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Orla O'Dwyer

*Lero@National University of Ireland, Galway, Galway, Ireland, orla.odwyer@nuigalway.ie*

Kieran Conboy

*The University of New South Wales, Sydney, Australia, k.conboy@unsw.edu.au*

Michael Lang

*National University of Ireland, Galway, Galway, Ireland, Michael.Lang@nuigalway.ie*

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## **A CONCEPTUAL FRAMEWORK FOR UNDERSTANDING CLAN CONTROL IN ISD PROJECT TEAMS**

Orla O'Dwyer, Lero@National University of Ireland, Galway, Galway, Ireland,  
orla.odwyer@nuigalway.ie

Kieran Conboy, Lero@National University of Ireland, Galway, Galway, Ireland,  
kieran.conboy@nuigalway.ie

Michael Lang, National University of Ireland, Galway, Galway, Ireland,  
michael.lang@nuigalway.ie

### **Abstract**

*While many control frameworks exist in the literature, there is a lack of a comprehensive framework for clan control. Clan control is generally studied in a broader context as part of a suite of controls. Researchers have examined clan control from a number of different perspectives, but there is a need for a framework that synthesises and extends existing research. To address this gap, this paper reviews and consolidates the literature to present a conceptual framework for clan control. Firstly, the framework presents the conditions for the development of clans within organisations. Secondly, it identifies the conditions that must exist in order to implement clan control. Finally, it details how all of these conditions contribute to the development of seven different characteristics that promote clan control. While the primary contribution of this paper is a framework to guide future research on clan control in IS project management, it may also be applied to studies of clan control in other disciplines.*

*Keywords: clan control, framework, informal control*

## **1 Introduction**

Clan control has been defined as “*the informal socialisation mechanisms that take place and that facilitate shared values, beliefs, and understandings among organisational members*” (Turner and Makhija, 2006). It is implemented by promoting a set of common values and beliefs (Gopal and Gosain, 2010) and by exerting social control on a group of individuals, otherwise known as a “clan”, to identify with the group and its values (Berry, Broadbent and Otley, 2005). Clan control exists when groups exhibit behaviour that is motivated by shared values and norms, individuals attempt to be “regular” members of the group by behaving in a manner consistent with accepted behaviours, and the group accordingly rewards or censures its members (Ouchi, 1979).

The importance of clan control is recognised in several disciplines, with many considering clan control a form of social control. For example, in the management literature Fortado (1994) and Collier (2005) recognise the importance of social control in organisations. In the accounting literature, Flamholtz et al. (1985) argue that organisational culture is a form of social control as employees develop a similar set of values and norms, consistent with those of the organisation, through the process of socialisation. Other studies in the accounting domain acknowledge the importance of clan control in organisations (Berry et al., 2005; Collier, 2005; Macintosh, 1994; Herath, 2007) as regards encouraging information sharing, learning and interaction amongst individuals (van der Meer-Kooistra and Scapens, 2008). Further, within the marketing discipline Jaworski et al. (1993) identified that managers should be aware of the informal controls, such as clan control, that exist within their teams and how such controls are used to influence the team, encourage morale, and promote group cohesiveness.

Clan control has received relatively little attention in the literature, either within IS or other disciplines, largely because clan control is considered a vague concept (Chua, Lim, Soh and Sia, 2012). It is often poorly understood even though it is considered critical to organisations (Cardinal, Sitkin and Long, 2004). Empirical studies that specifically focus on clan control are rare, with few studies to date attempting to conceptualise clan control. Many studies have given greater attention to the study of formal controls (behaviour and output) rather than informal controls (clan control and self-control), which focus on people and the environment in which they work. The most notable contributions in the IS literature are where Chua et al. (2012; 2007) and Kirsch (2010) put forward the idea that the existence of social capital within teams can facilitate clan control. Clan control is particularly relevant in the context of information systems development (ISD) project management, given its inherently complex, creative and often uncertain nature (Gopal and Gosain, 2010) with some research determining that the existence of clan control in ISD teams is related to project success and that it is considered essential in such projects. Yet, developing clan control in an ISD project team is difficult due to the time required for clan control to develop naturally (Chua et al., 2007).

