfulness</td>
<td>Leadership Style</td>
<td>Affective Engagement</td>
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<tr>
<td>Availability</td>
<td>Employee Voice</td>
<td>Intellectual Engagement</td>
</tr>
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<td>Safety</td>
<td>Integrity</td>
<td>Social Engagement</td>
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According to table 3, MacLeod and Clarke (2009) proffer leadership as style by which employee engagement is delivered through engaging managers who treat their employees through empowerment and control. Gennard and Judge (2010) describe these traits as affective engagement that can measure emotional attachment to organisations. There is agreement through positive coupling of meaningfulness (Kahn, 1990) with control and workload (Maslach and Leiter, 2008) and challenge and autonomy (Xu and Cooper-Thomas, 2011). Macleod and Clarke (2009) describe employee voice as a strong sense of listening to and responding to employees. Gennard and Judge (2010) describe this type of engagement as intellectual engagement that refers to the extent by which employees are absorbed in their work. There is positive correlation through positive coupling of availability (Khan, 1990) with recognition and reward (Maslach and Leiter, 2008) and self-confidence (Xu and Cooper-Thomas, 2011). Finally, Macleod and Clarke (2009) describe integrity as behaviour throughout an organisation that is consistent with stated values of organisation. Gennard and Judge (2010) describe this as social engagement which defines the extent which employees talk with one another and can be measured by positive couplings of safety (Khan, 1990) with fairness and community (Maslach and Leiter, 2008) and interactions with one another (Xu and Cooper-Thomas, 2011). Table 4 depicts positive couplings and summarises employee engagement through recent praxis literature.
Table 4: Summarising employee engagement

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<tbody>
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Table 4 depicts an employee engagement model can be built for an engineering alliance. However this model needs to be underpinned by theoretical concepts. By underpinning theoretical concepts, it is possible to then explore how this model can be used to optimise employee engagement such that best for project success outcomes of ‘trust, interdependence, co-ordination and communication’ (Mohr and Spekeman, 1994) can be achieved. The model will need to be underpinned through employee engagement theoretical concepts to determine its robustness within engineering alliance context.

**Employee Engagement Theory**

Kahn’s (1990) three psychological conditions of meaningfulness, safety and availability utilise a pluralist view, yet Gennard and Judge (2010) state there a number of theories that can underpin employee engagement, citing motivation theory and human capital theory. Motivation theory was developed by Mintzberg in 1959 and defines what motivates people to work (Basset-Jones and Lloyd, 2005). Human capital theory has close synergies with resource-based view and suggests that if an organisation invests in its employees (Gennard and Judge, 2010) then its employees will increase productivity and output (Hatch and Dyer, 2004), which in turn relates to best for project success outcomes of interdependence between leader and employees. Leader member exchange describes relationship quality between a leader and each of their followers (Schyns et al, 2012; Kang et al, 2011; Mahsud et al, 2010). This theory underpins leadership qualities described in positive coupling of meaningfulness (Kahn, 1990). Agency theory is used to where one party [principal] delegates authority to another party [agent] (Fayezi et al, 2012; Mitchell and Meacham, 2011) and addresses meaningfulness of employee in organisation (Kahn, 1990) as well as autonomy and challenge that employee can meaningfully have (Xu and Cooper-Thomas, 2011). This level of commitment is underpinned by motivation of returns they bring from others (Bignoux, 2006; Paille, 2009), suggesting that exchange is a human to human relationship based upon concept of trust (Bignoux, 2006; Lapierre, 1997).

Social exchange theory (Bignoux, 2006) plays an important role in employee engagement because it enables an explanation of why employees choose to engage organisations (Saks, 2006). These choices need to align with organisations best for project success outcomes, which means agency theory will also play an important role in employee engagement because it recognises organisational structure in recognising three psychological conditions associated with engagement; meaningfulness, safety and availability (Khan, 1990).
Discussion – Employee Engagement in an Engineering Alliance

Developing an employee engagement model in an engineering alliance

The basis for development of an employee engagement model starts with revisiting definitions of an engineering alliance, best for project success outcomes and employee engagement. The model is then developed through findings depicted in table 4. This section validates choices made regarding weaving of praxis and theory to build an employee engagement model for an engineering alliance but is anchored by three psychological conditions of meaningfulness, safety and availability (Kahn, 1990) and best for project success outcomes of trust, interdependence, co-ordination and communication (Mohr and Spekeman, 1994).

