

Identifying factors for successful self-managing teams: an evidence-based literature review

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ABSTRACT

The use of self-managing teams in organizations has been growing steadily ever since the first articles in the 1950's and 60's appeared on the subject. The use of self-managing teams has advantages such as bringing more flexibility, increased Quality of Work life, less absenteeism and employee turnover, increased job satisfaction, and organizational commitment. Why then, with data on self-managing teams growing steadily, are there no comprehensive frameworks available for successful self-managing teams? We conducted an evidence-based integrative literature review of peer-reviewed articles published in journals on the Journal Quality List. The articles concerned self-managing teams and team effectiveness. The research resulted in 56 articles for empirical analysis. Through this literature review, we aimed to build a comprehensive framework for success of self-managing teams. Therefore, we addressed the question: What are factors for successful self-managing teams? We used the framework of Cohen, Ledford Jr, and Spreitzer (1996) as foundation for our analysis. The results show that the factors contributing to successful self-managing teams are based on three levels: organizational, team and individual levels, each having its own factors. Taken together, all factors, to a different extent, are known to enhance managerial ratings of performance, employee ratings of performance, Quality of Work Life, and withdrawal behaviours. Based on this analysis we drew theoretical and practical implications.

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Keywords: Self-managing teams, self-directed teams, team design, team effectiveness, empowered teams

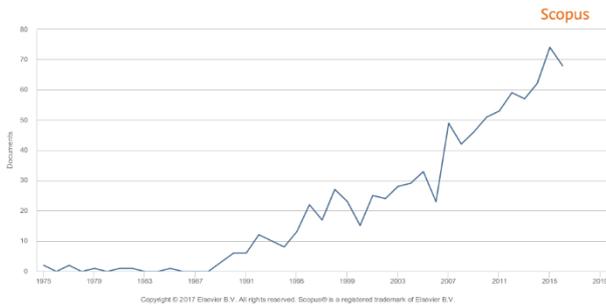
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9th IBA Bachelor Thesis Conference, July 5th, 2017, Enschede, The Netherlands.

1. INTRODUCTION

Many companies nowadays are implementing Self-Managing Work Teams (SMWTs) or Self-Managing Teams (SMTs). Ever since the first articles in the 1950's and 1960's appeared on the subject (Emery & Trist, 1965; Seashore & Center, 1954), the interest and popularity on the use of self-managing teams has been growing steadily as shown in Figure 1, in an analysis on the search words "self-managing teams" on Scopus.

Figure 1: Number of articles published in Scopus on SMTs



Based on Surveys, Druskat and Wheeler (2004, p. 65) report that: "79% of companies in the Fortune 1,000 and 81% of manufacturing organizations currently deploy such "empowered," "self-directed" or "autonomous" teams". The terms "autonomous", "semi-autonomous" and "self-managing" are used interchangeably (Hackman, 1987). Cohen et al. (1996, p. 2) complement that: "the use of self-managing teams contributes to various dimensions of performance effectiveness, such as productivity improvement, cost savings, manager and self-ratings of performance effectiveness, and employee satisfaction". These same outcomes of the use of self-managing teams are described in later research, often accompanied with other traits such as more flexibility, better use of employees' creative capacities (Wageman, 1997), increased Quality of Work Life (QWL), decreased employee absenteeism and turnover (Moorhead, Neck, & West, 1998), eventually resulting in increased job satisfaction and increased organizational commitment (Cohen & Ledford Jr, 1994; Cordery, Mueller, & Smith, 1991).

Self-managing or regulating teams, generally include the following work design: "a whole task for the group; workers who each have a number of skills required for completion of the group task; autonomy for the group to make decisions about methods for carrying out the work; compensation and feedback about performance based on the accomplishments of the group as a whole" (Hackman, 1976, p. 3). These same design characteristics are described by numerous other researchers in later studies, with extra characteristics such as employees plan and schedule work, take action on problems, meet organizational goals and gather information (Goodman, Devadas, & Griffith Hughson, 1988; Wellins et al., 1990). Scholars did not accord on whether self-managing teams have supervisors.

In this paper, we borrow the definition of Hackman (1976) and later added characteristics. These are used as definition for self-managing teams since they make up a definition frequently used in later research (e.g. Cohen & Ledford Jr, 1994; Kirkman & Shapiro, 2001; Kuipers & Stoker, 2009; Langfred, 2004; Spreitzer, Cohen, & Ledford Jr, 1999). Furthermore, the definition is broad and generic and helps to sample a wide range of studies without ruling out the less explicit or too specific ones.

Hackman and Oldham (1976) designed "The job characteristics model of work motivation" where they propose core job dimensions, critical psychological states, and related personal work outcomes. High internal motivation of the proposed work, high quality work performance, high work satisfaction and low employee turnover and low absenteeism are outcomes of this model. These same results are associated with later research on the use of self-managing or self-regulating teams (Cummings, 1978).

Hackman (1987) later used the concepts of the work design theory and job characteristics model in the normative model of group effectiveness. This model looks at how group effectiveness is established by starting at both the organizational context and the group design, it considers the influence of group synergy and looks at the process criteria of effectiveness. The model was designed to support and assess work teams.

Hackman (1987); Hackman and Oldham (1976) designed frameworks on team effectiveness and job motivation, which are widely described in later research on team effectiveness and are also mentioned with regard to self-managing teams (Cohen et al., 1996). Many researchers have focussed on transitioning general team effectiveness models to SMTs or they designed a specific model for self-managing teams. However, they did not consider all specific attributes regarding SMTs. There is little research on complete and empirically tested models specially designed for self-managing teams, Cohen and Ledford Jr (1994) is an exception (Cohen et al., 1996).

With data and frameworks on the effectiveness of teams, including work design, group characteristics, organizational context, and group processes readily available (Cohen et al., 1996), why is it then, there are no comprehensive frameworks specifically designed for self-managing teams?

By a framework, we mean: "a system of rules, ideas, or beliefs that are used to plan or decide something", Cambridge (2017). A framework is a tool that helps to develop knowledge better, faster and more systematic. Concerning this literature review, a framework is expected to enable, for example, organizations, to change to use of SMTs faster, better and more systematic, with belonging benefits. Therefore, this paper addresses the following research question: What are factors that enable successful work of self-managing teams?

Cohen et al. (1996) designed a predictive model for effective self-managing teams. This model is an important contribution to the literature since it is one of the few models especially designed for self-managing teams. We made the choice to use this predictive model as foundation for this research. The article of Cohen et al. (1996) has been used for over 20 years and has been cited by other authors more than 700 times (Harzing, 2016). Susan Cohen published 57 articles that earned more than 9550 citations. Cohen's h-index is 24 (Harzing, 2016), meaning that 24 of her articles have been cited more than 20 times. Cohen's work is well cited and well known, especially her article on "a predictive model for effective self-managing teams", which is her third best-cited article. Since other scholars have given her work considerable credit, we chose Cohen's framework as basis for this study.

In this paper, we apply the evidence-based literature review guidelines (Rousseau, Manning, & Denyer, 2008) to make a systematic analysis of the literature on factors that lead to successful self-managing teams, their design, and outcomes of self-managing teams. The literature review framework serves, to

sample studies across a diverse sample, to identify a pattern to distinguish factors for successful SMTs.

We start the evidence-based literature review with summarizing key concepts of SMTs, team effectiveness, and team design. We used the framework components of Cohen et al. (1996) as foundation for identifying success factors for SMTs. Next, we describe the evidence-based methodology that was applied to systematically sample data over diverse studies, particularly published and peer-reviewed, to ensure a more parsimonious conclusion (Baumeister & Leary, 1997). The gathered evidence is then synthesized to create a framework, and second, to spot gaps in the data to identify further research directions.

This paper offers three contributions to the literature on self-managing teams. First, an evidence-based literature review on self-managing teams, team effectiveness, and team design is conducted. Second, we design a comprehensive framework specifically for self-managing teams, and third, we spot gaps to direct future research.

2. FACTORS INFLUENCING SUCCESS OF SELF-MANAGING TEAMS

Cohen et al. (1996) describe four main predictors for effective self-managing teams: Group task design, Group Characteristics, Encouraging supervisory behaviours and a context that supports Employee involvement. These predictors explain variances in the following dependent variables: Manager ratings of performance, Team ratings of performance, Quality of Work Life (QWL), and Withdrawal behaviours. These four antecedents and their outcomes function as foundation of this literature review. To ensure that the exact meaning of the independent variables is understood, we provide a more detailed explanation of these four predictors.

2.1 Defining team success

Hackman (2002) describes that successful teams possess the following characteristics: they satisfy external and internal clients, develop capabilities for future performance, and members of those teams find meaning and satisfaction within their team. Five conditions to enhance success for teams are described in the “Five Factor Model” by Hackman (2002): being an actual team, providing teams direction with clear goals, enabling structure of the team, providing a supportive context in place, and extending expert guidance or coaching.

2.2 Group task design

Work design and social-technical theory point out that task design contributes to effective SMTs by their effect on motivation and their impact on self-regulation. There are several attributes of group task design that advocate for work team motivation and self-regulation: group task variety, group task identity, group task significance, group task autonomy and group task feedback. Group task design can predict team ratings of performance but does not influence QWL (Cohen et al., 1996).

2.3 Encouraging Supervisory Behaviours

Encouraging supervisory behaviours is the attribute focused on self-leadership in self-managing teams. This self-leadership is established through a facilitating supervisor. There are six leadership behaviours this supervisor should adhere to: encourage self-observation/self-evaluation, encourage self-goal setting, encourage self-reinforcement, encourage self-criticism, encourage self-expectation, and encourage rehearsal. This self-leadership is found to influence performance effectiveness of

team members since team members learn to improve team performance by correctly performing wanted behaviours. Self-leadership, just as group task design, has self-regulation as key to self-management. Encouraging supervisory behaviour is found to be negatively related to manager ratings of performance (Cohen et al., 1996).

2.4 Group Characteristics

This predictor is split up into the smaller sub-categories: group composition, group beliefs and group processes. Group composition consists of the variables group expertise, group size adequacy, and group stability. Group beliefs, those beliefs that a group shares with its members, can be split up in group norms and group self-efficacy. The sub-category group process refers to the interaction between group members when on the job. Group process is divided in group coordination and group innovation processes. Part of the effectiveness of a self-managing team may depend upon the ability of the team to solve problems and implement innovative ideas to address the change in task demands. Group characteristics is found to predict absenteeism and team ratings of performance but is not related to QWL (Cohen et al., 1996).

2.5 Employee Involvement Context

The last category described by Cohen et al. (1996) is the employee involvement context. An organizational context that supports the involvement of employees, results in more effective self-managing teams. For SMTs to be effective, several elements of organizational design should be moved to lower levels in an organization. Cohen et al. (1996) mention five design elements: power, information, rewards, training, and resources. The more these five elements are moved down the organization the more employees will take ownership and responsibility for their task which in turn motivates performance. The five elements reinforce each other. Employee involvement context has the strongest influence on QWL and manager ratings of performance and only employee involvement context can predict QWL (Cohen et al., 1996).

3. EVIDENCE- BASED LITERATURE REVIEW METHODOLOGY

We used a literature review and not an empirical one as research method in this study. A literature review should address questions that have the potential to form patterns and connections to form theories which lie beyond the scope of one individual (empirical) paper. We took the challenge to conduct a literature review to bridge a gap in the interpretation of individual data sets and individual empirical papers (Baumeister & Leary, 1997).

Since electronic databases of scholarly publications have become available, literature reviews have developed into a separate classified research method. Diverse techniques for conducting literature reviews are available. However, one principle is important. Rousseau et al. (2008) and Cassell, Denyer, and Tranfield (2006) argue that much needs to be gained from systematic literature reviews. The systematic literature review is conducted *systematically*, whereas the traditional literature review can easily lead to cherry picking by the authors to support a point of view and thereby biasing the results. A systematic literature review, in contrast to the traditional narratives, does not only serve as a synthesis as to where findings are clear, it also enables and shapes future research when findings are unclear or inconclusive.

The next step for us was to choose an approach within the stream of systematic literature reviews as “*Systematic means*

comprehensive accumulation, transparent analysis, and reflective interpretation of all empirical studies pertinent to a specific question” (Rousseau et al., 2008, p. 479). Since this research takes place in the field of Management and Organizational Science (MOS) we were sensitive to the fact that some methods are better suited than others. For example, Cassell et al. (2006) state that a meta-analysis can be weaker for social sciences, as it aims to develop algorithmic guidelines and cannot in all cases cope with variation in study populations, design, context, and type of analysis. We followed recommendations of Cassell et al. (2006) and Rousseau et al. (2008) who suggest, instead, to conduct an evidence-based or qualitative research method.