It is not easy to distinguish within the existing literature how clan control develops or how clan control can be achieved. This lack of understanding of clan control is significant, given that clan control is recognised as being especially important to issues such as the motivation of project teams and alignment of goals (Cardinal et al., 2004; Kirsch, 1997; Wilkins and Ouchi, 1983). Our paper attempts to address this gap by examining previous work on clan control and building a conceptual framework to assist researchers in identifying whether clan control exists within organisations or project teams. The objective of this paper is to draw on literature from several disciplines to clarify the conditions to develop a clan, the conditions that must be in place in order to implement clan control, and finally how these conditions help to achieve seven resultant characteristics of clan control. The main contribution of this paper is a consolidation of these concepts into a unified framework for clan control to guide future research in this area.

The remainder of this paper is structured as follows. The literature review process is first presented. This is followed by the development of a conceptual framework for clan control. We conclude with a discussion and how the framework can guide future research, particularly in the context of ISD.

## **2 Conducting the Literature Review**

A systematic review of existing literature is imperative for any research (Webster and Watson, 2002). As this paper is a conceptual contribution derived from a critical analysis of previous literature, the approach used to examine and select relevant literature in order to build the conceptual framework is now presented. Clan control is a term that is not unique to IS and has its roots in the organisational literature. It has been studied in multiple disciplines, generally as part of a wider study on controls. Therefore, an examination of the non-IS literature was first conducted to identify existing control frameworks and clan control frameworks and their adoption in other disciplines. Key words such as 'clan', 'clan control', 'clan control framework', 'control framework', 'informal control', and 'social control' were used as search terms across all disciplines. In order to be as comprehensive as possible we did not exclude any discipline or journal from the search. Databases used included Scopus, ISI Web of Science, Science Direct, IEEE Explore and Google Scholar. Further searches were conducted on key conference proceedings using the same search terms. Textbooks were sourced that contained control frameworks as identified in journal papers. The second step in the process investigated the application of control theory and control frameworks in the IS literature using the same search terms.

As no single framework was found that focused specifically on clan control, we took a further step of identifying concepts from the literature that helped us to understand and explain clan control. We examined the papers/textbooks identified in the search process and extracted data relating to clan control. We synthesised the data and identified a broad range of concepts of clan control and what constitutes clan control. We then reviewed and analysed the concepts in order to categorise them into groups and identify relationships between the groups. During this process copious discussion took place between the researchers in relation to the inclusion and exclusion of each concept in the framework and the level of detail the proposed framework. Three groups were finally agreed upon for the purposes of this paper. As the presence of clan control is dependent on the existence of a clan the initial step involved extracting conditions under which clans develop. The literature articulates that certain conditions must be present in order for clan control to develop. Therefore, our next step was to identify and categorise these concepts into a second group. Based on our review of the literature we argue that the concepts in both of these groups are necessary in order for clan control to exist and therefore their existence helps to achieve clan control. Once clan control is in place certain characteristics are present in the clan, so our final group contains the resultant characteristics of clan control i.e. the impact clan control has on members of the clan. These characteristics further strengthen/re-enforce the development of a clan. To conclude the structure of our clan control framework (see Figure 2) is based on this literature mapping exercise.

## **3 Building the Conceptual Framework**

### **3.1 Identification of Existing Control Frameworks**

The first step in the process examined organisational control theory and identified control frameworks used by research in business disciplines such as sales (Cravens, Lassk, Low, Marshall and Moncrief, 2004), marketing (Jaworski et al., 1993), knowledge management (Turner and Makhija, 2006), accounting (Hopwood, 1974), management (Berry et al., 2005), management accounting (Emmanuel, Otley and Merchant, 1990) and human resource management (Snell, 1992). For example, Ouchi's seminal work (1979; 1980) uses a transaction cost perspective to examine organisational control and predict the conditions under which a manager may exert a particular type of control. His framework defines three types of control in organisations that he considers are equally important: Markets, Bureaucracies and Clans. Even though they can overlap, Ouchi (1977; 1979) recognises that in some situations one type of control may be preferred over another and argues that the optimal choice of control is determined by characteristics such as task programmability (i.e. managers knowledge of the