Meaningfulness

Meaningfulness is the mechanism by which employees actively seek meaning through their work (Kular et al, 2008), seeking to feel a positive emotional attachment to engineering alliance through affective engagement (Gennard and Judge, 2010). Affective engagement encourages positive emotional attachment through challenge and autonomy (Xu and Cooper-Thomas, 2011). If positive emotional attachment is not achieved, employees are likely to leave the engineering alliance (Kular et al, 2008); reasons for leaving are given as a lack of control over workload and feeling undervalued (Maslach and Leiter, 2008). Meaningfulness represents an opportunity to measure levels of trust and interdependence between employees and leaders within an engineering alliance, focussing on leadership style. This suggests that meaningfulness is generated through a series of meaningful inter-actions between employee and their co-workers or between employee and their managers and is underpinned by social exchange theory and building of relationships over time (Saks, 2006) within engineering alliance. These relationships are built around trust (Bignoux, 2006; Lapierre, 1997) and given that an engineering alliance is a partnership between two or more organisations working closely together in an environment of trust and openness (Morwood et al, 2008), trust is defined as a multi layered concept that comprises a range of attributes such as dependability and credibility (Lamothe and Lamothe, 2011).

Meaningfulness can be optimised through strong leadership (Macleod and Clarke, 2009; Xu and Cooper-Thomas, 2011) within engineering alliances. Leadership is considered to be the practice by which employees are influenced to work together (Curtis and O’Connell, 2011) to achieve best for project success outcomes of ‘trust, interdependence, co-ordination and communication’ (Mohr and Spekeman, 1994) that leads to organisations achieving their stated goals (Kale and Singh, 2009; Finlayson, 2011). Leadership is underpinned by leader member exchange and perceived quality of relationships between leaders and employees in engineering alliances. Current research suggests congruence with four types of leadership; authentic, transactional and directive (Chiaburu et al, 2011) and transformational leadership (Curtis and O’Connell, 2011). Transactional leaders use transaction cost economics as basis for leadership, choosing to focus on a financial reward, a training opportunity or a temporary increase in personal authority for employees, with no focus on a long term or meaningful relationship (Chiaburu et al, 2011), which suggests little or no affective engagement through influence but does exhibit some autonomy through a temporary increase in personal authority. It could be argued that if financial reward or training opportunity is seen as affective engagement on a temporary basis then the leader is paying attention to employee performance (Curtis and O’Connell, 2011), which is a trait of transformational leadership. However, authentic leaders use social exchange theory as bases for leadership, choosing to create meaningful and honest relationships (Chiaburu et al, 2011) creating an environment that stimulates and
employees (George et al, 2007) through autonomy and challenge. Authentic leadership (aka participatory leadership) was prevalent in the 1970’s (Nazari and Emami, 2012), which suggests that authentic leadership could be a reinvented management fashion (Saks, 2006) that encourages positive emotional attachment through challenge and autonomy (Xu and Cooper-Thomas, 2011).

Given the best for project success outcomes are 'trust, interdependence, co-ordination and communication' (Mohr and Spekeman, 1994), then authentic leadership can be viewed as the best leadership style that will achieve these. Research suggests that transformational leadership is the most successful leadership style but this has only been applied to singular organisational constructs within recent literature. The sharing of resources requires blending of two or more organisational cultures (Rahman and Korn, 2010; Herman et al, 2007), suggesting that an authentic leadership style will transcend cultural barriers through creation of meaningful and honest relationships. These meaningful and honest relationships are built upon trust between individuals over time (Saks, 2006) through empowerment of employees (Wellman, 2007) and are underpinned by interpersonal exchanges described by social exchange theory (Bignoux, 2006).

Meanfulness is based around trust and authentic leadership but there are barriers to achieving this; leaders not being aware, leaders not knowing or leaders not believing in employee engagement (MacLeod and Clarke, 2009). These barriers support the resource-based view suggesting sustainable competitive advantage can be achieved through acquisition and control of human-resources (Rungtsusanatham et al, 2003) such that they are controlled to achieve efficiency and effectiveness (Andersen, 2010; Miller and Ross, 2003; Clardy, 2008) of best for project outcomes regarding 'trust, interdependence, co-ordination and communication' (Mohr and Spekeman, 1994).