Cassell et al. (2006) and Rousseau et al. (2008) both suggest to use a critical realist approach within the evidence-based literature review. The critical realist approach not only summarizes and describes different literature as with a narrative synthesis but tries to generalize findings which are transferable to policy and practice (Cassell et al., 2006). We used the proposed framework of Rousseau et al. (2008), that enables for systematic but flexible research syntheses fitting the field of MOS.

3.1 Sample-systematic search

The research methodology we used in this literature review followed the “integrative synthesis” procedure to identify scholarly research on self-managing teams (Rousseau et al., 2008). Three major databases were searched: Business Source Elite, Scopus, and Web of Science. This enabled us to gather multiple forms of data to assemble a diverse collection of evidence “to compensate for researcher value judgments and uncontrolled validity threats” where it is also possible to identify contextual factors that can influence findings (Rousseau et al., 2008, p. 503).

When searching these databases, the search protocol involved the following search terms: “self-managing teams”, “self-designing teams”, “empowered teams”, “autonomous teams”, “self-directed teams”, “team effectiveness” and “team design”. These search terms are mentioned in literature often and the search terms on self-managing teams and variance are used interchangeably in literature and are therefore seen as synonymous when searching for articles (Hackman, 1987).

The articles were coded based on the search term where they were found with first. Those articles do not appear under other terms even if they are mentioned under various search terms. Since the number of articles on self-managing teams is growing, we only searched for articles where the search terms were included as a single phrase in the title, to make sure that only articles that truly discuss these search terms were identified.

3.2 Critical evaluation of evidence

To critically evaluate the evidence and to make sure that the selected articles are most relevant to the research methodology and the subject, we considered several criteria as proposed by Rousseau et al. (2008). Only peer-reviewed articles were included. To ensure quality of these peer-reviewed articles, we applied the Journal Quality List 58th edition, published on March 11, 2017 (Harzing, 2017). Table 1 shows how many articles remained after testing them against the JQL. At this stage, the extent to which the selected articles addressed factors for successful SMTs was not considered yet.

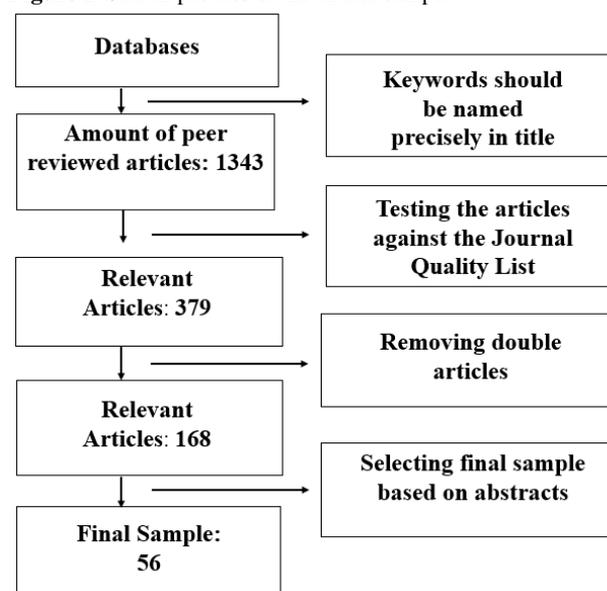
Table 1 articles identified using the following search terms

Search term	Number of articles identified
Self-managing teams	57 articles
Self-designing teams	0 articles
Empowered teams	7 articles
Autonomous teams	2 articles
Self-directed teams	6 articles
Team-effectiveness	86 articles
Team-design	10 articles

3.3 Categorization procedure

The remaining articles from scholarly peer-reviewed journals were categorized by how they help to answer our research question. This categorization is summarized in Table 2. The articles were first categorized by relevance based on abstracts, whether they helped to answer the research question. We assessed these categories through the framework of Cohen et al. (1996): Group task design, Encouraging supervisory behaviour, Group characteristics, Employee involvement context and New components to Cohen’s framework. After coding based on categories and abstracts of the articles, 56 articles remained. The search process is depicted in Figure 2.

Figure 2 Search process of the article sample



3.4 Categorization by methodological approach

Rousseau et al. (2008) recognize four types of relationships between constructs that are key to meeting optimal empirical standards, likewise for literature reviews: conclusion validity determines if there exists a relationship between two constructs. Internal validity determines whether causality is present in the relationship and if there is, what sort of direction this causality takes. Construct validity assesses whether the relationship between key constructs is adequate based on used measures. Lastly, external validity establishes to what extent the relationship is generalizable, and if there are contingency factors that might influence the relationship.

The levels of analysis of the individual articles were addressed since different factors of successful SMTs can be measured at the individual, team or organizational level. To report outcomes of these studies most accurately, it was important to include the

levels of analysis of these findings. Therefore, the article sample was categorized by the level of analysis of the articles. Most articles in the sample were focused on the team level of analysis, several articles were focused on the organizational and individual level of analysis.

4. RESULTS

The sample of articles in Table 2 was coded by analysing the separate categories. The current studies address questions regarding self-managing teams, their effectiveness, and they dive deeper and study more detailed parts of self-management. 40 of the 56 articles address SMTs and specifically answer questions on sub-categories such as personality, organizational context, team design or leadership. Most of the peer-reviewed articles, 36 of the 56, were focussed on the team level of analysis. In 11 articles, more than one level of analysis, either organizational and team level of analysis or team and individual level of analysis, was reported. Almost all articles in the sample reported on empirical studies where researchers try to answer theoretically derived hypotheses by examining qualitative descriptive statistics, as shown in Table 2. Five articles report on conducting literature reviews and four articles on case studies.

We address the categories based on the framework by Cohen et al. (1996) that forms the foundation of this evidence-based literature review, and we identify areas where more research on the use of self-managing teams is needed.

4.1 Definition of Self-Managing Teams

The definition Self-Managing Teams (SMTs) was first introduced in the 1950's and 60's and emerged as a result of research on sociotechnical systems (Janz, 1999). 33 articles reported a definition of SMTs which are briefly described in Table 2. 25 of these descriptions defined a broader more general definition of SMTs the other 8 articles describe the specific tasks SMTs execute.

Many articles in the sample define SMTs as “*groups of interdependent individuals that can self-regulate their behaviour on relatively whole tasks*”. This definition stems from Goodman et al. (1988) and forms the basis of numerous other definitions (Cohen & Ledford Jr, 1994; Cohen et al., 1996; De Jong, De Ruyter, & Wetzels, 2005; Janz, Wetherbe, Davis, & Noe, 1997; Kuipers & Stoker, 2009; Langfred, 2004; Moorhead et al., 1998; Spreitzer et al., 1999; Stoker, 2008).

The literature review showed that SMTs possess a variety of work skills, are responsible for many traditional management tasks (Neck & Manz, 1994), have the autonomy to make decisions previously made by their managers (Alper, Tjosvold, & Law, 1998; Liebowitz, 1995; Rogers, Metlay, Kaplan, & Shapiro, 1995), monitor own performance, and alter their performance as needed (Jong & De Ruyter, 2004; Lambe, Webb, & Ishida, 2009; Thoms, Pinto, Parente, & Druskat, 2002; Wageman, 1997; Wolff, Pescosolido, & Druskat, 2002). More specific team tasks were reported in the literature, too. For example, researchers reported that SMTs set production schedules and standards, monitor customer feedback and own performance (Jong, Ruyter, & Lemmink, 2004; Rolfsen & Johansen, 2014), and develop and train for quality improvement practices (Kirkman, Jones, & Shapiro, 2000; Kirkman & Rosen, 1999; Kirkman & Shapiro, 2001). Several studies emphasize that teams receive feedback and evaluations on their performance (Bishop & Scott, 2000), gather information, and meet organizational goals (Muthusamy, Wheeler, & Simmons, 2005; Van der Vegt, Bunderson, & Kuipers, 2010).

Based on the above-mentioned definition and characteristics of SMTs, we suggest that *SMTs are groups of interdependent individuals who have the autonomy to self-regulate their behaviour on relatively whole tasks, they possess a variety of work skills, are responsible for decision making, monitoring and altering their performance, they fulfil traditional management tasks and meet company goals.*

4.2 Group task design

Cohen et al. (1996) describe several sub-categories; group task variety, group task identity, group task significance, group task autonomy and group task feedback. 31 articles in Table 2 reported Group task design, or one or more sub-categories of Group task design, many in combination with one of the other categories. In this paragraph, we discuss 11 articles with findings directly relating to Group task design as leading factor. However, we should note that the different sub-categories fitting under group task design are largely mentioned and recognized by researchers (Atanasova & Senn, 2011; Caudron, 1993; Janz, Wetherbe, et al., 1997; Morgeson & Humphrey, 2008; Spreitzer et al., 1999; Wageman, 2001; Wolff et al., 2002). Nonetheless, when conducting research, they become part of the bigger picture and integrate into other categories.

Janz, Colquitt, and Noe (1997) researched the effect of autonomy on teamwork, although they did not look at SMTs specifically. They found that autonomy for people is positively related to job motivation regardless of the level of interdependence of teams. In a study on SMTs, providing more autonomy was coincident with higher levels of QWL and performance. High levels of job motivation are associated with team process but are dependent on the level of maturity of the team. Goal quality and information transmission increase the positive relationship between team process and team effectiveness (Janz, Wetherbe, et al., 1997), this same outcome was found in later research by Hu and Liden (2011).

Autonomy was found to be positively related to QWL outcomes suggesting that higher levels of autonomy lead to more satisfied employees. Stewart (2006) adds to these findings that autonomy exhibits a moderately strong relationship with team performance. This relation is described to be stronger for physical work than for knowledge work. The same results on autonomy and team performance are reported by Lambe et al. (2009) on his study of SMTs in a pharmaceutical company. In contrast, Langfred (2004) adds that high levels of individual group autonomy can become a liability if SMTs establish high levels of trust and the level of monitoring is low. On a side note, high levels of trust were only harmful in SMTs that displayed high levels of individual autonomy, since this jeopardizes collective performance (Millikin, Hom, & Manz, 2010). Findings are based on MBA graduates forming SMTs and empowered U.S. work teams.

In a study on self-management and team empowerment, Kirkman and Rosen (1999) report that highly empowered teams are more effective than less empowered teams. Team based HR needs more research since findings indicate that team-based HR is an integral driver of team empowerment, and therefore of team effectiveness. In later studies, conducted by Mathieu, Gilson, and Ruddy (2006) these same results were found. Team-based HR practices positively influence empowerment and team processes. The relationship between empowerment and quantitative performance was fully mediated by team processes. Empowerment is further suggested to influence team process; however, this relationship is not reciprocal. Team empowerment, thus not only influences the psychological state of a team

member. Rousseau and Aubé (2010) conducted a similar research on SMT effectiveness and results show that team self-managing behaviour positively influences three team effectiveness criteria: team performance, viability, and process improvement. They further found that teams that engage in self-managing behaviour, report higher levels of team process improvement regardless of the routineness of the tasks they perform.

Task interdependence was found to be positively related to team and organizational commitment in a study conducted by Bishop and Scott (2000) in a self-directed team environment on the individual level. In a later study on information systems SMTs, Janz, Wetherbe, et al. (1997) found high levels of correlations between cooperative learning and team development on the team level. High correlations were also found between these two constructs and improved processes and QWL. Autonomy and cooperative learning are both positively correlated with “*job satisfaction, growth satisfaction, levels of job motivation, self-perceptions of performance, and the perceptions of performance of those external to the team*” (Janz, 1999, p. 184). The relationship between cooperative learning and work outcomes was stronger than the relationship between autonomy and work outcomes.

Gilson, Mathieu, Shalley, and Ruddy (2005) researched the effect of standardization and creativity on both customer satisfaction and performance of team work. Their study reports a positive association between customer satisfaction and standardization but none for creativity. However, they did find teams with more creative environments performing better.

In integration, based on this literature review, we suggest to include the following sub-categories within the factor Group Task Design to enable success of SMTs: Variety, Identity, Significance, Feedback, Autonomy, Team based HR, Cooperative learning, and Interdependence.