transformation process) and the ability to measure either the output or behaviour of employees. If an organisation's desired result can be measured, then it is recommended that *outcome control* is used whereas if organisations know the precise behaviours and processes that will transform inputs into outputs, *behaviour control* is used. If both behaviours and tasks can be defined and are measurable, then either behaviour or outcome control is appropriate. However, Ouchi's (1977; 1979) framework (Figure 1) also recognises that situations can arise where it is not possible to measure either behaviours or outcomes. In these instances organisations must rely on less formal social controls such as *clan control* to control the behaviour of employees.

		Knowledge of the Transformation Process	
		<i>Perfect</i>	<i>Imperfect</i>
Ability to Measure Outputs	<i>High</i>	Behaviour or Outcome Control (Markets/Bureaucracies)	Outcome Control (Bureaucracies)
	<i>Low</i>	Behaviour Control (Markets)	"Clan" Control (Ritual)

Figure 1. Conditions Determining the Measurement of Behaviour and of Output

This conceptual framework has become synonymous with the studies of control in the organisation and accounting literature. Subsequent research has applied (Eisenhardt, 1985; Jaworski et al., 1993; Snell, 1992) and extended (Govindarajan and Fisher, 1990) the framework in several different domains. In management accounting, the literature has evolved to include other types of controls such as informal, personal and social controls, which differ from the traditional focus on financial controls (Otley, 1994). These informal and social controls are included in frameworks presented by Merchant (1985) and Emmanuel et al. (1990), who classify control into three categories (similar to those of Ouchi's framework): results control, action controls, and personnel controls. Similar to Ouchi (1977; 1979) they view personnel control in terms of input mechanisms such as the recruitment/selection of suitable employees, the establishment of cohesive teams with common goals, the encouragement of peer control amongst these teams, and the creation of a culture with which employees can identify.

Other control frameworks exist such as Hopwood (1974) and Macintosh (1994). Regardless of the framework the controls presented are categorised into the two broad categories of control: formal and informal, each of which is based in different interpretations. Terms differ amongst the authors: for example, 'outcome control' is also labelled 'results control' and 'bureaucratic control'. Also, what Hopwood (1974) labels as 'administrative control' is used to refer to what others define as two distinct forms of control - outcome and behaviour. These frameworks also tend to focus on control at a broad level rather than on a single specific control, with no single clan control framework identified.

### 3.2 Developing and Refining Clan Control Concepts

Clan control can exist at organisational level, at team level, or even within professions (Kirsch et al., 2010; Ouchi, 1979; Ouchi, 1980). For some professionals (doctors, solicitors, and consultants) the profession itself is an extremely powerful socialising agent with members expected to adhere to the values and norms of the profession, which are defined in professional codes of ethics (Abernethy and Stoelwinder, 1995). Different researchers from a variety of disciplines have discussed various aspects of clan control such as how clans may develop, how clan control may be implemented and some resultant characteristics of clan control. This paper synthesises the literature into a consolidated framework for clan control for use by researchers in future studies. The conceptual framework (Figure 2) incorporates conditions for the development of clans, conditions for the implementation of clan control and the characteristics of clan control that emerge as a consequence of these pre-conditions, which further strengthen and re-inforce the development of clans and clan control.

### **3.2.1 Conditions for the Development of Clans**

The presence of clan control is dependent on the existence of a clan (Chua et al., 2012) where a clan consists of a group of people who have a common goal, are dependent on one another, and where members of the group require social agreement as to what constitutes appropriate behaviour across a broad range of values and beliefs (Das and Teng, 1998; Ouchi, 1979; 1980; Wilkins and Ouchi, 1983). Therefore, the initial step to building a clan control framework is to identify conditions for the development of clans. Membership of a clan is often exclusive and may be limited to certain individuals (Macintosh, 1994). It is more likely that professional groups or business units within an organisation develop clan control, rather than organisations as a whole, on account of the length of time required to develop stable memberships and socialise individuals into the organisation (Wilkins and Ouchi, 1983). Consequently, a number of conditions are suggested in the literature that helps to develop clans in large organisations. These are:

***Stable membership*** – Clans require stability of their membership, as they function based on the development of similar attitudes, values and beliefs, all of which take time to evolve (Ouchi, 1979). The longer an organisational unit or project team is in existence, ideally with the same employees, the more stable the membership and the more likely members are to develop social understandings and knowledge, which can be passed on to newer employees (Ouchi and Price, 1993; Schein, 1990; Wilkins and Ouchi, 1983).

***Lack of exposure to other organisations*** – Culture is something that is learned over a period of time (Schein, 1990). Employees who are not exposed to the cultures or traditions of other organisations will easily become socialised into the cultures and social conditions of an organisation. Internal culture can be achieved if organisations recruit at the lowest level, promote internally and ensure that those they recruit possess values that fit with the values of the organisation (Wilkins and Ouchi, 1983).

***Absence of interaction with other groups of employees*** - Where employees in the group in question have little interaction with other employees or business units, they can develop their own culture and become ingrained in it (Wilkins and Ouchi, 1983). This can result in coexisting groups within a large organisation having cultures that are independent and even in conflict with each other (Schein, 1990).

These three conditions indicate that it can take time for a clan to develop naturally (Wilkins and Ouchi, 1983). Accordingly, these conditions are more appropriate in the development of clans in large, well-established, bureaucratic organisations that mass-produce products, and less appropriate in modern high-tech organisations that work in uncertain environments (Alvesson and Lindkvist, 1993). Modern organisations are less likely to be concerned with developing clans at organisation level (Wilkins and Ouchi, 1983). Instead, the focus is on the development of clans within functional or professional groups who are assigned to work with each other in teams, such as ISD project teams.

### **3.2.2 Conditions for the Implementation of Clan Control**

Clan control is a form of control that is used in circumstances where it is not possible to measure either behaviours or outcomes (Ouchi, 1979; Ouchi, 1980). This type of control is subtle, illusive and intangible and it can take a long time for members of the clan to become familiar with the behaviours that are deemed appropriate (Macintosh, 1994). We identified the following six concepts from the literature that are required in order to successfully implement clan control.

***Careful selection and socialisation of members*** - Members of the clan must be carefully selected and socialised into the clan to ensure they are aware of the common goals and values of the clan (Ouchi, 1980; Ouchi and Price, 1993). The more effective the selection process, the less socialisation is required to induct an individual to an clan (March, 1965). Socialisation relies on a low turnover of membership (Macintosh, 1994; Ouchi and Price, 1993). It is achieved by the recruitment of appropriate individuals, or by the training of employees in the beliefs and values of the clan resulting in the modification of employees beliefs in order to become accepted (Ouchi, 1979; Merchant, 1985).

A **culture of shared norms, values and beliefs must develop within the clan**, that influences the behaviour of members (Ouchi, 1980). A culture consists of a variety of elements, such as norms, values, beliefs and customs and can be considered a guide for members as to what is considered acceptable behaviour (Berry et al., 2005; Birnberg and Snodgrass, 1988; Herath, 2007). There are traditions or unwritten rules agreed between employees that regulate the behaviour of employees (Fortado, 1994; Jaworski, 1988; Ouchi, 1980), which may be described as simply as “*the way we do things around here*”. This can be a powerful form of control that influences the behaviour of people (Merchant, 1985).

The **existence of traditions, ceremonies and rituals** that contain information to convey the values and beliefs of the clan (Lebas and Weigenstein, 1986; Ouchi, 1979). Traditions are implicit rules that govern behaviour (Ouchi, 1980). They are not written down anywhere; therefore, it is difficult for individuals outside of the clan to gain access to such information (Ouchi, 1979). However, traditions reinforce the code of conduct expected, help to provide meaning to actions taken, and are normally beyond reproach and should not be questioned (Macintosh, 1994; Robey and Markus, 1984).