Meanfulness can also be impacted upon by conflict; Langfred (2007) suggests that conflict is polar opposite of trust, being harmful to coordination and performance. Conflict can arise between employees in engineering alliances because of differences in cultures (Jones et al, 2003); with culture being defined as particular ways in which a participant organisation structures its business processes, which can influence upon best for project success outcomes of 'trust, interdependence, co-ordination and communication' (Mohr and Spekeman, 1994). Conflict between leaders and employees is based upon a leader’s expectation that employees will cooperate willingly (Sanders and Schyns, 2006). This is a limited view of conflict, there are other reasons for conflict namely uncertainty, inconsistency behaviours, focus, risk, performance (Hawkins and Little, 2011a:2011b) which leads employees feeling a lack of workload control and undervalued (Maslach and Leiter, 2008).

Meanfulness can be summarised as an authentic leadership style that is based upon trust and ability to blend two or more organisational cultures to form an engineering alliance. This formation of an engineering alliance is built upon affective engagement, which recognises employees are individuals, who will at times, be in conflict with one another. Authentic leaders seek to build a meaningful relationship between themselves and employees as well as between employees of differing organisational cultures.

**Safety**

Safety is the psychological condition (Kahn, 1990) that defines social engagement through which employees talk to (Gennard and Judge, 2010) and interact with one another (Xu and Cooper-Thomas, 2011). Safety is underpinned by fairness, values and community, if not managed correctly will lead to employee disengagement (Maslach and Leiter, 2008). These constructs
are referred to as behavioural integrity, which is developed through trust and values (MacLeod and Clarke, 2009).

Social engagement relates to social communities (Adler and Kwon, 2002) whereby social community is an engineering alliance with shared human-resources (Chung et al, 2006; Johnston and Staughton, 2009; Luo and Deng, 2009), which holds close synergy with social exchange theory (Bigonou, 2006) in the sense that exchange is community spirit and values. Social community within an engineering alliance is broadly defined as a social network that contains a group of professionals who come together to exchange and build knowledge(Ropes, 2009) and this exchange of knowledge is considered to be organisations achieving their stated goals (Kale and Singh, 2009; Finlayson, 2011). Social capital can, with respect to engineering alliances, be viewed as friendship and moral support (Adler and Kwon, 2002) through a social structure (Coleman, 1988), which is underpinned by social exchange theory (Bigonou, 2006) but exchange is now described as structure by which employees interact and talk with one another (Gennard and Judge, 2010). This social structure can be a hierarchical relationship between employee and leader (Adler and Kwon, 2002). An authentic leadership style will seek to build relationship through shared understanding or meaning (Ropes, 2009) that is based on honesty and trust and working towards same goals, underpinning relationships through leader-member-exchange theory and quality of relationship. Similarly, employees will seek to build a social relationship between themselves (Adler and Kwon, 2002), choosing to transcend cultural barriers of different organisations through relationships based on favours (Adler and Kwon, 2002).

Social structure and best for project success outcomes of 'trust interdependence, co-ordination and communication' (Mohr and Spekeman, 1994) are all based upon trust (Mohr and Spekeman, 1994; Ropes, 2009). Trust in 'safety' relates to faithfulness and whether actions of authentic leader will be followed up or whether fellow employees will return the favour in future. Faithfulness requires a degree of fairness to be present within relationships. A lack of clarity in determining fairness can naturally lead to blame (Arino and Ring, 2010; Tan and Ching, 2012), resulting in conflict between employees that will see favours being withdrawn due to a lack of trust regarding fairness of exchange. If there is no perceived fairness in relationships between leaders and employees, then the leader’s expectation that employees will cooperate willingly (Sanders and Schyns, 2006) will be diminished by employees perception that there is no ethical behaviour, in the form of integrity, being demonstrated by the leader (Arino and Ring, 2010). Integrity is the basic form of principles and values (Davis and Rothstein, 2006) and is an alignment of employees and leaders words and deeds (Fritz et al 2013). In terms of safety, integrity is a psychological-contract that refers to perceptions of an agreement between a leader and an employee (Davis and Rothstein, 2006) and it is underpinned by leader-member-exchange theory and values of social community. This agreement is built upon two constructs; trust and credibility (Davis and Rothstein, 2006) with trust construct relating to what has happened in past and what is likely to happen in future based upon (Fritz et al, 2013) reliability and credibility (Davis and Rothstein, 2006).