4.3 Encouraging supervisory behaviour

The sub-categories reported under the heading Encouraging supervisory behaviour are: encourage self-observation/evaluation, self-goal setting, self-reinforcement, self-criticism, self-expectation, and rehearsal. Table 2 shows that 16 articles described forms of leadership in SMTs. Specific sub-categories are not discussed in these articles. The focus lays on articles where authors investigate the role of the leader in SMTs. These studies were conducted at the team level of analysis.

A case study on Motorola and Corning shows that a team leader’s role is important for the transition to SMTs since team leaders can pass on knowledge (Liebowitz, 1995). Cohen and Ledford Jr (1994); Cohen et al. (1996) found that SMTs without supervisor performed better than SMTs with a supervisor. However, they wrote that higher managers are still needed to answer questions and assist if difficult situations arise. These same results on the performance of SMTs are reported in later research (Spreitzer et al., 1999; Wageman, 1997, 2001) on SMTs in a service context. Findings indicate that the quality of a team’s design had a larger effect on the team’s self-management than did team coaching. However, effective coaching did have a positive effect on SMTs when they were well designed. While poorly designed SMTs hardly responded to good coaching. Moreover, ineffective coaching had a more profound negative effect on poorly designed teams than it did on well-designed teams.

On the contrary, Stoker (2008) found evidence that two leadership styles, initiating structure and coaching leadership, did

indeed relate to the effectiveness of SMTs and are important for SMTs. The research was conducted on SMTs of a Dutch bank. However, they do note that leadership styles in some situations might cause problems. This is also dependent on the length of time an individual has spent in a team. Thus, leadership is most effective when it fits individual team members. Lambe et al. (2009) report that empowerment leads to desired self-management and they found that management control of a team’s work led to desired self-managing behaviour.

Research on empowered customer service engineers shows that team coaches’ behaviour towards a team positively influences team empowerment. External team leaders’ behaviour towards empowered teams did not significantly influence team empowerment (Rapp, Gilson, Mathieu, & Ruddy, 2016). Team coaches can play a beneficial role. Hu and Liden (2011) found that servant leadership, a type of leadership with strong ethics components, enhances team effectiveness in work teams in a service setting.

Descriptive analysis conducted by Hiller, Day, and Vance (2006) on 277 individuals showed preliminary evidence that leadership in teams might not solely depend on one person; leadership can be enacted collectively by team members and is positively related to team effectiveness.

Informal leadership in SMTs can be predicted by the use of emotional intelligence, especially empathy, and is important to the success of SMTs since external leadership might over control their SMT (Wolff et al., 2002). Informal leaders in groups are chosen based on how they develop and support others, this choice is also influenced by group task coordination skills. The cognitive skill of perspective taking was also directly related to the emergence of informal leadership in SMTs.

Some studies described the role of leaders in SMTs as being supervisory or facilitatory but did not bring forward empirical evidence for the use of these specific leadership roles in SMTs (Bishop & Scott, 2000; Kirkman & Rosen, 1999; Moorhead et al., 1998; Rogers et al., 1995).

To integrate, we suggest to include the following sub-categories within Leadership, based on this literature review, to enhance success of SMTs: Higher Management, Coaching, Collective or Shared Leadership.

4.4 Group characteristics

Cohen et al. (1996) describe that Group characteristics can be split up in group composition, beliefs, and process. Under group composition, the variables group expertise, group size adequacy, and group stability are categorized. Group beliefs is divided into group norms, and group self-efficacy. Lastly, group process is composed of group coordination and group innovation processes. 35 articles of the article sample described in Table 2, reported one or more of the Group characteristics, describe outcomes on team characteristics. Articles go deeper into one or more of the categories under group beliefs, composition and process. All articles aggregated their research to the team level of analysis. To keep this paragraph clear, the results have been split into the before-mentioned three categories.

4.4.1 Group composition

Cohen et al. (1996) found that only Group characteristics could predict absenteeism in teams, Group characteristics, on the other hand, was not related to QWL. This finding is based on U.S. telecom service SMTs. Van der Vegt et al. (2010) found in their

research on SMT manufacturing teams of a Volvo plant in Sweden, that team turnover negatively affects SMTs. This is due to the disruptive effect turnover can have on key interaction processes, namely, task flexibility and team learning behaviour. Team learning behaviour is positively associated with SMT performance even after controlling for the effects of tenure, heterogeneity, past performance, changes in experience, team size changes, and other measures of group processes.

Barrick, Neubert, Mount, and Stewart (1998) add to the Group characteristics factor by identifying the relationship between team composition and team effectiveness. However, their research was conducted on maintenance teams, not necessarily SMTs. Their findings show that conscientious and high cognitive ability teams perform better. Second, results show that more agreeable and emotionally stable teams are likely to have higher levels of performance. Teams can maintain themselves better if they possess high levels of extraversion and emotional stability. Nevertheless, when teams possess a mix of conscious and not so conscious members their performance lowers. This same finding holds for lack of desirable interpersonal traits.

Stewart (2006) adds that aggregations of personality, cognitive ability, and expertise improve team performance. Team composition does matter. The right mix of personality traits in relation to team performance, however, is still inconclusive and further research is needed, especially in the field of SMTs. Forming teams based on heterogeneity is subordinate to choosing members with high cognitive ability, expertise, and desirable personality traits. A clear description for optimal team size is difficult and depends on the type of team and its purpose. Results reported by Stewart (2006) are based on a meta-analytic literature review on team work and team effectiveness in general.

With regard to another characteristic of team composition, Woehr, Arciniega, and Poling (2013) found in their study on U.S. undergraduate work teams, that diversity impacted process outcomes of those teams negatively. This resulted in lower team cohesion, and efficacy and thus led to more conflict. Therefore, relationship conflict is strongest related to team diversity.

4.4.2 Group beliefs

Manz and Neck (1995); Neck and Manz (1994) did research on collective thinking within groups, especially SMTs. SMTs are likely to become cohesive groups and are therefore more sensitive to make decisions based on a collective opinion while individual opinions are overshadowed. Based on third party results of SMTs, both studies propose solutions to overcome groupthink. Solutions are a combination of establishing awareness of the self-defeating internal verbalizations and learning SMTs to re-think and design inner group dialogues and group mental imagery, to eventually enhance performance, based on more thorough decisions making. Millikin et al. (2010); Moorhead et al. (1998) add that training SMTs in various skills enhances group potency and diminishes the risk of group think based on their research of groupthink in SMTs.

Findings based on a study of U.S. manufacturing SMTs, suggest that the relationships and interactions within SMTs can impact the overall success of those teams. The extent to which teams can cooperate interdependently aids constructive discussion of opposing views, which promotes team confidence and results in effective performance. Effective decision making is positively related to high efficacy in teams. Constructive controversy was found to contribute to team confidence (Alper et al., 1998).

Interactions within teams, especially clear and open communication, are related to team creativity and better collaboration within the team. Open communication and better team performance are results of conflicts that were directly resolved within teams (Brewer & Mendelson, 2003; Somech, Desivilya, & Lidogoster, 2009). Tekleab, Quigley, and Tesluk (2009) found support for a relationship between conflict management and team cohesion leading to better team performance. Future levels of cohesion are based on the ability of teams to address their relationship conflict since team cohesion leads directly to team satisfaction and viability. Only when teams develop a sense of group identity will they search for ways to solve conflict by adopting solution strategies (Somech et al., 2009). However, when task conflict is in place together with relationship conflict, results on team performance are negative, the same goes for team member satisfaction. Data is based on Taiwanese work teams (Shaw et al., 2011). We should note that the results of these studies were all based on work teams in general.

Langfred (2007) studied trust and conflict in MBA SMTs and found that higher levels of conflict, especially relationship conflict, resulted in lower levels of individual and task interdependence which could result in lower performance. Potentially lower performance could be prevented by conflict management training. Thus, results of this study agree with the findings of the above-mentioned studies on work teams.

Jong et al. (2004) studied beliefs in Dutch service SMTs, dynamics of supportive behaviour resulted in collective beliefs and the individual beliefs of a team member are influenced by attitudes and behaviour of other members. The collective understanding of role's and shared beliefs are most important in non-routine service settings. De Jong, De Ruyter, and Wetzels (2006) found in a later study on Dutch SMTs in a bank, that the effect of group efficacy on performance is stronger when collectivism within SMTs is high and members work interdependently. The authors also report that both team efficacy and group potency are reciprocally related to team performance. Thus, past performance outcomes influence the confidence beliefs of service SMTs significantly.

Group potency, shared beliefs of a group that they can affect changes and become more effective, has a positive impact on customer-perceived service quality in SMTs. However, there exists a negative effect of group potency on service profitability, the "performance paradox" (De Jong et al., 2005). Management support, functional diversity, and inter-team support are empirically verified to positively impact the group potency perceptions of an individual member. SMTs that are composed of members with diverse backgrounds enhance confidence within the team on the capacity to perform effectively across a multitude of tasks. However, group level effects of management -and intrateam support, and team tenure are moderated by social consensus, meaning that group design and contextual characteristics have less impact on group potency.

Shared mental models can support ownership, learning and heedful interrelating in SMTs and therefore enhance performance, which has been found as a result of a literature review and four case studies on SMTs by Druskat and Pescosolido (2002)

4.4.3 Group process

Janz, Colquitt, et al. (1997) researched work teams and found that goal quality and information transmission increased the positive relationship between team effectiveness and team process.

Mathieu et al. (2006) found that the relationship between empowerment and quantitative performance was fully mediated by team processes and that empowerment influences team processes. Team based HR-practices were also found to have a direct positive effect on team processes. This could mean that SMT members not only felt responsible and autonomous they possessed the right skills to execute team processes.

Intra-team processes influence the effectiveness of self-managing work units. The more supportive team members are when making collective SMT decisions the more they enhance the team's ability to take adaptive and proactive decisions as a team (Jong & De Ruyter, 2004). This supportive intrateam behaviour and team member cooperation lead SMTs to easier adapt work routines and innovate their services when need be. Internal relations are negatively related to long-term absenteeism since members pay attention to each other and might, therefore, prevent long-term sick leave (Kuipers & Stoker, 2009).

A higher average level of age leads to more proactive behaviour in SMT service teams due to more experience. Proactive behaviour is also positively influenced by team size and the amount of front-office work, teams perform. Findings also show that adaptive recovery influences customer-based performance positively and leads to improvements in service recovery satisfaction and loyalty intentions. In contrast, proactive recovery behaviour leads to more efforts of teams to employ extra resources and to better utilize market opportunities. However, this behaviour is not related to service revenues. Findings are based on SMTs of a large Dutch bank (Jong & De Ruyter, 2004).

Based on this literature review, we suggest to include the following sub-categories within the factor Group Characteristics: Expertise, Size, Stability, Personality aggregations, Norms, Potency/Efficacy, Coordination, Innovation, Internal relations, and Team learning behaviour.

4.5 Employee involvement context

The factor Employee involvement context is split up in power, information, rewards, training, and resources. 20 articles in the article sample reported on the employee involvement context in their papers, 8 reported outcomes in this category.

Cohen et al. (1996) in general describe that Employee involvement context has the strongest relationships to QWL and Manager ratings of performance when it comes to SMTs. Having an organizational context in place that supports employee involvement, turned out to be a key success factor and influenced team performance in two companies using SMTs (Spreitzer et al., 1999).

Results of case studies conducted at the Diego Zoo and Kodak Park, and interviews with consultants, resulted in findings that SMTs should have the necessary autonomy, training in several skills, an SMT fitting reward structure and the right resources in place (Caudron, 1993). These same components are described in two case studies on Motorola and Corning (Liebowitz, 1995) and testimonials of consultants who implemented SMTs (Elmuti, 1997). Rogers et al. (1995) add that company help is necessary if teams are to transition smoothly to SMTs. The degree of self-management of teams depends on the quality of the feedback. Higher level feedback is therefore expected from companies. Unlearning of traditional work methods and training self-managing strategies, are important for existing work groups transitioning into SMTs.

On the contrary, frequent feedback could also act as a substitute for effective internal work team functioning and could therefore potentially harm the development of a work team (Janz, Colquitt, et al., 1997). Specific data on SMTs and frequent feedback are lacking.

Atanasova and Senn (2011); Moorhead et al. (1998); Morgeson and Humphrey (2008); Wageman (2001) wrote that reward systems, information, training (De Jong et al., 2005), material resources and power (Jong & De Ruyter, 2004) are moved down to SMTs to support and enhance self-management, but do not report any empirical outcomes.