**Provision of necessary resources for members to complete their work** - To implement clan control managers must create an environment that encourages clan control (Lebas and Weigenstein, 1986; Turner and Makhija, 2006). This can include the allocation of physical resources such as office space, but may also refer to the provision of tools, knowledge and information (Merchant, 1985). Employees must have the necessary resources to complete their work as the working environment of employees can influence their attitudes towards their employer. This can have consequences such as the long-term loyalty of employees to the organisation or project team, or the likelihood they will remain an employee (Alvesson and Lindkvist, 1993).

A **lack of prescribed behaviours and outcomes for tasks** is not uncommon in an environment where clan control exists, as in this type of environment behaviours and outcomes evolve over time as the tasks progress (Ouchi, 1979). Prior studies on the conditions required to implement control focused on the ability of a supervisor to measure outcomes and observe behaviours, which relate to formal controls (Eisenhardt, 1985; Ouchi, 1979). However, Ouchi’s (1977; 1979) control framework determines that where tasks are not routine, are unpredictable and their outcomes are difficult to measure clan control is considered an appropriate form of control.

A **high level of interaction and communication** is required amongst members in order to implement clan control (Barker, 1993; Flamholtz et al., 1985). This leads to the sharing of resources and ideas between members to help them achieve the goals of the clan (Gopal and Gosain, 2010). Team members also become aware of the competencies of others and are comfortable to have their work scrutinised by other members, which should reduce rework and improve the quality of outputs (Gopal and Gosain, 2010). Members of clans use the tacit knowledge gained from their socialisation into the clan and draw on their own diverse range of experiences to work together to solve problems and achieve their goals (Turner and Makhija, 2006).

### **3.2.3 Resultant Characteristics of Clan Control**

The conditions for the development of clans and the conditions for the implementation of clan control both help to achieve various characteristics of clan control. A series of papers by Kirsch (1996; 1997; 2002; 2004) present a number of characteristics of clan control drawn from prior literature. These were used as the initial basis for building this component of the conceptual framework in conjunction with additional literature. This resulted in the identification of seven resultant characteristics of clan control. However, when reviewing the literature it was difficult to distinguish between the first three resultant characteristics presented in the conceptual framework. Researchers were not in agreement that there is a clear distinction between the concepts of identity, loyalty, and commitment. Lee (1971) believes that these concepts are intertwined and that it is difficult to analyse them separately as each concept implies some aspect of another concept; for example, identity implies some degree of loyalty. Similarly, other researchers recognise that there is a relationship between characteristics such as

commitment and loyalty, but they also acknowledge that there are variances between the two concepts (Becker and Billings, 1993; Bishop, Scott and Burroughs, 2000; Mak and Sockel, 2001). Subsequently, we retained the three concepts in our framework and, in an attempt to address the complexity, a definition is presented for each characteristic and any overlaps between each of the characteristics are also detailed.

Firstly, **members exhibit a strong sense of identity with the clan** (Kirsch, 1996) where identification is “*a psychological state wherein an individual perceives himself or herself to be part of a larger whole such as a work group, a team, or an organisation*” (Rousseau, 1998). Individuals that identify with each other are likely to have similar goals, values, and norms and will work and cooperate as a team (Eckel and Grossman, 2005; Lee, 1971). Where individuals identify strongly with a clan, their own self-interests decrease in favour of the interests of the clan, they behave in a manner that fulfills the needs of the clan, and they are committed to following the norms of the clan (Kanter, 1968; Wenzel, 2004) and achieving the goals of the clan rather than their own goals (Van Der Vegt and Bunderson, 2005). Strong identification with the clan can enhance collaborative behaviours and has been positively linked to communication, mutual effort and support, and team cohesion (Carmeli, Gelbard and Goldrieck, 2005). Where individuals do not identify with the clan, this can result in a reluctance to adopt the common norms, values and beliefs that are inherent in the clan.