The credibility construct is based upon an assessment of relevant knowledge (Prottas, 2013). Integrity is therefore underpinned by leader member exchange and the quality of the relationship between the leader and employees as well as the values of the employees between one another within the social community. Integrity is also a trait of authentic leadership, in the sense that credibility can be viewed as a by-product of the creation of honest and meaningful relationships. This suggests that safety may be summarised as; having a high degree of honesty in the relationship that is built upon what has
happened in the past and what will happen in the future. An authentic leader will be seen to follow through words with actions and that will foster trust with the employees. Authentic leaders will create an environment of social engagement that is underpinned by social exchange theory. The exchange in this environment will not be an exchange of resources but an exchange of community spirit and knowledge with a desire to transcend cultural barriers for the good of the engineering alliance.

**Availability**

Availability is a psychological condition (Kahn, 1990) defining self-confidence of employees (Xu and Cooper-Thomas, 2011) such that they make themselves available for work through their absorption in their work (Gennard and Judge, 2010); this absorption in their work is underpinned by recognition and reward (Maslach and Leiter, 2008). These constructs are demonstrated through employee voice (MacLeod and Clarke, 2009) where views of employees are sought and listened to (MacLeod and Clarke, 2009). Availability presents an opportunity to measure trust and interdependence within an engineering alliance through; employee voice encouraging challenge (MacLeod and Clarke, 2009) regarding the performance of the employees and how things can be improved (Gennard and Judge, 2010). This type of engagement is called intellectual engagement (Gennard and Judge, 2010), with employees offering intellectual capital to the organisation (Cardoso et al, 2010).

Intellectual capital is underpinned by human capital theory and has a number of definitions within recent literature (Koszewski, 2009). It is often referred to as knowledge capital and described as an intangible asset (Razzaq et al, 2013). Intellectual capital has two main constructs; human capital and relational capital (Razzaq et al, 2013; Mládková, 2013). Human capital describes employees’ level of knowledge and experience (Mládková, 2013); level of knowledge and experience can be demonstrated by employee through definitions of their work being complex (Cardoso et al, 2010) which can be used to demonstrate employees’ absorption in their work (Gennard and Judge, 2010). Relational capital is internal relations between employees (Razzaq et al 2013; Mládková, 2013) within engineering alliances and as such demonstrates a sense of interdependence amongst alliance communities. Koszewski (2009) describes intellectual capital as a social collective within an organisation or intellectual community. However, in order for intellectual capital to be successfully shared, it must be both recognised and rewarded. Employee reward and recognition is viewed as a component of meaningful work (Brun and Dugas, 2008). A lack of recognition of employees’ efforts can lead to emotional distress in organisation (Brun and Dugas, 2008) which in turn undermines extent by which employees make themselves available for work (Gennard and Judge, 2010) through a diminished self-confidence (Xu and Cooper-Thomas, 2011). This lack of availability can lead to a demotivated employee (Brun and Dugas, 2008) which suggests that motivation is a key component of availability. Motivation is seen as a management tool that promotes and encourages employees to increase their organisational effectiveness (Manzoor, 2012).

There are two levels of motivation; intrinsic and extrinsic (Salie and Schlechter, 2012). Intrinsic motivation is recognition element of motivation, generated by employees through pride, self-actualisation and a desire to grow (Salie and Schlechter, 2012). These characteristics are not too dissimilar to intellectual capital and desire to continually improve knowledge capital such that the organisation grows with individuals increase in knowledge capital. Extrinsic motivation is reward element of motivation, which can include pay, praise or promotion (Salie and Schlechter, 2012). In rewarding employees’ efforts, it is viewed by employee as a reward for imparting intellectual capital to enable the company to achieve successful project outcomes. According to Danish (2010), reward and recognition leads to achievement of successful project outcomes but there is cognisance of
employee motivation being key to success. Manzoor (2012) complements Danish (2010) view by noting a motivated employee will recognise project success outcomes and will understand what is needed to achieve them, which suggests positive interdependence between leader and employee.