We suggest adding the sub-categories Power, Information, Rewards, Training, and Resources to the factor Employee involvement context based on this literature review, to enable SMT success.

4.6 Components new to the framework of Cohen et al. (1996)

The framework created by Cohen et al. (1996) stems from 1996 and since developments in the field of SMTs are steadily increasing. There might be factors missing from the framework because they did not exist more than 20 years ago, or were irrelevant at the time. To detect those factors not yet in the framework, we created this category. 19 articles reported factors new to Cohen's framework or they describe sub-categories not yet incorporated in one of the four existing factors.

In a case study on SMTs at the Diego Zoo and Kodak Park, Caudron (1993) found that HR has to be on board with the transition even before the actual start. Managers must be educated about benefits, risks, costs, and limitations. They also mention that the choice to transition to SMTs should be based on company culture and business objectives. Atanasova and Senn (2011); Elmuti (1997) add that management support should be in place and is a key component. This finding is supported by case studies on Motorola and Corning since management support prevents backsliding (Liebowitz, 1995). Rapp et al. (2016) found in their study on empowered customer service engineers, that HR and organizational support continuously support team empowerment even a year after transition. Organizational support turns out to be an essential influence contributing to team effectiveness in general. In extension, trust is another constituent for successful implementation, especially since resistance to change is common when transitioning to a different work style. For SMTs to be successful, company structure and strategy should be reengineered (Elmuti, 1997).

The cultural readiness of an organization (measured by its organizational climate), is positively correlated to improved QWL and improved work processes per study on 27 SMTs from the U.S. and Canada. Organizational climate is defined as follows: "*an organization's value system in terms of risk taking, reward systems, and providing a warm and supportive environment*" (Janz, Wetherbe, et al., 1997, p. 49).

Kirkman et al. (2000); Kirkman and Shapiro (1997); Kirkman and Shapiro (2001) also focus on culture in their research but look at cultural values of individuals in SMTs by means of a literature review and descriptive statistics on U.S. SMTs. They found that culture does affect SMTs since what might work in one culture might not work in another. Second, they write that different cultural values lead to different conceptualizations of fairness within SMTs. Cheng, Chua, Morris, and Lee (2012) describe that the appropriate combination of cultural value

orientations can be enhanced. In later stages of SMT development, the relationship orientation of the team mattered most regarding performance.

Cultural values are important because the level of cultural values in place determines the amount of resistance to both teams and self-management. Resistance behaviour accounted for some or all the variance between cultural values and commitment and satisfaction, as confirmed in a later study on empowered teams (Maynard, Mathieu, Marsh, & Ruddy, 2007). The resistance to self-managing teams differs by country and is influenced by cultural values.

Two studies reported on the effect of individual personality, cognitive ability and emotional stability on team effectiveness. Neuman and Wright (1999) found that personality measures explained variance beyond the variables skills and cognitive ability, both at team and individual level. More specifically, agreeableness and conscientiousness proved to predict work team performance. The researchers do however note that the type of preferable personality trait and eventually team composition depends on the type of tasks work teams perform. Another study on individual level personality found that conscientiousness, agreeableness, extraversion, openness, and attitude turned out to be predictors of long-term adaptation to SMTs. Personality could explain why some individuals would not want to work in SMTs (Thoms et al., 2002).

Another component of team work came up in the sample; inter-team support, meaning communications and service between different teams or units within an organization. Particularly inter-team processes have shown to be influential in determining the effectiveness of work units. This cooperation enables teams to adapt to different work routines efficiently after change or service failure, based on research conducted on SMTs in a service organization (Jong & De Ruyter, 2004).

SMT service climate has been described regarding SMTs in service settings. A service climate has been defined as: “*the SMTs consensual beliefs about practices, procedures, and behaviours that are supported and rewarded with regard to effective customer service delivery*” (Jong, Ruyter, & Lemmink, 2005, p. 1595). The SMT service climate has been found not to have an impact on productivity, there is, however, a positive relationship between the tolerance for self-management and service climate. The service climate perceptions of SMTs do, however, positively influence customer perceived service quality but do negatively affect production (Jong et al., 2004). Inter-team communication is important since SMTs are responsible for gathering and sharing information with other units will they establish a high-quality service climate. On the individual level, age, and team member tenure significantly impact the subjective individual assessment of the service climate (Jong et al., 2005).

Based on this literature review, we suggest to include the following new sub-categories, to enhance success of SMTs: Management support and trust, HR involvement, Cultural readiness, Individual personality aggregations, Cultural values, and Inter-team support.

5. DISCUSSION

By means of the evidence-based literature review, using integrative synthesis, we examined 56 peer-reviewed articles about self-managing teams and team effectiveness. This article sample was used to answer the research question by describing, evaluating and integrating findings of success factors for SMTs. We used the framework created by Cohen et al. (1996) as

foundation for the theoretical framework, and it is used as starting point in this discussion.

The lack of a comprehensive framework on factors for successful SMTs is astounding with evidence on SMTs literature and practice growing steadily. With the framework of Cohen et al. (1996), we created the model that we call a comprehensive framework for successful SMTs in Figure 3. We have indicated sources of inspiration that helped us model relationships between certain antecedents and outcomes. We also found that several sub-categories were claimed to indirectly influence the dependent variables; these cases are indicated with sources of inspiration next to variables. First, we discuss the changes made and the implications of these changes, where after theoretical and practical implications are described followed by recommendations for future research and limitations.

5.1 The Comprehensive Framework for Successful Self-Managing Teams

As shown in Figure 3, the layout of the new framework differs from the framework Cohen et al. created in 1996. We based the outcomes of Table 2 on different levels of analysis, and it, therefore, makes sense to create a framework that considers findings and belonging levels of analysis. The framework is therefore split up into three levels; the organizational, team and individual level. We adjusted the factors used by Cohen et al. (1996) to fit new findings and we divided the factors over the levels of analysis where they belong, concerning findings from the literature. In the framework, sub-categories on the left side together form the factors leading to successful SMTs. The individual factors all contribute to overall success of SMTs via several relationships with the dependent variables on the right side. Those individual relationships are shown by means of an arrow with indicated sources of inspiration. Taken together, the factors on the different levels lead to successful self-managing teams, it is the combination that creates the success. Relationships between different factors on the left side exist too, some sub-categories indirectly lead to effectiveness without a direct link. These categories received sources of inspiration next to the independent variables. Thus, factors are related and together reinforce their effect on successful outcomes.

5.1.1 Organizational Level

On the organizational level, we fitted the factors Employee involvement context and Leadership. The five different sub-categories concerning the Employee involvement context are still accurate and together findings have shown that they lead to overall effectiveness of SMTs. Direct relationships were not found and therefore we assume that these sub-categories indirectly relate to SMT success as indicated in Figure 3. Outcomes were based on findings from service and manufacturing SMTs, these settings could have mediated the findings. Other possible contingency factors or moderators influencing the outcomes were not described in the article sample. To generalize results, possible contingency factors and mediators should be researched and accounted for. Based on empirical evidence and case studies, we added management support and trust, Human Resources involvement and Cultural readiness of an organization as new sub-categories. These sub-categories were found to be prerequisites for well-functioning SMTs within organizations, influencing managerial ratings of performance and Quality of Work Life. Results are based on findings from manufacturing and service companies in the U.S. Articles did not report specific industries, settings or countries. The settings of these findings could be moderators.

We removed the six sub-categories described by Cohen et al. (1996) under the heading Leadership since no evidence was found as to what leaders specifically need to do, to make SMTs more successful. The sub-categories do, however, seem intuitively logical but have not been empirically tested. There have been studies nonetheless examining the effects of certain types of leadership and leadership styles on the effectiveness of SMTs. We added the sub-categories Higher management and Coaching to the factor Leadership, since both higher management assistance in answering questions and passing on knowledge, and coaching, specifically good and efficient coaching, were found to influence SMTs. As shown in Figure 3, no direct link between Leadership and the four outcomes is made since authors did not report any of the outcome categories or sub-categories. Authors did describe the effect of Leadership on effectiveness, and therefore we assume that Leadership indirectly contributes to successful SMTs as we indicated by the sources of inspiration next to variables. Results might be moderated. More research on the indirect influence of Leadership on SMTs, specific tasks of coaches and effect of higher management have yet to be studied, especially in manufacturing settings and on SMTs in different countries. Findings are based on SMTs in service settings without specific country information.

5.1.2 Team Level

We divided the team level into two factors, Work Design and Group Characteristics. The factor Task Design, as described by Cohen et al. (1996), becomes Work design. This factor is not just about the tasks employees perform but it also considers the broader context fitting to these tasks performed. The five sub-categories described by Cohen et al. have not been reported on explicitly, except for autonomy, which has been found to contribute to the successfulness of SMTs by positively influencing QWL and performance outcomes. However, the other four sub-categories have been added to Work design, since there has been evidence in earlier research of the positive influence of these sub-categories on team effectiveness. Nevertheless, newer empirical evidence is lacking, and therefore the above-made assumptions should be tested empirically.

New sub-categories we added to Work design are External relations, Team-based Human Resources, Cooperative learning, and Interdependence. All four new sub-categories, together with the earlier mentioned sub-categories under Work design, have been found to influence QWL, Managerial – and Employee ratings of performance, thus contributing to successful SMTs. Yet, the research on the effects and functioning of HR within teams is limited and further research is necessary, the indirect effect is indicated by sources of inspiration. Second, most of the research was conducted in service settings on SMTs in the U.S. and Canada, meaning that the results of Work design might be moderated. More research into different settings and countries is necessary to create more generalizable results.

The second factor under team level is Group characteristics. We divided this factor into the sub-categories group composition, group beliefs, and group process. We have kept the sub-characteristics described under these sub-categories by Cohen et al. (1996) the same. They were all described in research to influence the successfulness of SMTs. However, we added some sub-characteristics to these sub-categories. New research has shown that personality aggregations, as part of group composition, influences team performance. Research on this topic is still limited, and not conclusive yet.

We supplemented the sub-category group beliefs with Cultural values since research on the effect of cultural values of

employees on SMTs has been growing but is still new. Early results have shown that culture can predict resistance to self-management and SMTs but has not yet investigated what companies can do to eliminate this threat to the successfulness of SMTs. We assume the results of Cultural values on SMTs to be indirectly related to the success of SMTs. More research on this territory is needed to gain more insight into cultural values. This is especially important since more and more companies deal with a globalized environment and culturally diverse workforces.

We added Inter-team support and Team learning behaviour to the sub-category group process. Inter-team support has been found to lead to better overall performance, since different SMTs from different units working together, positively influences organizations. This finding is mediated by service setting and by country, the Netherlands. Team learning behaviour influences the performance of SMTs as well, since the continuous learning of SMTs results in better overall performance influencing withdrawal behaviours negatively and managerial ratings of performance positively. Moderators are unknown.

Together the three sub-categories contribute to the successfulness of SMTs by positively influencing employee -and managerial ratings of performance, and withdrawal behaviours. Data is based on SMTs in service and manufacturing settings in the U.S., Sweden, and the Netherlands. Findings could be mediated by these settings or countries, information on specific types of industries is small and information on country or organization sizes is unknown. Therefore, more research into possible contingency factors and/or moderators is needed. On the team level, Work design and Group characteristics lead to self-managing team behaviour which in turn leads to overall effectiveness.

5.1.3 Individual Level

We created the individual level based on findings focussed on the individual level of analysis. Based on these findings we formed the sub-categories Leadership and Individual characteristics. Leadership research on the individual level has shown broader effectiveness when leadership is shared or collective compared to one person being in charge. However, there should be noted that these findings are preliminary and were not focussed on SMTs but work groups in general. Relationships between shared leadership and the outcomes are unknown and therefore assumed indirect. We split Characteristics into personality, cognitive ability, and emotional stability, leading to personality aggregations. We described this same sub-category on the team level. On the individual level, personality aggregations consider the individual and their contribution to SMTs. Both categories lack enough data because they are rather new subjects in the field of SMTs, therefore more research is needed. The individual level category Characteristics influences managerial ratings of performance and contributes to the overall success of SMTs.

5.1.4 Outcomes of successful Self-Managing Teams

We divided the outcomes of successful SMTs into four categories; Employee ratings of performance, Managerial ratings of performance, Quality of Work Life and Withdrawal behaviours, on the right side of the framework. These four categories have been used in the framework by Cohen et al. (1996) and besides some minor adjustments, these outcomes have proven to be accurate, even after more than 20 years. Results of improved categories on the right side are based on empirical evidence of relationships established.