Secondly, **members exhibit a strong sense of commitment to the clan** where commitment is defined as “*the process through which individual interests become attached to the carrying out of socially organised patterns of behavior which are seen as fulfilling those interests, as expressing the nature and needs of the person*” (Kanter, 1968). Where members display a deep commitment, the necessity to explicitly monitor that individual is reduced (Ouchi, 1979). A high level of interaction with the organisation can indicate a willingness to expend effort in order to contribute to the interests of the organisation (Mowday, Porter and Steers, 1982). Organisational commitment can be characterised by “(a) a strong belief in and the acceptance of the organisation’s goals and value; (b) a willingness to exert considerable effort on behalf of the organisation; and (c) a strong desire to maintain membership in the organisation” (Mowday et al., 1982). Commitment to a clan can be defined in a similar manner where clans develop goals and values that members may accept, members exert considerable effort on behalf of the clan, and members may exhibit a desire to remain a member of the clan (Bishop et al., 2000) even though members may experience high levels of commitment to one or more of these factors and not another. For example, a team member may accept the goals and values of the team and work hard on behalf of the team, but may have no desire to remain a member of the team.

Thirdly, **members develop a strong sense of loyalty to the clan** when they belong to a clan (Alvesson and Lindkvist, 1993; Macintosh, 1994). Employee loyalty to an organisation can be described as “*a feeling of affection for and attachment to an organisation*” (Buchanan, 1974). The amount of loyalty an employee has to an organisation can relate to their level of identification with the organisation (Mak and Sockel, 2001). A similar view could be applied in the context of the loyalty of a member to a clan. Members of a clan who work closely together, are dependent on one another, and complete tasks for the good of the clan as opposed to the benefit of one individual, develop a sense of belonging and solidarity with the clan and a strong team spirit can develop (Alvesson and Lindkvist, 1993). This can be achieved through the provision of good working conditions, interesting and varied work, and frequent social interaction (Alvesson and Lindkvist, 1993).

Fourthly, where clan control exists, organisational goals are often unknown at the start of a project, but instead evolve over time (Ouchi 1979). Where they do exist, clan controls may not be aligned with the goals of the organisation (Gopal and Gosain, 2010). Instead, **members develop common interests and goals which evolve as tasks progress** (Kirsch, 1996; Kirsch, 2004; Turner and Makhija, 2006) and as members become socialised into the clan and become familiar with the norms and values of the clan (Alvesson and Lindkvist, 1993; Harris, Collins and Hevner, 2009). Managers can strategically encourage particular behaviours and norms in an attempt to align the goals of the clan (team) with those of the organisation (Gopal and Gosain, 2010). Successful clans (team) can spend a substantial amount of time and effort determining a common purpose and developing common goals towards

which they strive (Katzenbach and Smith, 2005). These goals evolve during the life of the team and may be different from those of the organisation or to individual goals (Katzenbach and Smith, 2005) with members willing to contribute to the goals of the team even though they may not be rewarded in the short-term (Alvesson and Lindkvist, 1993).

Fifthly, **members identify and reinforce acceptable behaviours through rituals and ceremonies** of the clan with individuals attempting to be “regular” members of the clan by behaving in a manner that is consistent with agreed-upon behaviours (Kirsch, 1996; Ouchi, 1980). Rituals and ceremonies “reinforce the implicit, but well understood codes of correct conduct” and once these are understood members know how to behave without being told (Macintosh, 1994). They require the recurring collective participation of members and they help members to develop loyalty to the clan (Kanter, 1968). They are a source of information for members as they communicate the values and beliefs of the clan to members, which may be in the form of rules and regulations that are considered acceptable by the clan (Kirsch, 1997; Ouchi, 1979). The socialisation process, as well as the rituals and ceremonies help members of the clan to identify and reinforce acceptable behaviours and where all members are aware of their identity there is a shared understanding of the norms, values and beliefs of the clan (Hegtvedt, 2005; Kirsch, 1997).