Bishop (1986) argues that length of service and intellectual capital acquired, particularly intellectual capital concerned with the organisation itself, rather than job roles, is of significant importance. Bishop (1986) discusses rewards in line with long term contracts, which engineering alliances can typically offer. Bishop (1986) argues that in order to retain intellectual capital duration of alliance, a new contract needs to be drawn up to reflect reward and recognition based on milestones. There is further suggestion of a long term transactional relationship that is based around financial reward, which is an extrinsic form of motivation. It also suggests that intrinsic motivation is of less importance because need to grow is of less importance through self-motivation (Salie and Schlechter, 2012) and that meeting milestones becomes overriding objective as measure for performance (Bishop, 1986) through an expectation of recognition and reward as extrinsic motivation (Salie and Schlechter, 2012) and that of employee voice.

Employee voice is a recent concept that involves participation of employees in decision-making process of organisations (Marginson et al, 2010; McCabe and Lewin, 1992). It is a two way communication process between management and employees (Marginson et al, 2010) and has been in the past referred to as participative management (McCabe and Lewin, 1992). There is much discourse surrounding employee voice and benefit that it can deliver to an organisation (Avery et al, 2012; McLean et al, 2013). Perceived lack of benefit relates to a lack of trust between employees and management (Morrison, 2011) with employees offering discretionary expression of comments (McLean et al, 2013). Discretion is reserved for fear of it not being safe to speak up (Detert, 2007) because management may choose to hear employee words as non-constructive (Avery et al, 2012). Non constructive words can relate to dissatisfaction with current status quo (Burris, 2012; McLean et al, 2013) of alliance or an opportunity for improving their own wellbeing (Detert, 2007) within the alliance.

Availability can be summarised by development of intellectual capital that can be freely exchanged within alliances. The extent by which employees will freely exchange knowledge is governed by reward and recognition that is administered by leadership. An authentic leader will recognise reward and recognition is a cyclical event that can be built upon trust and right environment where employee’s voices can be heard.

**Organisational Commitment**

Engineering alliances are not a singular construct, they consist of two or more organisations; it is from this perspective that a fourth element will need to be considered. This fourth element is not a psychological condition per se, but an understanding of organisational commitment. According to Scholl (1981) organisational commitment is a series of behaviours that identify with employees recognising goals and missions of the organisation and ability for employees to remain. Organisational commitment embodies three psychological conditions of Kahn (1990) and it can be argued that organisational commitment is a merging of three conditions; argument being underpinned by a systems thinking approach, assesses inter-relationships from human perspective (Jambekar, 1995). It can be linked to established theories (Ballé and Jones, 1995) to determine relationship of employee engagement within an engineering alliance, such that “best for project success outcomes” (Mohr and Spekeman, 1994) are determined. Systems-thinking adopts a logical
thinking style (Ballé and Jones, 1995) that can be used to solve chronic problem (Jambekar, 1995) of relationships between an organisation and its employees’ within an engineering alliance. This chronic problem relates to a cause and effect relationship that will change over a period of time (Jambekar, 1995; Ballé and Jones, 1995; Sheffield et al, 2012) within engineering alliancing. An engineering alliance is a complex project, with interactions occurring at both organisational and personal levels, which can be represented as closed loop thinking, which recognises that cause and effect are not linear relationships. The non-linearity of the relationship represents the changing requirements of an employee or an individual over time. These changing requirements, with respect to employee engagement, may lead to the establishment of an accelerated career path, based on the idea that roles are project related and not organisational related; job security based upon the longevity of the alliance, which other contracts may not be able to offer; or they can be an enhanced salary based on the concept that alliances are a cash cow and that the participant organisation will pay an enhanced salary for employees skills. The accelerated career path and job security are often perceived as acceptable outcomes for both the employee and participant organisation, with the employees aligning to participant organisations goals for project success with enhanced salary an additional outcome for the employee at the cost of the participant organisation.