We adjusted Employee ratings of performance and added Past performance, Performance, and Team/Organizational commitment to this category. We found these outcomes in the article sample several times in relation to Work design and Group characteristics. We broadened Managerial ratings of performance by supplementing Improved processes, which we also found to be an outcome. QWL has been improved by Job motivation shown to be related to team process and work design. QWL is influenced by Leadership on the individual level, Work design, and Employee involvement context. The four outcome categories taken together, are related to Employee involvement context and Leadership on the organizational level, Work design, Group characteristics on the team level and Individual Characteristics and Leadership on the individual level.

Lastly, we should note that the strength of the relationships recognized in Figure 3 is not specified. Too little information on the specific strengths of individual sub-categories was found to aggregate these to broader factor level relationships. More research is needed to establish the strengths of these relationships.

5.1 Theoretical implications

The findings from this literature review contribute to theory in several ways. First, we propose the comprehensive framework on the successful use of SMTs within organizations. At the same time, the research leading to the creation of the framework has led us to discover a few gaps in the literature on SMTs. These are discussed in paragraph 5.4, shaping the direction of future research. The comprehensive framework and belonging antecedents and outcomes imply that SMTs are most successful when a combination of the following factors is in place: Employee involvement context and Leadership on the organizational level, Work Design and Group Characteristics on the team level and Leadership and Individual characteristics on the individual level. Factors together reinforce the effect on the outcome variables, meaning that no one individual factor is sufficient to reach a satisfying outcome.

5.2 Practical implications

Findings derived from this literature review have consequences for practice. The proposed comprehensive framework we created because of this review, gives organizations, specifically managers and HR professionals, an overview of factors leading to successful SMTs. Before, during and after the transition to SMTs the framework can act as foundation and assistant. Meaning that the framework can be used when obstacles in the implementation process or after implementation occur. Organizations should use the framework as guideline or control tool for use of successful SMTs. It is important that all the separate factors on organizational, team and individual level, and belonging sub-categories, are embedded. These factors reinforce each other and result in Employee ratings of performance, Managerial Ratings of performance, QWL and withdrawal behaviours leading to SMT success. Using one or several factors is not sufficient. Consequently, the comprehensive framework may be used as a guide when organizations plan on using SMTs. Organizations might also use the framework when the implementation is started or when SMTs are in place already and problems occur. The framework can aid the process of identifying causes of problems and assist in resolving them since the framework pictures the ideal situation and then functions as a checklist. The framework should be used by organizations for creating and maintaining successful SMTs.

5.3 Future research

This literature review resulted in the comprehensive framework for successful SMTs. We discovered several gaps during the literature review.

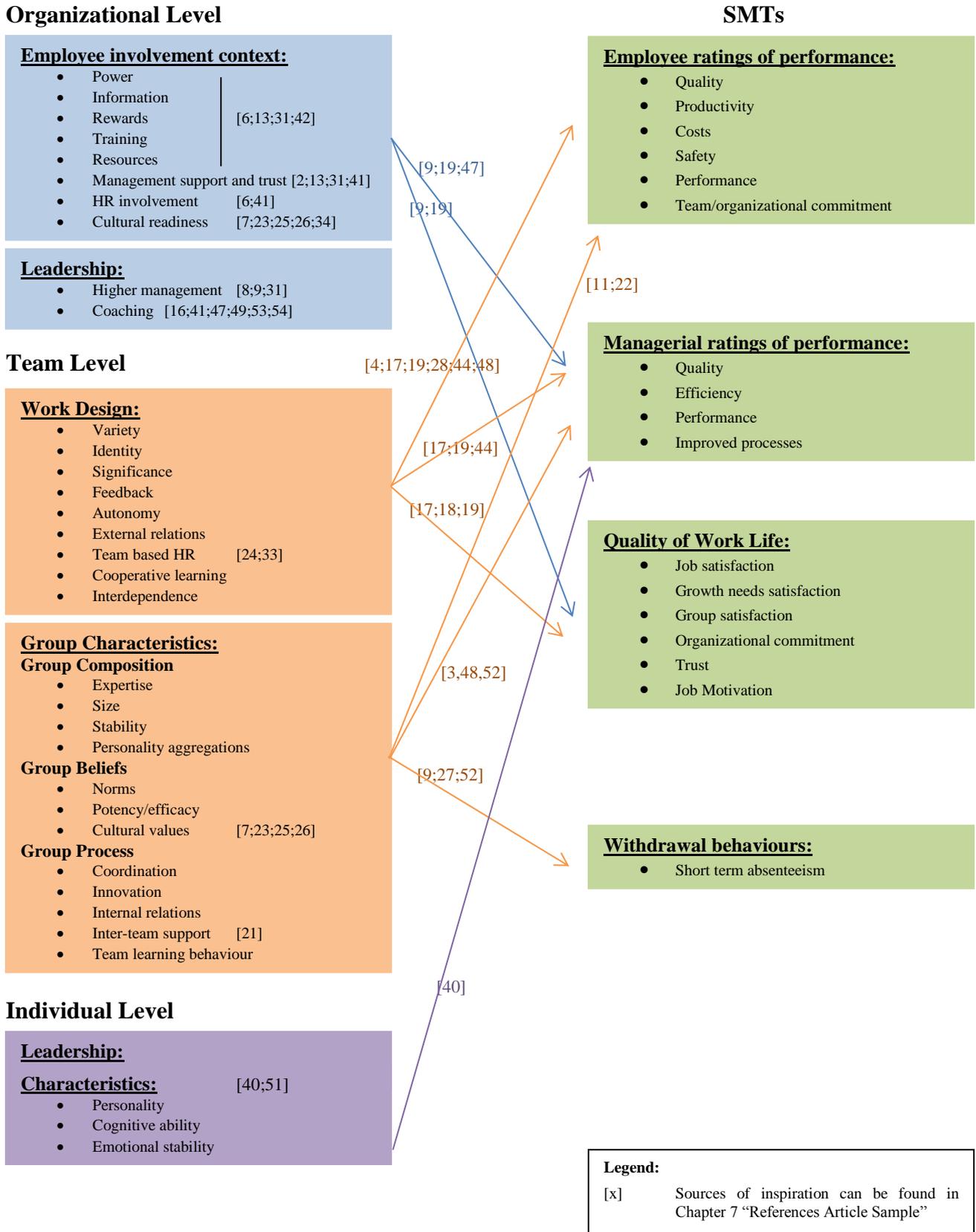
We recommend establishing a quantitative multi-level research programme to test the suggested relationships, to see if the different factors and relationships hold in practice, and to verify if overlap between certain factors and sub-categories is present. Second, there is little knowledge available on transition phases from start to maturity stage concerning SMTs. We observed that research on SMTs is conducted at different moments in time. Some research is conducted during first transition and other research was conducted five years into use. Some studies even created temporal SMTs for the sake of their research. Consequently, some factors or sub-categories of the framework might be more effective during the implementation phase or could be more effective in later phases. If the framework is to be used over longer periods of times, more research into time-sensitive SMT success and reaching maturity is needed to create a more stable framework.

Next, more research on service and manufacturing settings, organization size, type of industry and other possible contextual contingency factors and/or moderators, is necessary to observe if they impact the relationships in the framework. Studies in the article sample were conducted in service or manufacturing settings or were not specific. Data on company size, type of industry or other possible moderators was lacking. This could mean that some factors or sub-categories only hold in, for example, SMTs in certain settings. Therefore, we advise testing the new framework in different settings, industries, and organizations. Finally, as result of this literature review, we found several inconclusive findings. Findings on the use of team-based HR, collective leadership, the role of management and team coaches, team and individual personality aggregations, cultural values, and their relations to SMTs are inconclusive and ask for more research, especially focused on SMTs instead of work groups in general, to strengthen the findings and relationships in the proposed framework.

5.4 Limitations

Our findings should be considered within the scope of its limitations. On a more general level, Rousseau et al. (2008) state that multiple extractors are to be used when selecting the article sample to reduce mistakes and avoid omission of relevant materials. This literature review was conducted by one person and this means that only one extractor was used. Additionally, even when conducting a systematic evidence-based literature review, subjectivity of the reader could have influenced this research. At the same time, we tried to cope with this limitation through discussions with senior researchers. Especially, selecting articles based on abstract and extracting data from the article sample to create Table 2, can be sensitive to personal preferences of the author. To reduce this limitation, we carefully addressed filtering and decision criteria for inclusion of the articles in the sample. On a higher level, literature reviews are limited by the amount of available data, the conditions of actual settings of these data and types of studies conducted (Rousseau et al., 2008).

Figure 3
Framework for Successful Self-Managing Teams



6. CONCLUSION

This systematic evidence-based integrative literature review on factors for successful SMTs has led to the new comprehensive framework for successful SMTs. The framework suggests three levels of analysis: the organizational, team and individual level. The six factors fitted to these levels, reinforce each other and together are expected to lead to the outcomes related to the success of SMTs. Finally, this literature review showed considerable gaps in the literature on SMTs which need to be addressed to provide stronger guidance for practice. We believe that this literature review offers a solid starting point for future research by providing both a comprehensive framework and an empirical foundation.

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8. APPENDIX

Table 2 Summary of the article sample

This table consists of 10 categories for analysing 61 articles. The categories group task design, encouraging supervisory behaviour, group characteristics and employee involvement are based on Cohen et al. (1996). To make the analysis of the results more systematic, the studies are categorized by research method and level of analysis.

Study	Definition SMT	Group Task Design	Encouraging Supervisory Behaviours	Group Characteristics	Employee Involvement Context	Components new to Cohen et al. (1996)'s framework	Success of SMT's/outcomes	Findings/Conclusion	Research method and level of analysis
Caudron (1993)	-	When analysing group tasks the following sub-components are found important: variety, identity, autonomy of the SMT.	-	Team expertise: cross-trained teams. Teams should be interdependent.	SMTs should have autonomy, training in several skills, rewards fitting the SMT structure and the resources necessary to make it work.	Management's role in implementing SMTs. HR led implementation in only a tiny minority. Organizational structure should change with SMTs.	HR support systems in place since the beginning of the implementation. (O) Before implementation HR should educate management about benefits, costs, and risk of SMTs. (O)	-	Illustrative case studies San Diego Zoo and Kodak Park. Interviews consultants.
Cohen and Ledford Jr (1994)	Self-managing teams are groups of interdependent individuals that can self-regulate their behaviour on relatively whole tasks.	-	-	-	-	-	Safety and health were not better in SMTs. SMTs did not lose more dollars based on higher absenteeism but also does not decrease escape behaviour.	Members of SMTs higher levels of job satisfaction, growth needs satisfaction, social needs satisfaction and group satisfaction. SMTs with supervisors tended to be less effective than those without. Since work for service offices had not been redesigned, SMTs were not an	Field quasi-experiment on 84 SMTs of a telecommunications company. Team level analysis.

								effective intervention.	
Neck and Manz (1994)	SMTs entail and increase in decision-making autonomy and behavioural control for work team employees. Teams usually perform relatively whole tasks and contain members who possess a variety of work skills. Teams are responsible for many traditional management tasks.	-	-	Group cohesiveness shared beliefs, team self-talk, thought patterns could lead to too much cohesion which might lead to groupthink. Meaning that teams lack proper discussion and therefore fail to make proper decisions.	-	-	To foster team think in SMTs members should identify and confront the team's dysfunctional beliefs and replace those. Team performance may be enhanced if the group's dialogue is examined and social pressure is limited. Group mental imagery could be used to form a common vision.	To be able to neglect the consequences of groupthink on SMTs, team think is introduced. Collective thinking is then used for positive instead of negative group outcomes, such as bad decision making.	Descriptive secondary data on groupthink in SMTs. team level of analysis.
Liebowitz (1995)	SMTs are natural groups of workers from the same department who work together on a permanent basis and make many of the operational	-	Team leader's role important for the transition to SMTs since they can pass on knowledge.	Teams vary in size from 10-25 persons. Teams normally have 40 members. SMTs consist of members, leaders, trainers, and supporters.	SMTs Give feedback to other employees. Team based pay raise system is in place.	To prevent backsliding management support is one of the biggest factors.	The maturity of an SMT largely stems from constant training, research and benchmarking other excellent organizations. To successfully implement SMTs training should be more frequent	Capital expenditure varies since some departments need minor changes and others major ones. Workers often receive pay raises commensurate with their new responsibility,	Two illustrative case studies on Motorola and Corning.