Sixthly, **members are influenced by the shared norms, values and beliefs** that exist, which results in a group of individuals who have common values and beliefs and who are committed to the clan (Kirsch, 1997). They believe that their interests are best served when every member focuses on the needs of the clan rather than their individual needs (Macintosh, 1994; Kanter, 1968). Common values and beliefs suggests that members of the clan share a general orientation that is cooperative in nature, they develop common interests for the clan, and an assurance that the personal goals of members are compatible with the goals of the organisation (Birnberg and Snodgrass, 1988; Ouchi, 1980; Wilkins and Ouchi, 1983). Where norms are established and deviations from those norms occur the clan will attempt to subtly correct the deviation, but where members repeatedly deviate from the norms the clan may ostracise the offending individual (Jaworski, 1988). Shared norms, values and beliefs does not indicate the existence of clan control. It is when behaviour is influenced by norms, values and beliefs; for example, they behave in a manner that is cooperative, collegiate and in line with the expectations of the clan, then clan control is in operation (Kirsch et al., 2002).

Finally, **members evaluate and reward or sanction each other based on conformance to the values and beliefs of the clan** (Das and Teng, 1998; Kirsch, 1996; Ouchi, 1980). In an organisational setting, formal reward systems that evaluate teams or individuals against pre-defined criteria have a strong influence on how individuals and teams function (Cohen and Bailey, 1997). Reward systems are an incentive for individuals to behave in a particular way so as to achieve the goals of the organisation, because there is an innate desire to attain a reward (Flamholtz et al., 1985). As members of a clan share common goals, there is no requirement for specific incentives to encourage the achievement of pre-defined goals. Therefore, rewards in a clan tend to be intrinsic and intangible rather than extrinsic and tangible (Kirsch et al., 2002). In clans, performance evaluation is subtle and takes place amongst team members in the form of “reading of signals”, but it is often difficult to translate these signals into something that can be measured (Birnberg and Snodgrass, 1988; Ouchi, 1980). Even though it is not possible to measure outcomes, it is possible to reward those who engage in rituals and ceremonies and display the attitudes and values expected by the clan to achieve the desired goals even though it may be difficult to determine if individuals are actually achieving them (Ouchi, 1979). Where clan control exists, members of the clan evaluate each other and rewards are based on whether members have acted according to the agreed norms, values and goals of the clan. For example, a member may be rewarded by recognition from the clan (Choudhury and Sabherwal 2003; Kirsch et al., 2002; Kirsch, 2004). Sanctions for non-conformance to the accepted norms or values of a clan are typically informal and may exist in the form of peer pressure, criticism, sarcasm, disapproval, or may even be as severe as exclusion of the deviant group member (Kirsch, 2004; Westphal and Khanna, 2003).

### 3.3 The Conceptual Framework

We conclude this section by presenting a conceptual framework for clan control in Figure 2 as derived from the literature discussed in sections 3.2.1, 3.2.2 and 3.2.3. As shown in the framework, the development of clans and the implementation of clan control is determined by a number of pre-conditions. The presence of clan control is evident in a team or an organisation where the resultant characteristics identified in Figure 2 exist. Additionally, we argue that each of these resultant characteristics further strengthen and reinforce the development and implementation of clans and clan control. It is proposed that this framework can be utilised to examine clan control in the context of ISD project teams.