Organisational commitment can be summarised as recognition that employees understand goals and mission of alliances and each of its partners. It is an embodiment of three psychological conditions of safety, availability and meaningfulness that are underpinned though systems thinking. It is also recognition that career paths and learning are significant. However, alliance-success, ergo organisational commitment, is based upon inter-relationships and employee behaviours.

**Conclusion**

We advance the likelihood that to measure employee engagement in an engineering alliance will lead to ensuring that best for project success outcomes, as advanced by Mohr and Spekeman (1994), is achievable. This can be attained by weaving praxis and theory of employee engagement with Kahn’s (1990) psychological conditions of meaningfulness, availability and safety and Scholl’s (1981) organisational commitment. These components are underpinned by social exchange theory (Bignoux, 2006) and leader-member exchange theory (Schyns et al, 2012; Kang et al, 2011; Mahsud et al, 2010) with systems thinking (Jambekar, 1995) bringing these four elements purposefully together.

This paper suggests that an authentic leadership style can bring together organisations that form an engineering alliance through a pluralist lens, recognising each employee is different and cannot be generalised into a one size fits all leadership style. Authentic leaders will seek to build a social community that encourages employees to transcend cultural barriers and exchange knowledge; ensuring fairness throughout the community, recognising and rewarding employees in a fair and unbiased way. Such leadership will focus on relationship quality with their employees and build relationships upon integrity and trust. However, employee engagement is not an isolated construct that is easily managed, with each time it is researched a potentially different lens or new theory is needed. This research suggests a new view be adopted regarding authentic leadership and its applicability within an engineering alliance. Authentic leadership is considered to be an effective style of leadership that encourages positive employee engagement (Hsiung, 2012); supporting the psychological conditions espoused by Kahn (1990) and underpinned by both social exchange theory and leader-member exchange theory. Relationship between leaders and employees needs to be such
that social exchange relationship consists of trust and sincerity (Farndale et al, 2011; Hsiung, 2012), both of which are prevalent throughout research of Macleod and Clarke (2009).

We conclude that an employee engagement model can be developed for an engineering alliance, based on Kahn (1990) in areas of meaningfulness, safety and availability. These three shaping conditions can be supported by weaving of work by Maslach and Leiter (2008) and Xu and Cooper-Thomas (2011) and praxis work of MacLeod and Clarke (2009) and Gennard and Judge (2010). The fourth element of organisational commitment of Scholl (1981) can also be used to complete model of employee engagement within an engineering alliance, thus closing the gap in knowledge of the following:

1. Meaningfulness (Kahn, 1990) can be positively coupled with leadership style (Macleod and Clarke, 2009), concept of control and workload (Maslach and Leiter, 2008) and challenge and autonomy (Xu and Cooper-Thomas, 2011) to form effective engagement (Gennard and Judge, 2010)

2. Availability (Kahn, 1990) can be positively coupled with employee voice (MacLeod and Clarke, 2009), concept of recognition and reward (Maslach and Leiter, 2008) and self-confidence (Xu and Cooper-Thomas, 2011) to form intellectual engagement (Gennard and Judge, 2010)

3. Safety (Kahn, 1990), can be positively coupled with integrity (Macleod and Clarke, 2009), fairness and community (Maslach and Leiter, 2008) and interactions with one another (Xu and Cooper-Thomas, 2011) to form social engagement (Gennard and Judge, 2010)

4. Organisational commitment (Scholl, 1981), can be positively coupled with employee behaviours (Scholl, 1981) and inter-relationships from human perspective (Jambekar, 1995) that form three psychological conditions (Kahn, 1990), leading to enhanced learning and career paths through a better understanding of the engineering alliance and its constituent partners roles.

This employee engagement model offers a novel approach to determine levels of employee engagement within an engineering alliance such that best for project outcomes of trust, interdependence, co-ordination and communication (Mohr and Spekeman, 1994) can be justified and established. This proposed model will be developed further through analysis of case studies or organisations operating engineering alliances. This future development will be de-limited by its contextualisation within the engineering sector, constrained to the rail and energy sectors. The utility and validity of the proposed model will need to be analysed further, such that the contribution to knowledge and the identified gap are addressed for future reference.

References