	decisions previously made by their foreman or supervisor.						especially in the first year of implementation.	skill, and knowledge.	
Manz and Neck (1995)	SMTs empower employees to have increased control over decisions and their own behaviour. Teams usually perform relatively complete tasks and include members who possess a variety of skills. Teams are responsible for many traditional management functions.	-	-	SMTs can be less effective in making decisions if groupthink is in place because SMTs tend to be cohesive. Analysis of beliefs and assumptions, internal dialogues and mental images of the team are important.	-	-	Awareness and alteration of teams existing assumptions and beliefs. Identification and development of internal team dialogue. Analysis and modification of team's mental imagery. Change dysfunctional team thinking to functional. Maintain the newly acquired skills.	Groupthink might enable teams to make effective decisions while avoiding the pitfalls of group think.	Descriptive theory based on secondary results discussing groupthink in SMTs. Team level of analysis.
Rogers et al. (1995)	SMWTs are relatively autonomous work groups in which the responsibilities and duties traditionally maintained by management have been	SMTs make compensation, selection and termination decisions. They handle performance appraisals and individual performance problems.	Operational manager and area manager get a facilitative role as coach or trainer.	-	Extensive training before the transition to SMTs. SMTs have autonomy, resources, information.	-	Management should help SMTs to work effectively during transitions periods. Feedback is found to be especially important. (EC) Important to the conversion of existing work groups to SMTs is the	Self-management is not created overnight. All teams are not created equal.	Descriptive results questionnaire of drive-through fast food restaurant employees. Team level of analysis.

	transferred to the teams.						unlearning of traditional work methods as well as learning Self-managing strategies. (EC)		
Cohen et al. (1996)	SMTs are groups of interdependent individuals who can self-regulate their behaviour on relatively whole tasks.	Group task variety, identity, significance, autonomy, and feedback.	Supervisors encourage SMTs to self-observation/evaluation, self-goal setting, self-reinforcement, self-criticism, self-expectation, and rehearsal.	Group composition: group expertise, size adequacy, stability. Group beliefs: Group norms, self-efficacy. Group process: Group coordination, innovation.	Design elements: Power, Information, Rewards, Training, and Resources. The more elements in place the more SMTs are enhanced.	-	The employee involvement context is found to have the most profound effect on both Quality of Work Life and manager ratings of performance. SMTs without supervisors performed better.	Multiple predictor categories are needed to change the overall level of effectiveness of SMTs since no one category can predict all effectiveness.	Descriptive results of questionnaire and interviews at a telecommunications company. Team level of analysis.
Elmuti (1997)	SMWTs are groups of employees with all the technical skills and authority needed to direct and manage themselves.	Each unit makes own job assignment, plans own work, performs equipment maintenance, keeps records, obtains suppliers and makes selection decisions.	-	-	Employees in SMTs received training and resources.	Employees resistance to change. Management: lack of planning and costly mistakes. Fundamental changes in practices, values, and beliefs of the organization.	Key factors for the choice of SMTs are the current management style, the type of industry the company is in, technical capabilities. Higher managers are still needed to provide answers to questions and assist in difficult situations.	Trust is found to be a major component in the implementation process. Reengineering the organizational structure and strategies are important to the successful implementation of SMTs.	Description of testimonials from managers and consultants who have implemented SMTs.
Janz, Colquitt, et al. (1997)	-	Process behaviours: sharing ideas and information,	-	Teams need clear and achievable goals and information transmission.	Teams require information streams. Teams need frequent feedback	-	Factors such as goal quality and information transmission can increase the positive relationship between team process and	-	Moderated multiple regression on a survey of 27 teams, team level of analysis.

		helping each other learn.					team effectiveness. Managers can increase maturity by facilitating mission clarity, organization, and cohesiveness leading to higher job motivation.		
Janz, Wetherbe, et al. (1997)	SDWTs are groups of collocated workers who self-regulate work on interdependent tasks.	SMTs have interdependent goals, teach each other the needed skills, periodically evaluate. Autonomy over scheduling work methods, hiring and firing assignment of members to tasks.	-	Face to face promotive interaction, group process, positive interdependence, group self-efficacy.	-	Organizational climate: value system in terms of risk taking, reward systems and providing a warm and supportive environment.	Providing more autonomy is coincident with improved Quality of Work Life and performance. The people-related autonomy may cause performance-hampering anxiety and should, therefore, be introduced in later stages of empowerment. Fostering a cooperative learning environment may allow groups to develop more quickly.	It is important to aid adequate time for teams to develop into mature, high-functioning teams. Team formation and increased autonomy and creating a “learning organization” may provide improvements in both QWL and work processes.	Descriptive Survey statistics of 27 SMTs of 13 organizations in U.S. and Canada and stakeholder surveys. Team level of analysis.
Kirkman and Shapiro (1997)	SMWTs consist primarily of two components, the process of self-management and collaborative team work.	Task interdependence may affect the ability of individuals to influence other team members.	-	Team size: as teams grow there is less interaction between members and thus lower quality of interaction.	-	Cultural values that might affect SMTs: the process in which individuals set goals, self-monitor, self-evaluate and self-reward of self-punish.	High or low levels in the cultural values determine the level of resistance to both self-management and teams.	Managers could reduce resistance to SMWTs by selecting individuals whose values show a close fit with the requirements of the SMWT within each country in which they implement SMTs. They also need to pay attention to	Literature review on the impact of cultural values on employee resistance to change.

								cultural values regarding how they implement the SMTs.	
Wageman (1997)	SMWTs take responsibility for their work, monitor their own performance and alter their performance strategies as needed to solve problems and adapt to changing conditions.	SMTs take responsibility for work outcomes, monitor own work performance, actively seeking data about how well they are performing and alter strategies as needed.	The role of the supervisor should change from directing and controlling to coaching the team as it decides how best to get the work done.	-	-	-	The quality of a team's design had a larger effect on team self-management than coaching. Teams with many critical design features became more self-managing when leaders provided effective coaching. Poorly designed teams hardly responded to good coaching.	This study might be taken to imply that leaders do not matter much. The emphasis on day to day coaching is misplaced. Leaders are however needed to design teams in the first place and to ensure that the team has the right resources and leadership functions. Organization-wide changes are necessary to put the success factors in place.	Descriptive results based on Interviews of 43 self-managing teams, team member surveys and line manager interviews at Xerox. Company and team level of analysis.
Alper et al. (1998)	SMWTs make decisions about their own processes as well as complete tasks. They have the autonomy to make traditional management decisions and manage their	-	-	Team efficacy: Do teams believe that they are effective as a team?	-	-	Getting team members to believe their goals will result in open-minded discussion and more effective group decision making. Disagreeing can be used to strengthen team work. Feelings of confidence induce task productivity also on the group level.	When team members feel cooperatively interdependent, discuss their opposing views constructively, they are more confident that their team can work together effectively.	Descriptive analysis based on a survey of 69 U.S. manufacturing SMTs. Team level of analysis.

	internal coordination.								
Barrick et al. (1998)	-	-	-	Intragroup processes: interactions that take place within a group. Team composition: group member personality and general mental ability	-	-	Conscientious teams and high cognitive ability teams perform better. Teams that are more agreeable and more emotionally stable perform better. Teams without introverted or disagreeable members were higher performing. Teams possessing higher levels of extraversion and emotional stability are more likely to experience positive intragroup interactions, become more socially cohesive and are better able to maintain themselves.	Composing teams with members who develop positive social interactions and thereby experience synergistic cohesion thus enhance work-team performance.	Quantitative analysis of 22 maintenance teams. Team level of analysis
Moorhead et al. (1998)	SMTs consist of 4-12 members with shared responsibilities for completing relatively whole tasks.	Task assignment, Decision making responsibility, task-based cohesion.	Leadership: SMTs less dependent on outside individuals since they are trained in all job duties. Leader being too influential in decision-making processes.	Skill requirements and group cohesion: shared commitment to the task. Group shared norms. Homogeneity of the group. Team efficacy.	Reward systems, information, and power are moved to SMTs.	-	SMTs should utilize basic group decision-making practices. Team leader must develop an open participative style to avoid group think. Increase team interaction with environment by rotation. Technical and self-leadership training helps to	Competent self-leading teams tend to more openly voice their viewpoints and concerns which help the team to avoid group think.	Descriptive results of secondary data on a framework regarding SMTs and groupthink.

							avoid group think and enhances group potency.		
Janz (1999)	SDWTs are groups of collocated workers who self-regulate work on interdependent tasks.	The more autonomy an individual or group possesses the more responsible they will feel for the outcome.	-	Positive interdependence, face-to-face promotive interaction, group process.	-	Organizational climate: risk, reward, warmth, support. Significant effect on organizational performance and employee satisfaction.	Positive relationship between autonomy and work outcomes suggests that autonomy in SMTW improves satisfaction and worker motivation. Cooperative learning found important in SMTs for improved effectiveness. Team development is found important.	A long-term commitment is necessary if teams are to attain the level of maturity and comfort necessary to exercise the autonomy given to them.	Descriptive statistics of 28 SDWTs of 13 organizations across U.S. and Canada, two surveys to members of SDWTs, third survey to stakeholders. Team level of analysis.
Kirkman and Rosen (1999)	SMTs set production schedules and standards, monitor customer feedback, develop and train for quality improvement practices and assume ownership for the completion of work tasks.	Team based HR: team-based rewards, receiving or delivering cross-training, making staffing decisions.	Leaders have a supervisory role and are not part of the team.	Social structure: belonging to a network increases interdependence and personal sense of power.	-	-	Highly empowered teams are more effective than less empowered ones. Highly effective teams should be autonomous and experience potency, meaningfulness, and impact. Team based HR is an integral driver of empowerment and team effectiveness.	Findings support the importance of the organizational context in creating team empowerment experiences.	Descriptive statistics of a field study on work teams, conducted in four organizations in U.S. Team level analysis.

Neuman and Wright (1999)	-	Job-specific skills in the team.	-	-	-	General cognitive ability and specific personality of team members can affect team performance.	Personality measures should be included in team selection systems. Agreeableness and conscientiousness are predictive of work team performance.	Team composition is important and selection requires attention since personality can predict team performance beyond skills and cognitive ability.	Task-based job analysis of 316 HRM representatives at local stores across the U.S. Individual and group level of analysis.
Spreitzer et al. (1999)	SMWTs are groups of interdependent individuals that can self-regulate their behaviour on relatively whole tasks.	Group task variety, group task identity, group task significance, group task autonomy.	Leaders must take on the role of coach, business analyser, barrier buster, facilitator, customer advocate and living example. Learn the team to manage itself.	Group coordination, stability, norms, expertise, and innovation.	Power, information, rewards tied to performance, training, resources.	-	A supportive organizational context is a success factor for SMTs. No relationship between employees QWL and customer satisfaction. Team coaching may be overrated and did not influence team performance positively.	SMTs are not the solution for all organizational problems. Trade-offs are common.	Descriptive statistics on 2 service companies, data on company management, archives, and SMWTs. Surveys and interviews. Team level of analysis.
Bishop and Scott (2000)	Self-directed work teams share functionally interrelated task, share responsibility, individual team members have a variety of skills, employees receive feedback and evaluations on team performance.	Task interdependence. Satisfaction with co-workers: sharing tasks, regulating behaviour to accomplish goals, being collectively responsible.	Leadership, leaders function as supervisors or facilitators in SMTs.	-	Information: clear overall direction and clear expectations leading to better performance of the team.	-	Organizational commitment positively related to satisfaction with supervision and negatively to resource-related conflict. Team commitment positively related to satisfaction with co-workers and negatively to intersender conflict.	-	Descriptive statistics on U.S. apparel manufacturing SMTs. 485 employees took part in a survey. Individual level of analysis.