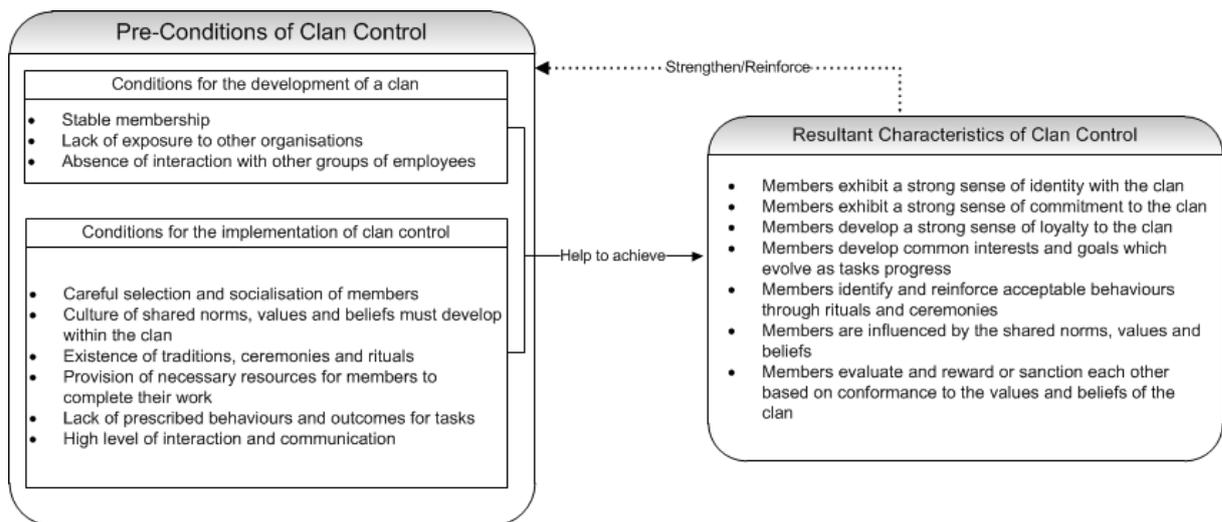


Figure 2. Clan Control Conceptual Framework

## 4 Discussion, Limitations and Future Research

This study examined several control frameworks in disciplines such as accounting, management, and marketing, showing that these frameworks largely focused broadly on control rather than on a single specific control and divided control into two main categories: formal control and informal control. It also found that clan control is often studied in combination with other forms of control and is rarely studied in isolation, which limits the understanding of clan control and its influence in various settings, such as ISD project teams. While various studies detail different aspects and elements of clan control the lack of a comprehensive framework for clan control was evident. Consequently, this paper synthesises the literature to develop and present a comprehensive conceptual framework within which clan control can be assessed and evaluated. The framework comprises conditions for clans to develop, and conditions for the implementation of clan control, both of which we argue help to achieve resultant characteristics of clan control. Each of these resultant characteristics in turn reinforces or strengthens the further development of a clan and clan control.

We acknowledge that this paper elected to focus on a single control mode, namely clan control, as it is one of the lesser studied modes of control. Clan control also focuses on people and their relationships, which are important aspects of team work, and are particularly important in ISD teams where collegiality and cooperation is paramount. This paper provides greater clarity on clan control and has strong implications for research by providing a foundation for future empirical research. It develops and integrates existing research as the framework is informed by the broader literature and is not limited to one discipline. From an IS perspective it builds on prior research of control in ISD project

teams (Henderson and Lee, 1992; Kirsch, 1997; Kirsch and Cummings, 1996; Kirsch et al., 2010; Rustagi, King and Kirsch, 2008).

We recognise that the pre-conditions of clan control (left-hand side of the framework displayed in Figure 2), while applicable for the development of a clan control framework may not be appropriate in modern high-tech organisations. We intend to conduct research to definitively determine this and to examine how clan control develops in ISD project teams if the pre-conditions of clan control do not exist. Although, some research has shown that clan control can quickly develop within IT projects within a period of a few months, but it requires significant effort by the project manager in conjunction with the team members to build the clan and to leverage the clan by influencing their shared norms, values and beliefs (Chua et al., 2012). The proposed next step is to use the framework to examine clan control in the management of ISD teams in an attempt to understand how clan control can develop in such teams and whether this can contribute to the management of more successful ISD projects. We also aim to investigate the negative impacts clan control may have on ISD project teams, such as those illustrated in a study by (Barker, 1993) where the development of clan control within a division of an organisation resulted in the creation of more and stronger controls than the formal control system that existed previously. Further, ISD project teams are complex and cross-functional, which is a challenge for organisations. Little is known about the presence of clan control in such teams. Future research investigating whether or how clan control can help to overcome these challenges is warranted. We also recognise that the framework used in this study contains a number of different concepts, each of which could be examined in greater detail in a single piece of research and are areas for potential future research in ISD as well as other disciplines. Finally, we acknowledge that the framework may be extended in the future for example, to incorporate control competencies to assess the performance of managers and project managers and how well they implement clan control in ISD project teams.

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