Kirkman et al. (2000)	SMTs typically manage themselves, assign jobs plan and schedule work, make production – or service-related decisions, and act on problems.	-	-	-	-	Trust: important facilitator of change. Cultural values of employees might not fit the values of management.	Many SMT related concerns of employees are about fairness. Managers should address these concerns by clarifying new roles and expectations when transitioning to SMTs.	Cultural values might lead to resistance or might not lead to resistance.	Descriptive analysis of a secondary data set of 370 employees surveys. Individual level of analysis.
Kirkman and Shapiro (2001)	SMTs are teams whose members do the following: manage themselves, assign jobs, plan and schedule work, make production or service-related decisions, and act on problems.	-	-	-	-	Cultural values, satisfaction and commitment differences are linked to values.	Cultural values do influence employees' resistance to SMTs but the resistance varies by country.	Focus not solely on the cultural values of any country but on the extent to which employees resist SMTs because of their cultural value.	Exploratory factor analysis of 2 U.S. based multinationals. 461 employees took part in a questionnaire. Individual level of analysis.
Wageman (2001)	An SMWT has authority and accountability for executing and managing work, but within a structure and toward purposes set by others.	Clear direction, optimal skill diversity, task interdependence, challenging task goals. Core strategy norms.	Two leader activities: first design self-managing teams and second to provide hands-on coaching that helps SMTs to manage themselves.	Group stability, appropriate team size	Group reward system, available information, available education, material resources.	-	Only team design predicts team performance. The quality of group process is predicted by Self-management, coaching does not. Quality of team design is equally important for teams, regardless of the level of self-management.	The effects of leaders' coaching behaviours depend on how well they designed their teams. Effective coaching helps well-designed teams more than poorly designed teams. Ineffective	Descriptive statistics of 34 SMWTs of Xerox, using interviews and surveys and manager interviews. Team level of analysis.

								coaching undermines poorly designed teams more than well-designed ones.	
Druskat and Pescosolido (2002)	-	-	-	Shared mental models are antecedents of team behaviours and processes. Sense of ownership results in teams taking responsibility to fulfill tasks and therefore engage in learning activities. Heedful interrelating increases team effectiveness by improving members' ability to work together.	Continuous learning required in the early stages and later when the SMTs are working.	-	Developing mental models only works with contextual support. To reduce turnover time is needed to give new members information on team expectations and teamwork models. Reduction of orientation sessions and new member training contributed to downfall of SMTs. Better team performance when overlap in mental models is great.	Effective teamwork mental models in SMWTs emphasize ownership, learning and heedful interrelating.	Literature review on mental models in SMTs and four illustrative case studies on the development of ownership, learning and heedful interrelating in different fields.
Thoms et al. (2002)	SMWTs are responsible for their own work and for monitoring and managing their own performance.	-	-	-	-	Personality traits as predictor of group performance: conscientiousness, agreeableness, extraversion, openness, attitude.	Personality, Big Five personality dimensions, and attitude, might explain why some people resist working in SMTs or do not perform as well as others.	In staffing teams, managers should hire people who get along well with others. Conscientiousness is an important variable to consider for SMT members.	Descriptive statistics and multiple regression on data of a U.S. hospital's SMTs and graduate seniors using surveys. Individual level of analysis.

Wolff et al. (2002)	SMWTs are fully responsible for executing their work and for monitoring and managing their own process.	Behavioural abilities: Group task coordination, supporting others.	Informal leadership, emergent in SMTs. Cognitive skills and emotional intelligence skills might predict leader behaviour in SMTs.	-	-	-	Empathy serves as foundation for cognitions and behaviours supporting leader emergence. Supporting or developing others indirectly supports being chosen as informal leader. The cognitive skill, perspective taking, also related to being chosen as informal leader.	Emotional intelligence, especially empathy, play a role in leadership emergence in SMTs. The emergence of informal leaders in teams is important for their success.	Literature review and descriptive statistics of 48 SMTs based on critical incident interviews and a questionnaire. Team level of analysis.
Brewer and Mendelson (2003)	-	Multidisciplinary: cross functionality, diverse teams, creative, productive.	-	Integrated and compatible teams who collaborate.	-	-	Conflicts among SMT members inhibit creativity. Clear and open communication necessary to unleash creativity. Effective teams are multidisciplinary, diverse in gender/ethnicity/thinking, motivation and integrated by supportive coaching in teambuilding, communication, and innovation.	The outcomes of effectiveness were creativity, team collaboration, and productivity. Teams need to be both integrated and diverse.	Descriptive statistics of graduate engineering and business students in teams using surveys. Team level of analysis.
Jong and De Ruyter (2004)	SMTs are based on the notion that employees share the collective responsibility for their work, for	-	-	Intra-team support: the willingness of a team to support each other and reach common group goals.	Higher levels of empowerment, facilitative organizational conditions regarding customer complaints.	Inter-team support: internal service and communication between teams and other units within the organization.	Team member cooperation necessary to effectively adapt work routines after failures or to anticipate the need for change. Intra-team process influential in	-	Multilevel regression analysis of SMTs of a Dutch bank using self-report questionnaires and customer questionnaires.

	monitoring their own performance and adapting work routines in response to a variety of circumstances .						determining team effectiveness. SMTs with high average age are more likely to display pro-active behaviour. Higher degrees of adaptive behaviour result in improvements in service recovery satisfaction.		Team and individual level of analysis.
Jong et al. (2004)	SMTs are groups of interdependent employees that have collective authority and responsibility to manage and perform relatively whole tasks. Members are typically cross-trained in various skills including developing work routines, planning, and monitoring performance.	-	-	Intra-team support. Flexibility of team members.	-	Inter-team support Service climate: collective beliefs of team members through interaction with social environment.	Employees service climate perceptions influence by tolerance for self-management, flexibility, and inter- and intrateam support. Beliefs and perception of any team member influenced by attitude and behaviour of other members. Service climate perceptions have a positive impact on customer perceive service quality. Trade-off between customer parameters and productivity parameters.	Important to create a context that is supportive to self-management.	Descriptive statistics on 100 SMTs of a Dutch bank using surveys and 957 customer surveys. Also, in-depth interviews with frontline employees. Team and individual level of analysis.
Langfred (2004)	SMWTs are groups of interdependent individuals that can self-regulate on	-	-	-	-	Trust: how much does the organization trust its employees. The higher the trust the lower	Under some conditions, too much trust can be harmful. High levels of individual autonomy can be a liability in SMTs when the level	If teams have high levels of individual autonomy, some monitoring of individual team members needs to	Descriptive statistics and multiple regression analysis of MBA graduates in 76 SMTs using

	relatively whole tasks.					the monitoring and the other way around.	of trust is high and monitoring low, performance then suffers.	be in place if process loss and coordination errors are to be avoided.	surveys and performance measures rated by experts. Team level of analysis.
Gilson et al. (2005)	-	Standardization: following standardized work procedures from data-driven analyses should enhance team performance.	-	Creativity: teams that try different things, look to improve the way work gets done.	-	-	Teams that operate less standardized and encourage creativity exhibit the highest performance. Standardized teams yield higher customer satisfaction. Trade-off between standardization and creativity.	-	Descriptive statistics and multiple regression analysis on 156 Canadian customer service technician's teams, using surveys. Team level of analysis.
Jong et al. (2005)	-	Team goal setting, groups develop their own goals. Motivation is highest when teams need to establish their own set goals.	-	Team norms, standards that are shared by group members, could have a considerable impact on team performance.	-	Inter-team communication leads to more horizontal communication. Exchange of information between teams helps determine effectiveness. Service climate: consensual beliefs among members of an organization regarding the policies, procedures, and practice that are supported and rewarded. Service climate	Collective involvement with service quality results in higher customer ratings. SMT service climate has no impact on service productivity. Involvement is created when self-management is tolerated and a service climate in place. To establish a service climate inter-team communication is important. SMT service climate is dependent on the emergence of team norms rather than on goal setting. Individual level analysis shows that team member tenure	Both individual and aggregate factors should be considered when promoting the SMT service climate.	A multi-level analysis of 26 after-sales service SMTs. Data was collected via employee and customer surveys. Team level of analysis.

						key driver of performance.	and age, impact the service climate.		
De Jong et al. (2005)	SMTs are groups of interdependent employees who have the collective authority and responsibility of managing and performing relatively whole tasks.	Inter-team support, cooperative interaction and information sharing with other teams, makes employees feel more confident about their joint competence to deliver excellent customer service. Functional diversity in teams because of many tasks and services. Teams with diverse functional backgrounds and values are more effective in performing organizational tasks.	-	Group potency: work groups could be distinguished based on jointly held belief that the team could effect changes and take control, resulting in more effective functioning. Team tenure, members' attitudes, and behaviours become more similar over time, leading to less discussion or alteration of work.	Management support entails three major aspects, rewards, education/coaching, information. Providing specific performance information, training and rewards strengthen and encourages employees' confidence in the teams' ability to perform well.	-	Group potency perceptions have a positive impact on customer-perceived service quality. The negative influence of group potency on service profitability. Management, inter-team support, and diversity directly positively impact individual perceptions of group potency. On group level, teams with a higher level of social consensus are less impacted by group design and contextual characteristics.	-	A multi-level analysis of 60 SMTs and customer surveys of a Dutch bank. Team level of analysis.
Muthusamy et al. (2005)	SMTs are responsible for their work as well as for monitoring their	High levels of inter-team communication enhance the opportunity to engage in	-	-	Self-management and autonomy lead to freethinking exchanged of	Intra-team communication enhances the opportunity for teams to engage in	More self-leadership in teams is related to communication, commitment, and variety in teams. Trust, design, and	-	Descriptive analysis of secondary data on enhancing innovation within SMTs.

	performance. These teams are responsible for gathering information, making decisions and meeting organizational goals.	unconventional and innovative thoughts and behaviours.			information and enhances latitude to explore and examine new ways of handling problems.	unconventional and innovative thoughts and behaviours.	composition of teams and the aspect of control are key factors for a higher functioning degree of self-leadership.		Team level of analysis.
Hiller et al. (2006)	-	-	Collective leadership presumes that leadership can be embedded in the dynamics of a social system and might enhance team effectiveness.	-	-	-	Collective leadership not related to power distance. Leadership need not be solely the domain of one person, but can be enacted collectively and informally by all members and is positively related to team effectiveness.	-	Descriptive statistics and hierarchical regression analyses of 277 individuals from winter road teams. Team level of analysis.
De Jong et al. (2006)	-	-	-	Teams with efficacy are more focused on task demands, less distracted by off-task cognitions, and better able to properly use information. Group potency beliefs likely have a positive impact on service revenues and service quality over time.	-	-	Group efficacy on performance is higher when collectivism is high and team members work interdependently. Past performance outcomes tend to influence service employees' confidence beliefs significantly.	Task-specific employee beliefs important predictors of performance.	Descriptive statistics of 51 service SMTs of a Dutch Bank by means of 2 surveys. Team level of analysis.

Mathieu et al. (2006)	-	The design of work (delegation of authority and responsibility for certain HR functions) will enhance employees' psychological empowerment and thereby yield benefits in terms of increased effectiveness.	Effective external leadership has been shown to be an important driver in the success of empowered organizations. "Leading others to lead themselves".	-	A supportive organizational is a necessary condition for team effectiveness. Providing teams with a well-developed social structure and socio-political support. Training teams is a critical component of team performance. Additionally, feedback provision plays a vital role in the ability of teams to learn and develop.	-	Team empowerment is significantly influenced by the organizational environment. Organizational support and team-based HR practices influence team empowerment positively beyond the influence of work design features. Structural empowerment efforts are beneficial because of the psychological impact but do also enhance team effectiveness by shifting the decision making to the teams. External leadership, not significant unique influence.	Empowering work designs are correlated with enhanced team effectiveness. A larger supportive organizational context is needed and optimal levels of empowerment will be reached if they are complemented by support mechanisms such as a facilitative organizational climate and team-based HR practices.	Descriptive statistics of 121 empowered Canadian customer service engineers' teams by means of a survey. Team level of analysis.
Stewart (2006)	-	Task meaningfulness, team-level of autonomy and intrateam coordination as a construct within the category of task design.	-	Group characteristics, heterogeneity, and size as category for reviewing design features associated with group composition.	Perceptions of support from the leader can be nearly synonymous with perceptions of support from the organization. Leadership, therefore, serves as category for organizational context.	-	Personality, cognitive ability, and expertise do influence team performance. Team performance is improved if members have high cognitive ability, desirable personality traits and relevant expertise. Heterogeneity less important in teams than above-mentioned characteristics. Task meaningfulness relates positively with collective	Teams can be designed for higher performance, group composition, task design and organizational context are important design factors.	Quantitative, meta – analytic literature review on team design features and team performance.

							performance. Increased autonomy is helpful for teams to make decisions. Leadership does matter to teams and team performance.		
Langfred (2007)	Central defining characteristic of an SMT is its freedom and discretion and ability to organize its internal work and structure to best accomplish goals.	-	-	Trust, will be negatively influenced by both task conflict and relationship conflict. Thus, team structure will be affected leading to lowered autonomy and task interdependence.	-	-	Higher levels of conflict in teams are associated with lower task interdependence and individual autonomy which can be a dysfunctional design. SMTs make changes in structures and design of the team in response to internal team processes such as conflict and trust.	Effective conflict management is important for teams to manage themselves effectively.	Regression analyses of 33 MBA student SMTs based on survey questionnaires. Team and individual level of analysis.
Maynard et al. (2007)	-	-	-	-	-	Resistance to empowerment will be negatively related to individual level job satisfaction. Teams with members who share perceptions opposed to working in empowered team-based structures are likely to generate lower levels of	Significant negative relationship between individual-level resistance to empowerment and employee satisfaction when working in empowered settings.	Adverse effects of resistance to empowerment could be mitigated by influencing team processes and addressing the impact of resistance climate on team processes.	Descriptive statistics, multiple regression analysis and cross-level mediation analysis on 121 empowered teams from a multinational company. Data was collected via a survey. Team and individual level of analysis.

						customer satisfaction and overall team performance.			
Morgeson and Humphrey (2008)	-	The following tasks are all part of the broader category work characteristics. Autonomy most influential work characteristic, skill variety, task identity, task significance, feedback from the job, task variety, job complexity, information processing, specialization, problem-solving.	-	A range of knowledge, skills, abilities and other characteristics are needed for workers to perform their roles. Job knowledge and technical skills, self-management skill, cognitive ability, task experience, proactive personality, need for achievement.	The social and contextual characteristics are as follows: social support, feedback, interdependence, interaction outside the organization. Physical demands, work conditions, ergonomics, equipment use, boundary spanning, organizational support, virtuality of work, consequence of failure, physical ability, propensity to trust, organizational experience.	-	Key outcomes of work design are grouped: attitudinal, behavioural, cognitive, well-being and organizational.	-	Literature review on job and team design.
Stoker (2008)	Groups of interdependent employees who have the collective authority and responsibility of managing and	-	Leadership behaviour is related to the individual performance of team members. Coaching leadership behaviour is defined as a day-to-	-	-	-	Effectiveness of SMTs is related to both leadership styles. Initiating structure is important for effective leadership. There is a relationship between individual	Both initiating structure and coaching leadership styles are important for SMTs and their effectiveness depends on the amount of time an	Descriptive statistics of 21 SMTs of a Dutch bank. Data was collected by means of a questionnaire. The individual level of analysis.

	performing relatively whole tasks.		day, hands-on process of helping employees to recognise opportunities and improve performance and capabilities. Directive leadership is defined as a leader who defines, structures roles and activities of subordinates.				effectiveness and leadership. Leadership is most effective when it fits individual team tenure.	individual has spent in a team.	
Kuipers and Stoker (2009)	SMTs can be defined as groups of interdependent individuals that can self-regulate their behaviour concerning relatively whole tasks.	Intra-group processes lead to self-reported group effectiveness. Task management and thus job-related aspects have always been connected to Quality of Work Life.	-	-	External relations and improvement affect both business performance and Quality of Work Life leading to high performance.	-	Three team processes: internal relations, task management and external relations and improvement. Team development important for long-term team performance. Internal relations relate negatively to long-term absenteeism. Task management positively related to product quality. External relations and improvement positively related to product quality and negatively to frequent sick leave.	Various team processes occur simultaneously as teams develop. For different aspects of performance different accents in team development are required.	Three sets of questionnaires were collected with one-year intervals among 150 SMTWs at Volvo Trucks. Team level of analysis.
Lambe et al. (2009)	SMTs to a large degree control their own work, monitor their	Teams that self-control sales performance, sales activities	The control of the sales management on the team will exert a significant positive impact on	-	-	-	Team self-managing behaviours have a positively strong influence on team performance.	-	Descriptive statistics of survey data of 150 sales reps from a large

	own performance and alter their performance strategies as needed to solve problems and adapt to changing conditions.	and selling skills through team-generated information and reinforcement will enhance team performance.	the degree to which a team engages in desired self-management behaviours.				Empowerment leads to desired team self-management behaviour. Use of control can increase the degree to which teams exhibit advantageous team self-management behaviours. Right kind of management intervention and control leads to advantageous self-managing behaviours.		global pharmaceutical company. Team level of analysis.
Somech et al. (2009)	-	Task interdependence ask for intensive interactions among members and might, therefore, result in conflict.	-	Team identity has a moderating effect on the relationship between task interdependence and team effectiveness.	-	-	Work team's social context important to the dynamics of conflict management in teams. Teams differ in their general tendencies of handling intra-team conflicts. Team performance is promoted using the cooperative conflict management style. Team identity fosters a constructive team conflict management style which promotes team performance. Only when members adopt a form of team identity will they prefer to solve conflicts cooperatively.	-	Descriptive statistics and regression analysis of 77 R&D teams from high technology companies. Each leader was interviewed. Members and leader filled in a questionnaire. Team level of analysis.

Tekleab et al. (2009)	-	-	-	<p>Overcoming conflict important step in long-term development of team cohesion. Teams who address conflict directly are better able to develop an open, healthy and constructive atmosphere over the long run. Teams who are more cohesive are likely to believe that they are performing better.</p>	-	-	<p>When teams experience high levels of relationship conflict, future levels of cohesiveness depend on the team's ability to more direct and open in addressing disagreements. Team cohesion is positively related to team performance. Team cohesion has a positive effect on team viability and satisfaction.</p>	<p>High level of conflict management minimizes the negative consequences of relationship conflict and hence increases team cohesion, leading to higher perceived team performance, viability, and satisfaction.</p>	<p>Factor analysis and hierarchical regression on data of 53 mid-Atlantic student teams. Data was gathered using group discussion or consensus approach. Team level of analysis.</p>
Millikin et al. (2010)	-	-	-	<p>Self-efficacy beliefs can evolve in collective confidence resulting in team motivation. Cohesion impacts SMTs and team performance. Attraction among members reinforces motivational benefits of self-</p>	-	-	<p>Intrinsic motivation via self-initiated task redesign can enhance collective effectiveness. Team participants who self-manage too independently can jeopardize collective performance under conditions of team disunity and lack of cohesion.</p>	-	<p>Multiple regression analysis on data of 97 empowered teams from a domestic plant owned by an American multinational. Data was collected via a member survey. Team level of analysis.</p>

				influence whereas disunity can undermine those effects.					
Rousseau and Aubé (2010)	SMTs may exercise discretion over decisions related to task accomplishment, such as assigning work to each member, scheduling work activities and monitoring own performance.	Lower levels of task routineness may strengthen the relationship between Team self-managing behaviour and performance.	-	Team performance is widely used to assess team effectiveness. Team self-managing behaviour is expected to foster effective team performance. Team self-managing behaviour fosters team process improvement.	-	Team viability, the extent to which team members can continue to work together in the future. Self-managing team behaviour enhances viability.	Team Self-managing behaviour positively influences team performance, viability, and team processes. TSMB helps to improve team processes not matter the extent to which tasks are routine.	-	Factor analysis and multiple regression analysis on data of 97 work teams from a Canadian public safety organization. Data was collected via a questionnaire. Team level of analysis.
Van der Vegt et al. (2010)	SMT has the authority to determine how members' efforts will be organized, monitored, and managed to accomplish the team's work.	Effectiveness in self-managing teams requires social integration, team learning behaviour and task flexibility.	-	Team turnover might be the result of internal group process but might as well not be related to the group.	-	-	Team turnover has a negative effect on performance of SMTs. The negative effect is due in large part to the disruptive effect of team turnover on the key interactions that enable successful self-management, namely, learning behaviour and task flexibility.	Organizations adopting SMTs should commit maintaining stable membership where possible.	Regression analysis on data of 55 SMTs of a Volvo manufacturing plant in Sweden. Data was collected via a member and supervisor survey. Team level of analysis.

Atanasov a and Senn (2011)	-	Categories important for team design: goal and role clarity, customer coverage, empowerment, adequate skills, collaboration, communication, proactivity.	-	Categories important for design and performance: Heterogeneity	Categories important for design and performance: support, rewards and incentives, training	Categories important for design and performance: Top management support.	Global Customer Team design (GCT) encompasses six dimensions: role and goal clarity, customer coverage, empowerment, heterogeneity, adequate skills, and leadership. These dimensions influence team performance through communication, collaboration, conflict management, and proactiveness.	-	Literature review on global customer team design. Exploratory factor analysis based on 15 interviews with managers of various industries and surveys of 113 teams. Team level of analysis.
Hu and Liden (2011)	-	Goal setting suggests that clear goals lead to improved team performance. Goal and process clarity often contribute toward the sharing of information and experience.	Servant leadership, a type of leadership with strong ethics components, promotes organizational functioning through high levels of employee trust in management.	Team potency serves as a bridge linking goal and process clarity to team effectiveness.	-	-	Goal -and process clarity, as well as team servant leadership, serve as important antecedents of team potency and subsequent team effectiveness.	-	Factor and hierarchical multi-level analysis on data of 95 teams and 80 upper-level managers of 5 banks in China. Data was collected via surveys. Team level of analysis.
Shaw et al. (2011)	-	-	-	Team member satisfaction, performance, and task conflict are moderated by relationship conflict.	-	-	The relationship between task conflict and team effectiveness outcomes varies as a function of the level of relationship conflict in a team. Task-conflict team performance results	-	Descriptive statistics and linear modeling of data of 87 work teams in 7 Taiwanese organizations. Data was collected via a survey filled in

							are clear when relationship conflict is high, they are negative. Negative relationship between task conflict and team member satisfaction.		by both employees and supervisors. Organization, team and individual level of analysis.
Cheng et al. (2012)	-	-	-	-	-	If the team level of uncertainty avoidance is low, the team should be adept at coping with cultural differences and able to deliver superior performance.	Performance of self-managing multicultural teams can be enhanced by appropriate combination of cultural value orientations. At the initial stages, teams with a lower level of uncertainty avoidance performed better. At later stages, teams' uncertainty avoidance ceased to exert any effect on performance.	-	Descriptive statistics of 67 MBA student SMTs from the U.S. Data collected via 2 exercises. Team level of analysis.
Woehr et al. (2013)	-	-	-	Cohesion has been linked to greater coordination during team tasks as well as improved satisfaction, productivity, and group interactions. Team efficacy is also related to team effectiveness.	-	Intra-group conflict, both task, and relationship conflict have been proven to correlate with team effectiveness criteria.	Diversity of values had a significant effect on team process variables. Greater diversity negatively related to process outcomes. Diversity results in lower team cohesion, team efficacy, and more conflict.	-	Descriptive statistics of 60 undergraduate college student teams in the U.S. Data collected via team-based exercise. Team level of analysis.

Rolfesen and Johansen (2014)	SMTs are responsible for a complete product or service, or a major part of a production process. They control member behaviour and make decisions about task assignment and work methods.	-	-	-	-	Team maturity to identify teams as self-managing and developmentally mature.	-	A long period of intensive teamwork gives teams the possibility of creating a maturity level in their process relations.	Case study: 20 years with self-management, company that produces parts for the automotive industry.
Rapp et al. (2016)	-	Teams that are more interdependent, act cooperatively and depend on each other for information, materials and inputs, yield higher levels of empowerment. Team processes, managing goals, working cooperatively, managing conflict, are said to be positively related to team performance	External team leadership positively influences team empowerment. To the extent that team coaches exhibit team-oriented behaviours aimed at supporting, encouraging, and promoting, higher levels of team psychological empowerment should ensue.	-	A supportive organizational context provides an enabling structure that facilitates team empowerment, processes, and performance. Feedback and training are key factors in empowerment settings. Thus, teams that receive high-quality HR support will exhibit higher levels of empowerment.	-	Team coaches' team-oriented behaviours positively influence team empowerment. Team oriented behaviours displayed by external leaders did not significantly influence team empowerment. HR and organizational support continue to support empowerment even after the first year of initiation, organizational support is an essential ingredient for team effectiveness. The direct effect of work design features relates positively to team performance. Team interdependence did	-	Descriptive statistics of 70 empowered customer service engineer's teams using surveys. Team level of analysis.

		and empowerment.					not significantly influence team empowerment.		
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